Annexure Bundle: AFEI submissions dated 20 May 2020

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The Hon Stuart Robert MP
Minister for the National Disability Insurance Scheme
Minister for Government Services

Ref: MC20-000993

Mr David Moody
Chief Executive Officer
National Disability Services
Level 3
369 Royal Parade
PARKVILLE VIC 3052

Dear Mr Moody

Thank you for your correspondence of 29 April 2020 regarding the impact of COVID-19 on National Disability Insurance Scheme (NDIS) service providers. I note you also wrote to Mr Martin Hoffman, Chief Executive Officer of the National Disability Insurance Agency (NDIA) in similar terms.

While this is a challenging time for all Australians, as Minister for the NDIS my priority is to ensure people with disability have their essential needs met—and I absolutely appreciate and sincerely thank providers for working hard to achieve this every day and even more so at this time.

The Australian Government and the Council of Australian Government's (COAG) Disability Reform Council (DRC) has consistently acknowledged the COVID-19 pandemic has resulted in changes to the way disability supports are provided in accordance with measures put in place to protect all Australians.

As highlighted in your own recent members' survey, people with disability and the disability services sector will not be uniformly impacted by the COVID-19 pandemic. Disability service providers, depending on their size, structure and the types of disability services they deliver, will be impacted differently. That is why the Australian Government has responded by injecting a total of $320 billion into the economy through a broad range of measures to support Australians and Australian businesses, including NDIS providers.

As you should be aware the Australian Government announced several NDIS specific measures in response to the COVID-19 pandemic on 21 March 2020 to further assist providers and ensure continuity of care for NDIS participants. These measures include:

- Extending NDIS plans by up to 24 months and facilitating planning meetings over the phone.

Parliament House Canberra ACT 2600 Australia

- Applying a 10 per cent increase to NDIS provider price limits for support items such as assistance with social and community participation and improved daily living skills at an estimated cost of $512 million over 6 months.
- Changing cancellation policies so participants are required to give 10 business days' notice (formerly two days) for a cancellation to avoid paying the full fee for a cancelled service.
- Facilitating a one-off advance payment, totalling $666.1 million to more than 5,000 registered NDIS providers to support them with immediate cash flow to retain their staff and deliver supports to participants.

On 30 March 2020 the Australian Government announced the $130 billion JobKeeper payment to help the economy withstand and recover from the economic impact of COVID-19. NDIS providers are eligible to apply for the JobKeeper payment, including those who are self-employed. Charities registered with the Australian Charities and Not-For-Profit Commission are eligible provided their turnover has or will likely fall by 15 per cent or more relative to a comparable period (opposed to 30 per cent for other businesses).

On 12 March 2020 the Australian Government announced the Boosting Cash Flow for Employers measure. On 5 April 2020 the measure was extended to provide up to $100,000 to eligible small and medium sized businesses, and not-for-profits (including charities) that employ people, with a minimum payment of $20,000, at a total cost of $31.9 billion. Eligible NDIS providers do not need to apply, with cash flow boosts automatically applied to the accounts of eligible businesses when they lodge their activity statement for the relevant periods.

On 9 April 2020 the Australian Government also announced $90.7 million to support people with disability as part of a broader community support package, including more than $27.5 million to support Australian Disability Enterprises (ADEs).

On 27 April, the Australian Government announced further initiatives to support NDIS participants and disability providers during the coronavirus pandemic, including:

- Increased flexibility for participants to use existing NDIS plan funding to purchase low-cost Assistive Technology, including smart devices, to enable continued access to disability supports through telehealth and telepractice and limit potential exposure to COVID-19 for both participants and workers.
- New support items for Supported Independent Living (SIL) providers where a participant they are supporting has been diagnosed with COVID-19, in recognition of increased service costs.

The Australian Government has also been working to ensure the safety of people with disability and the disability workers who support them throughout the COVID-19 pandemic. On 3 April 2020, the Government announced the establishment of an advisory committee to guide the development and implementation of the Management and Operational Plan for People with Disability (the Plan), as part of the Australian Health Sector Emergency Response Plan for the Novel Coronavirus.

Since early February, the NDIS Quality and Safeguards Commission (NDIS Commission) has been communicating regularly with providers and participants. It has provided access to online resources through its website and through emailed 'provider alerts' to support providers and workers, including an online training module on infection prevention and control for COVID-19 and advice on the use of Personal Protective Equipment (PPE). In line with the Plan released on 18 April 2020, the NDIS Commission will continue to develop and distribute resources to assist participants and providers to respond to the pandemic.

The Australian Government is also providing access to PPE, through the National Medical Stockpile, for disability providers and self-managing participants where essential services require

close physical contact and there is a heighted risk of COVID-19 infection. On 28 April 2020, the Minister for Health, the Hon. Greg Hunt MP announced an additional 500,000 masks for the disability sector will be made available for eligible disability service providers and self-managed participants in line with existing processes.

The Department of Social Services, NDIA and NDIS Commission are also working closely with states and territories to monitor, assess and respond to ensure a workforce is available to maintain critical supports for those with a disability. Practical measures have already been implemented by the NDIA including partnering with existing online disability employment platforms to link NDIS participants and providers with available support workers—and to match displaced workers in other industries to job opportunities within the disability sector. On 23 April 2020 the Australian Government also announced further changes to student visa work conditions that exempt students currently working for registered disability service providers from the usual 40-hour per fortnight work limit.

Noting the breadth of measures introduced and actions taken to date to respond to the impact of COVID-19 on disability service providers, it is disappointing to see the negative interpretation by National Disability Services (NDS) of your recent members' survey. I note with encouragement from the summary of survey results you provided:

- More than 80 per cent of providers who accepted the advance payment found it to be moderately/slightly or very/extremely helpful;
- 93 per cent of providers were neutral, somewhat confident or very confident of their ability to continue services during the pandemic; and
- 96 per cent of providers were neutral, somewhat confident or very confident of their ability to continue services after the pandemic.

As you should be aware, the NDIS Commissioner wrote to NDIS providers on 24 March outlining their obligation to report changes or events specified in Sections 13 and 13A of the NDIS (Provider Registration and Practice Standards) Rules 2018. These report notifications help identify providers, participants and workers impacted by COVID-19 and allow the Australian Government to make evidence based decisions in response to the pandemic. I would strongly encourage the very small number of providers that have responded to your members' survey outlining concerns with their ability to continue services during or after the pandemic to notify the NDIS Commission if they have not already done so.

Notifications to the NDIS Commission have indicated some supports have been affected by the COVID-19 situation—mainly therapeutic supports, community participation and group and centre based activities. However, the main impact reported by providers is the requirement to adjust the method of delivery of supports and services, rather than any exit from the NDIS market. I thank those providers that have and continue to notify the NDIS Commission of changes to their services.

NDIA payment data is also indicating the majority of NDIS services are continuing and participants are still accessing the disability supports they need. In the week ending 1 May 2020, $344 million was paid to NDIS providers. This is higher than average weekly payments of $333 million in March 2020 and eight per cent above average weekly payments of $318 million in February 2020. As outlined above, we recognise this is not consistent across the board, with declines of close to 20 per cent in the category 'Core - social community civic participation'. This is why the Government has announced a breadth of measures to support providers of different sizes, organisational structures and operating different lines of business.

At this time, very few notifications relating to COVID-19 infections have been received. As at 1 May 2020, only 10 NDIS participants and 12 NDIS workers have reported as testing positive to

COVID-19. Given the low rates of infection and apparent positive impact on the disability sector of measures announced to date, I was particularly disappointed to read the incorrect claims and misrepresentation of the Australian Government's position outlined in your notice to NDS members on Saturday 2 May 2020 (see Attachment A) – in which you sought to explain the reasons for supporting an application to the Fair Work Commission (FWC) along with the Australian Services Union, Health Services Union and United Workers Union.

To provide you and your members with clarity, at no time has the Government provided an indication the '*proposal had merit and that an award application would give the Government an appropriate trigger for a formal response*'—as suggested in your letter of 2 May 2020.

I note at the meeting of 20 April 2020, which was attended by the Attorney-General and Minister for Industrial Relations, the Hon Christian Porter MP, the above named unions and I, no agreement from Government was given to the proposals put forward. Each was discussed and it was noted by Government that of the several proposals, the COVID Care allowance for NDIS support workers merited further exploration. To date, the Government has received only limited further advice/costings regarding the extent of this proposal from NDS and/or unions.

Regardless, in the intervening period the Government has announced new SIL support items for cleaning services and higher intensity support. If a participant is diagnosed with COVID-19, SIL providers will be able to claim:

- $300 for a one-off professional deep clean of a residence; and
- up to $1,200 per day for higher intensity support including staffing increase, PPE, professional laundering and any ancillary costs directly related to the participant's diagnosis.

Providers can also continue to claim usual SIL costs while a participant diagnosed with COVID-19 is in hospital or isolated in alternative accommodation. Alternative accommodation will also be claimable through the short term accommodation support item.

Given the importance of ensuring your members remain fully and accurately informed of the Australian Government's position in relation to your joint application with the unions to the FWC and our response to COVID-19, I request that you share, in full, a copy of this letter with your members.

I acknowledge that NDS members and all NDIS providers continue to deliver critical services to participants during this period of uncertainty. These are challenging times we are working in and I recognise the commitment and efforts of each and every one of them and their staff.

The situation will continue to be closely monitored as it evolves and any further measures necessary to ensure the continuity of services for people with disability will continue to be considered and developed in accordance with the evidence and data at hand.

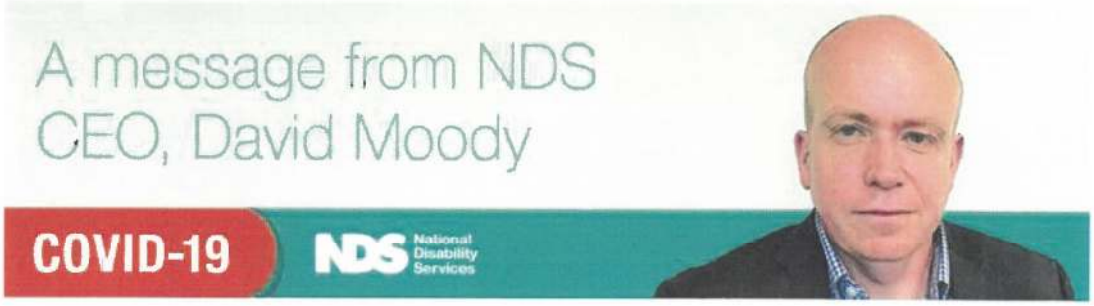
I trust this is of assistance to you and your members.

Yours sincerely

Stuart Robert

Cc Attorney-General and Minister for Industrial Relations, the Hon Christian Porter MP

Attachment A



Adjournment to be sought in Fair Work Commission hearing

Since the declaration of the COVID-19 pandemic, NDS has been advocating on behalf of members for improved support for the disability sector. Some of the support we are seeking from government has been developed in collaboration with relevant trade unions.

Part of this collaboration has been to support a proposed time-limited allowance for workers who support clients that have either been diagnosed with COVID-19, or have been required to self-isolate on the reasonable suspicion that they have been exposed to the virus and may be infected.

We took this position in order to support providers to retain their workforce during the pandemic and our support has only ever been given on the express condition that the allowance is fully funded by the Commonwealth Government.

A number of members have queried NDS's application in the Fair Work Commission – a decision I took after indications from relevant Ministers that the proposal had merit and that an award application would give the Government an appropriate trigger for a formal response.

Following further review, NDS decided on Friday morning to seek an adjournment of the FWC proceedings to allow sufficient time for a more formal response by government prior to the Hearing. In doing so we will ensure our submission is unambiguous regarding the conditions of our support. That is:

- The allowance is payable for a time-limited period only related to COVID-19
- The allowance is fully funded by the Commonwealth Government through new funds which are not in any way derived from NDIS participants' plans
- There is no financial impost on providers.

These are very fast moving times and we do apologise for any confusion that the delay in getting this information to members has caused.

Stay well,
David

NDS National Disability Services

NDIS Quality and Safeguards Commission

The NDIS Code of Conduct

Guidance for NDIS Providers

March 2019

Contents

7

Introduction

1. The National Disability Insurance Scheme (NDIS) Code of Conduct (the Code) is set out in the *National Disability Insurance Scheme (Code of Conduct) Rules 2018,* which are NDIS rules made under the *National Disability insurance Scheme Act 2013* (NDIS Act).

2. The Code is designed to work alongside other elements of the quality and safeguarding arrangements to promote a safe and skilled workforce within the NDIS. Providing quality supports for people with disability involves not only the right capabilities but also the right attitudes. NDIS providers and the people they engage need to be familiar with the principles underpinning the NDIS to respect the rights of people with disability, prevent harm and respond appropriately if harm occurs.

3. The Code's Guidance for NDIS providers (the Guidance) provides guidance on factors that may be relevant when considering if an NDIS provider is complying with the Code. The Code consists of seven elements that apply to all providers and persons employed or otherwise engaged by them to deliver supports and services in the NDIS.

4. This Guidance provides information and examples about what the Code means in practice. It is not intended to cover all circumstances that may arise or amount to a breach of the Code.

5. NDIS providers should consider all conduct associated with the delivery of supports and services under the NDIS and whether that conduct is compliant with the Code. This Guidance comprises the following parts:
    a. **Part 1** outlines the Code and its role under the NDIS Act and in the NDIS Quality and Safeguarding Framework[1].
    b. **Part 2** outlines examples of factors that may be taken into consideration when assessing whether conduct of NDIS providers complies with the Code, including providing more detail and some scenarios to assist NDIS providers to understand how the Code may apply in these particular scenarios[2].

[1] https://www.dss.gov.au/sites/default/files/documents/04_2017/ndis_quality_and_safeguarding_framework_final.pdf

[2] The scenarios are fictional and any similarity to an individual person with disability, worker or provider is purely coincidental.

c. **Part 3** outlines actions that can be taken in relation to breaches of the Code and the Code's relationship with other codes.

6. The NDIS Quality and Safeguards Commission (the NDIS Commission) will take a proportionate approach, taking into account relevant factors, including the size of an organisation, the type of supports and services delivered, the environment in which these are delivered, participant support needs, other legislative requirements that apply, and other relevant circumstances in assessing compliance with the Code.

NDIS providers covered by the Code

7. The Code and guidance apply to an NDIS provider (as defined in section 9 of the NDIS Act) or person employed or otherwise engaged by the provider and who is supporting a person who is participating in the NDIS and related services. NDIS providers for the purposes of the Code include:
    a. registered NDIS providers
    b. unregistered NDIS providers
    c. providers delivering Commonwealth Continuity of Support (CoS) Programme services (prescribed by the rules to be NDIS providers)
    d. providers receiving funding under the arrangements set out in Chapter 2 under the NDIS Act for example, NDIS community partners such as Local Area Coordinators
    e. Any other person or entity prescribed by the National Disability Insurance Scheme Rules to be an NDIS provider.

Guidance for workers

8. In this guidance, a person employed or otherwise engaged by a provider is referred to as the provider's 'worker'. NDIS providers are expected to assist and support workers in meeting their own obligations under the Code. To assist workers in meeting their obligations, there is also separate guidance called the NDIS Code of Conduct - Guidance for Workers. That guidance explains some factors that workers might consider in ensuring their conduct is compliant with the Code. NDIS providers are expected to take all reasonable steps to assist and support workers in meeting their obligations under the Code.

Part 1: The NDIS Code of Conduct

9. The Code is an important part of the NDIS Quality and Safeguarding Framework. It promotes the health, safety and wellbeing of persons with disability, by setting out acceptable, appropriate and ethical conduct for NDIS providers and workers delivering supports or services in the NDIS sector. The obligations in the Code are fundamental to the rights of people with disability set out in the *UN Convention on the Rights of Persons with Disabilities*. They are also broad to account for the diversity of people with disability and their support requirements.

THE NDIS CODE OF CONDUCT

The NDIS Code of Conduct will require workers and providers delivering NDIS supports and services to do the following in providing those supports and services:

1. Act with respect for individual rights to freedom of expression, self-determination and decision-making in accordance with applicable laws and conventions.

2. Respect the privacy of people with disability.

3. Provide supports and services in a safe and competent manner with care and skill.

4. Act with integrity, honesty and transparency.

5. Promptly take steps to raise and act on concerns about matters that may impact the quality and safety of supports and services provided to people with disability.

6. Take all reasonable steps to prevent and respond to all forms of violence against, and exploitation, neglect and abuse of, people with disability.

7. Take all reasonable steps to prevent and respond to sexual misconduct.

Part 2: Elements of the NDIS Code of Conduct

10. Compliance with the Code requires NDIS providers to consider how they conduct themselves when delivering supports and services under the NDIS. This section:
    a. Explains why each element of the Code is important and outlines examples of conduct or circumstances that may be taken into consideration when assessing whether an NDIS provider has complied with the Code.
    b. Contains scenarios that are examples of situations that could arise during provision of services or supports in the NDIS. These scenarios consider how the Code might be applied, noting that the scenarios cannot cover all situations. The scenarios are fictional and any similarity to an individual person with disability, worker or provider is purely coincidental.

11. NDIS providers should use their existing employee engagement, human resource and governance arrangements to ensure their compliance with the Code. This will include considering whether operational policies and procedures, and training activities reflect the Code. Workers are expected to use these policies, procedures and training, in addition to their own professional experience and judgment, to comply with the Code.

1 Act with respect for individual rights to freedom of expression, self-determination and decision-making in accordance with applicable laws and conventions

12. People with disability have the right to make their own decisions, to be free to live the life they choose, and to have the same rights and freedoms as any other member of the community.

13. A complex range of intersecting factors including individual and social values, contexts, cultures, policy responses, and histories, shape how individuals understand disability. In the past, a focus on a person's incapacity or the 'tragedy' of their disability portrayed them as dependent, helpless, and in need of care and protection. This often resulted in their isolation, segregation and exclusion from the wider community. It is now understood that people with disability have full and equal human rights.

14. These rights are set out in the *United Nations Convention on the Rights of Persons with Disability*. They include the right to freedom of expression and the right to make decisions about, and exercise control over, their own lives. Choice and control is a core principle of the NDIS. People with disability have the right to choice and control about who supports them and how their supports and services are delivered.

15. NDIS providers have obligations under the Code to respect these rights. Consistent with this element of the Code, factors that may be relevant when assessing if conduct complies with this element of the Code include (but are not limited to) a provider's actions to:

Deliver services in a way that maintains standards and principles underpinning the NDIS

16. The NDIS has been designed to further Australia's commitment to the *United Nations Convention on the Rights of Persons with Disabilities*, as well as the other international human rights treaties named in the NDIS Act. NDIS providers and workers have an obligation to respect the rights of people with disability and deliver services in a way that maintains the principles underpinning the NDIS.

17. Registered NDIS providers (and applicants for registration as an NDIS provider) are also obliged to comply with the *National Disability Insurance Scheme (Provider Registration and Practice Standards) Rules 2018*, which have been developed in line with the *National Standards for Disability Services* and the *National Standards for Mental Health Services*.

18. By delivering supports and services in accordance with the NDIS rules made under the NDIS Act, registered NDIS providers will maintain the standards and principles and upholding the conventions that underpin the NDIS.

Support people with disability to make decisions

19. People with disability have the right to make choices and should always be assumed to have the capacity to make those choices. This is central to their individual rights to freedom of expression and self-determination. Adults with disability should receive the support they need to make any decision. Adults with disability have the right to choose who does and who does not help them to make any decisions. Their partner, family, friends, carers, advocates, support workers and others play an important role in any person's life. However, not all people with disability need or want those important people to support them in decision-making, or to make decisions for them. NDIS providers should encourage workers to engage directly with people on any choices or decisions that affect them. They should consult them about who, if anyone, they want to involve in decisions and discussions about their services and supports, or other aspects of their lives.

20. For children and young people, families have a key role. In the early years, workers should work closely with families to understand their child's strengths, interests and needs, and support them in their caring role. As a child grows up, they should be more involved in decision-making. Workers should involve children and young people in decisions that affect them in ways appropriate to their age and stage of development. In the case of very young children, this will involve ensuring staff pay attention to the signs children give that

communicate their feelings, ideas and wishes including non-verbal indications.

21. When the person with disability has a legal guardian or nominee, NDIS providers need to be clear on the decisions in which they need to involve the legal guardian. However, they still must ensure their workers listen to and support the person to make their own decisions. One option for NDIS providers and workers to do this is to use supported decision-making. Supported decision-making is a model for supporting people with disability, often cognitive in nature, to make significant decisions and exercise their legal capacity. The person with disability weighs options and makes a decision with the support of an individual or a network of people who they choose to involve because they trust them to provide reliable, unbiased support for decision-making.

Scenario

Lee has just started a hospitality course at TAFE. He enjoys spending time with friends, particularly to listen to music. Lee has an intellectual disability and autism and has difficulty with the public transport system, so is accessing support from Out and About (a service provider) to build his skills to travel to TAFE and catch up with friends by himself.

His support workers ask his parents about his schedule instead of him and if Lee says he wants to change his plans, they ask his parents if it's okay instead of talking to Lee. Lee is unhappy that his support workers don't really listen to him and don't allow him to make his own choices about his schedule. Lee also feels that when they're out, his support workers talk to him like a child. One day on the way to TAFE, Lee sees a friend and stops to chat. His support worker interrupts the conversation and says it is time to go or he'll be late for TAFE. This really embarrasses Lee.

Lee talks to his friends about what he can do. They encourage him to tell the manager of Out and About how he feels. Lee also talks to his parents, who want to support Lee to become more independent and offer to help him to speak to the support workers.

With this support, Lee contacts the manager of Out and About. The manager apologises to Lee and says that his support workers should be listening to him and respecting his decisions about his support. They agree that Lee can speak to his support workers at a meeting. Lee works out what he wants to say with his friends and his parents and practices how he will say it. At the meeting, the support workers listen and apologise to Lee.

The manager asks Lee if they can share what he said with any new support worker in a one-page document, so they know what matters to him. Lee agrees and helps them make the document. Lee's support workers all read the document and include Lee in decision-making around his schedule.

Communicate in a form, language and manner that enables people with disability to understand the information and make known their will and preferences

22. At the heart of choice and control is a person's right to be an informed consumer. People with disability have a right to be informed about all aspects of the delivery of services to them so they can exercise their right of choice and control about who supports them and how supports and services are delivered, and if they need to change.

23. People with a disability have a right to question, seek additional information on, or refuse to receive any part of a service.

24. In practice, this means NDIS providers should:
    a. take reasonable steps to educate and support their workers to communicate in a form, language and manner that is accessible and appropriate for the individual and to use a range of communication tools to communicate with the people they support, using assistive technology and alternative forms of communication, such as email, text messages or symbols.

    b. where the person speaks a language other than English or uses Auslan, match the person with a worker who speaks their language or uses Auslan (where possible), or provide supports using qualified interpreters, where these supports are covered by their NDIS plan.

    c. confirm that the person with disability – and their families, carers or advocates (where relevant) – understands what has been explained, and is aware of potential benefits and risks associated with any part of a proposed plan for the delivery of supports and services.

    d. respond to the will, preferences and concerns of the person with disability in relation to their supports and services – addressing requests or complaints where necessary.

    e. where possible, provide consistent workers, so that they can build a good understanding of individual communication preferences and needs, particularly where an individual has complex communication needs.

Scenario

Kate has recently started accessing support from HomeCarePlus for tasks around the home and to go grocery shopping. Kate has a physical disability and is a non-verbal communicator, so when she first contacted HomeCarePlus she emailed them a list of the tasks she needed done each week and noted that she would communicate any specific tasks each week by leaving an additional list for staff.

Kate finds that different staff come to her home each week and not all of them know to read her list, so some tasks do not get done. She also finds that the staff don't know how to communicate with her when they go grocery shopping and have

ignored her when she is using gestures to indicate that they are taking the wrong product from the shelf.

Kate emails the manager at HomeCarePlus about her concerns. The manager apologises and asks what ways the staff could communicate with her when they are out grocery shopping. They work out that Kate could use an iPad to type short messages. Kate says it would also help if the same staff could provide her support, so they could get to know her and the gestures she uses to communicate. The manager agrees that they will do this, whenever possible (given sick leave and holidays). Kate finds that things are much better as two regular staff – Phillip and Joy – get to know her and how she communicates.

The manager also reviews their induction process to make sure it clearly includes the way staff must use appropriate means of communication, so the person with disability can communicate their preferences. The manager realises that the induction did not have enough information about non-verbal communication, so HomeCarePlus revises its induction process. It also make sure that staff are informed about people's communication needs and preferences.

Take into account the expressed values and beliefs of people with disability, including those relating to culture, faith, ethnicity, gender, gender identity, sexuality and age, as well as disability

25. People with disability come from a range of backgrounds and communities and have varying lifestyles and beliefs. People with disability may be Aboriginal and Torres Strait Islander; come from culturally and linguistically diverse communities; have a faith, or not; be married, divorced, partnered, or single; be gay, lesbian, bisexual, transgender, queer, intersex or asexual; or be parents, guardians and carers. People with disability may or may not be in paid work, or they could be engaged in education and training.

26. Each of these contexts can affect how, when, why, and in what form a person with disability accesses NDIS supports and services. For example, cultural beliefs can shape preferences around who delivers supports and how supports are delivered. Some participants may also feel more comfortable with a worker of a particular gender for supports such as personal care. The Commonwealth *Sex Discrimination Act 1984* sets out rights in relation to gender.

27. NDIS providers must acknowledge and consider individual contexts, values and histories, while also complying with obligations under anti-discrimination and work health and safety laws.

28. In practice, this means NDIS providers should:
    a. foster a culture of inclusiveness, in which people with disability feel as comfortable and safe as possible in their day-to-day interactions with workers
    b. encourage people with disability to communicate their preferences for how their supports are delivered

c. discuss with people with disability their preferences for their support worker
d. have knowledge of, respect for, and sensitivity towards, the cultural needs of the community served, including Aboriginal and Torres Strait Islander peoples and those from culturally and linguistically diverse backgrounds
e. where appropriate, provide cultural awareness training to workers to build an understanding of diverse needs and preferences
f. offer people with disability culturally-sensitive activities
g. respond to needs related to gender.

Scenario

When Al approached Regional Networks about their providing him with daily personal care support, he said he needed male support workers for this, consistent with his religious beliefs. Regional Networks agreed they could meet this requirement. However, they had difficulty recruiting male support workers, so have rostered mostly female support workers to provide Al's personal care.

Al does not feel comfortable receiving personal care from these female support workers. Instead, his family provides his personal care supports and asks the rostered support workers to assist with household tasks. The family does not complain to the provider because they are not confident in their spoken English and they have had previous negative experience with formal complaints processes, so are worried about losing the support around the home if they complain.

This continues for some months before Aisha is rostered on to support Al. When she is asked to help with household tasks instead of providing Al's personal care, she asks Al and his family about their concerns. Aisha speaks Arabic, so she is able to speak directly to Al and his family and understand their concerns. When they explain that Al is uncomfortable with a female support worker providing his care, Aisha encourages them to make a complaint to Regional Networks with her support.

Aisha helps them by writing down their complaint. The manager of Regional Networks organises a meeting with Al to discuss the situation and Aisha interprets at the meeting. The manager apologises to Al and his family. They indicate that they have worked out a way to provide a male support worker for four days per week if they change the timing of the support. They will also begin more actively searching for male support workers.

Al and his family accept this arrangement for four days per week but contact another provider to see if they have male support workers to provide care.

2 Respect the privacy of people with disability

29. Privacy is a human right. Rights related to privacy are set out in the Commonwealth *Privacy Act 1988* and State and Territory privacy laws. People with disability have a right to privacy including in relation to the collection, use and disclosure of information concerning them and the services they receive. Consistent with this element of the Code, factors that may be relevant when assessing if conduct complies with this element of the Code include (but are not limited to) a provider's actions to:

Comply with Commonwealth and State and Territory privacy laws

30. Individuals have the right not to have personal information disclosed to others without their informed consent. Personal information is information or an opinion about a person whose identity can be determined from that information or opinion. Examples of personal information include a person's name, address, date of birth and details about their health or disability.

31. NDIS providers should respect and protect the privacy of everyone that receives supports and services from them, or provides those supports and services.

32. NDIS providers should also ensure that they manage health information about any people they support or about their workers in accordance with privacy laws related to the management of health information.

33. NDIS providers should have policy and procedures to ensure that they manage information about people in accordance with privacy laws, and ensure their workers understand these policies and procedures. They should also clearly explain to people with disability and workers:

    a. the kinds of personal information about them that will be collected and held, including recorded /audio and visual material
    b. why this information is held
    c. who will have access to this information
    d. how they will ensure the information is secure
    e. how this information will be used
    f. how to access and amend information held about them
    g. how to make a complaint if they feel that the NDIS provider has breached their privacy obligations.

34. There are certain circumstances where NDIS providers should disclose information about a person without consent from the person involved. This might include mandatory reporting requirements on child protection matters, and obligations to report incidences of violence, exploitation, neglect and abuse, and sexual misconduct to the NDIS Commission and police.

Scenario

Essentials Health Services offers holistic mental health services in a regional area. Some of their clients are NDIS participants and some receive services funded through the health system.

As a new initiative, the provider distributes a newsletter to keep clients better informed about services and events in their local area. The first newsletter they send out goes to all current and past clients. However, the email is sent with all email addresses visible in the 'to' field of the group email rather than hidden in the 'bcc' field. Many clients are upset as they're identifiable to other clients by their email addresses. A number of clients complain to the provider and the NDIS Commission and some people contact the Privacy Commissioner.

Essentials Health Services immediately emails an apology for the breach of privacy to all clients, this time ensuring the email addresses are hidden. They strengthen business processes around managing access to and use of client details. They also work with individuals who have been distressed by the privacy breach to ensure they receive the support they need.

The NDIS Commission issues a notice of non-compliance with the Code against the provider and the Privacy Commissioner issues a warning. The NDIS Commission monitors the steps the provider takes to improve practices around adhering to privacy laws and reports back to the Privacy Commissioner.

Deliver services in a dignified way that maintains personal privacy.

35. Privacy extends beyond a careful approach to handling personal information to the way in which services are delivered to people with disability. NDIS providers should be aware of the privacy needs and preferences of people with disability and deliver services in a way that maintains personal dignity. This includes having in place policies, procedures, resources, worker training and service delivery models to support workers in:
    a. maintaining the confidentiality of the person's personal information
    b. explaining and requesting permission to perform procedures that involve physical touch or the invasion of personal space
    c. the timely provision of services to prevent embarrassment and discomfort such as toilet breaks or the changing of incontinence pads
    d. considering everyday personal privacy needs such as being able to shower and dress in a private and comfortable space.

Scenario

Glen has recently moved into a shared accommodation and receives support from David with daily activities, including showering and taking medication. The bathroom is very small, with nowhere to store Glen's clothes. When David goes to retrieve Glen's clothes, he leaves the bathroom door open because he is

concerned Glen may have a fall and he wouldn't hear him. However, this means anyone passing by in the corridor can see Glen naked. This leaves Glen feeling exposed and disempowered.

When Glen's brother Nigel visits, Nigel notices a distinct change in Glen's mood. He appears withdrawn and unhappy. Nigel asks Glen whether something has happened. Glen tells him he dreads showering when David is working.

Nigel expresses Glen's distress to David's manager, who meets with Glen to discuss the changes he would require to feel safe and comfortable again. Glen explains that his personal privacy is being compromised by having the door left open. After a discussion with Glen and Nigel, the provider agrees that David's conduct was unacceptable and undertakes to give him a formal warning. The provider also agrees to install clothes hooks in the bathroom and to ensure David understands the privacy and dignity aspects of the situation and how this cannot happen again.

David apologises to Glen. David's manager checks in with Glen regularly to ensure things are now ok; he also arranges to check showering routines in other homes to ensure that this is not happening elsewhere.

3 Provide supports and services in a safe and competent manner, with care and skill

36. Obligations under the NDIS Act are intended to ensure safe and quality service delivery to support positive outcomes for people with disability.

37. NDIS providers should ensure they assign appropriate workers, who have the required competence, to deliver the supports and services to meet the needs of people with disability. They should also ensure adequate policies and operational procedures, resourcing, and appropriate supervision for workers are in place to ensure supports and services are delivered in a safe and competent manner. Providers are also required to hold appropriate insurance.

38. Consistent with this element of the Code, factors that may be relevant when assessing if conduct complies with this element of the Code include (but are not limited to) provider's actions to:

Ensure workers have the necessary training, competence and qualifications for the supports and services delivered

39. Adequate worker expertise and competence is central to safe and skilful service delivery. NDIS providers have a responsibility for ensuring workers have the necessary training, competence and qualifications to deliver supports and services. In practice, this means:
    a. supporting workers to adopt the values underpinning the NDIS, including choice and control and person-centred approaches

b. having recruitment and selection processes (including referee checks) that identify skills, experience and qualifications required by staff for the role
c. providing relevant training
d. providing appropriate supervision
e. not directing workers to deliver supports and services for which they do not have the necessary training, competence and qualifications.

Scenario

Jordan has a psychosocial and a physical disability. He really dislikes showering and can become aggressive with the support workers who help him to shower. This is why his behaviour support plan requires that two workers support him to shower.

However, one day, one of the support workers calls in sick. Frank – the other worker who is on shift – is unaware of the requirement in Jordan's behaviour support plan requiring two support workers to shower him, and decides that he will go ahead and help Jordan to shower rather than wait for a second support worker to arrive.

Jordan struggles with Frank when the shower is turned on and he ends up falling over. After checking that Jordan is okay, and helping him to dress, Frank calls his supervisor.

The supervisor establishes that Frank was unaware of the requirements outlined in Jordan's behaviour support plan and then advises that if a situation like this arises again Frank should contact him. The supervisor reaches out to Jordan to check if he wants to take further action. He also discusses the situation with their manager, and the organisation reviews how it can better provide training to workers in order to facilitate effective awareness and implementation of client behaviour support plans. At the next review of Jordan's behaviour support plan, further consideration is also given to alternative practices such as baths, wash cloths and dry bathing, in order to provide Jordan with alternative options for the days when he doesn't wish to shower. These options are incorporated into his plan.

Scenario

Tommy is a tall and stocky 28-year-old man with an intellectual disability who attends a day program centre. Tommy experiences emotional regulation problems, which most often present in the form of anxious and angry agitation. After a minor accident on the centre's minibus six months ago during an excursion, Tommy developed more problematic behaviours. He becomes distressed when he is required to travel on the minibus with his peers and resists getting on and off the bus, delaying arrival to and departure from excursions. This causes distress to Tommy and his peers.

Soon after the accident, the centre had one of its support workers, Amelia, with a health and welfare degree and a Certificate IV in disability services, work with Tommy to address the problem. Some time ago, Amelia had read about the benefits of catharsis therapy, but was unaware that the practice literature does not

support this therapy. She advised the centre that Tommy should be encouraged to ventilate his fear and irritability to exhaust it before he boards the bus on the way to and from excursions and that he be enticed to leave the bus quietly with Coca-Cola rewards. The adoption of this intervention has had only intermittent, limited success and it has become increasingly evident recently that Tommy's behaviour is in some of these situations actually worse and may in fact be deteriorating overall.

Noticing this situation, Amelia's supervisor consults with Tommy about what is happening. With Tommy's consent, they conduct an investigation into why Amelia implemented therapy beyond her area of expertise and without conducting further research or consulting with management. The Centre also involved his parents and NDIS planner, with Tommy's consent, to request a specialist behaviour support practitioner be funded as part of an NDIS behaviour support plan. They also provide Amelia with updated training.

The investigation finds Amelia acted without appropriate duty of care and she is issued a formal warning. At the same time, procedures are established to ensure therapeutic interventions are endorsed by an appropriately qualified practitioner from within the organisation.

Tommy's newly funded specialised behaviour support practitioner works closely with Tommy, undertaking a thorough functional analysis. She establishes that Tommy's difficulties are multifaceted and affected by who is driving the bus; which support workers attend; the nature of the excursion; the bus type used (the Centre has three of different sizes, configurations and colours, each of which are important to Tommy); which side of the bus he sits on and his proximity to the exit door; the time of day and day of the week of the excursion; whether or not Tommy's friend, Rod, is on the excursion; Tommy's previously undetected claustrophobia; and Tommy's sense of being crowded on the bus.

The behaviour support plan that the specialised behaviour support practitioner develops in consultation with Tommy, involves an ongoing program of exposure to different buses and trials on board the bus with varying levels of passengers. She also includes a seating and entry plan that allows him to embark or disembark first and she uses contingencies to shape his behaviour and help him to regulate his emotions when needed. The behaviour support practitioner works with Amelia to understand and implement the strategies in the plan. It takes some time, but Tommy's behaviour settles with the new strategies and he expresses that he is more comfortable travelling on the excursions.

Provide services consistent with relevant professional codes

40. Workers who are members of a professional association or other relevant body with existing professional codes of conduct (for example nurses, psychologists and health care workers) are required to deliver services consistent with their relevant professional code as well as with the NDIS Code of Conduct and any other applicable regulatory framework. The NDIS Code of Conduct has been developed with reference to other relevant professional codes to ensure a consistency of practice and minimal additional regulatory

burden. The NDIS Commission may work with professional regulatory bodies in investigating alleged breaches where a worker's conduct may be contrary to both the NDIS and their professional codes of conduct.

41. NDIS providers should ensure their workers are delivering services consistent with their professional Codes of Conduct and raise any queries relating to those professional Codes with the appropriate regulator and, where any breach of a professional Code may also amount to a breach of this Code, with the NDIS Commission.

Meet relevant work health and safety requirements

42. Work health and safety laws in each State and Territory provide a framework for protecting the health, safety and welfare of workers and other people who might be affected by work activities, including people with disability, their family and carers.

43. NDIS providers should ensure the health and safety of their workers and other persons at the workplace.

44. NDIS providers should meet work health and safety requirements set out in the relevant acts and regulations in their State or Territory. Further information about specific work health and safety requirements in each jurisdiction can be found at https://www.business.gov.au/info/run/workplace-health-and-safety/whs-oh-and-s-acts-regulations-and-codes-of-practice.

Scenario

Sabina is an NDIS participant who uses a wheelchair. She purchases support from Support Net to help her get more involved in the community and do tasks like shopping. One day Uta, a support worker, collects Sabina in a Support Net van to take her to choir practice.

While Sabina's wheelchair is being put into the van, the wheelchair lift gives way and the wheelchair falls and tips sideways, with Sabina seated in it. Uta is unable to lift the wheelchair upright and calls an ambulance for assistance as Sabina has sustained some minor grazing and a suspected concussion. Support Net notifies the NDIS Commission of the reportable incident. Sabina is cleared of any serious physical injury but is very concerned about her future safety. Sabina cancels the support from Support Net and tells her Local Area Coordinator (LAC) that she won't be able to keep attending activities that require transport.

When making further inquiries into the reportable incident, the NDIS Commission finds that the wheelchair lifts fitted to Support Net vehicles are not suitable for Sabina's wheelchair. They also find that, at the time of the incident, Uta had not received any training on how to use this type of wheelchair lift, and had not used in-built safety features, which could have prevented the incident. Additionally, Uta had not received any work safety training, including how to deal with an emergency.

The NDIS Commission also finds that Support Net has a number of other clients who use wheelchairs that are beyond the recommended weight limit of the wheelchair lifts fitted to their vehicles. Further, they frequently send out new support workers unsupervised to work with clients, before they have received adequate training. The NDIS Commission finds the provider is putting clients and workers at risk by not providing adequate equipment, training or supervision for their workers. To maintain their NDIS registration, Support Net is directed to upgrade the wheelchair lifts fitted to their fleet of vehicles and provide all workers delivering services with work safety training in the use of lifts. No adverse findings are made against individual workers.

Maintain appropriate and accurate records and follow security procedures

45. Part of providing supports and services in a safe and competent manner is maintaining accurate records to ensure continuity of support between workers and inform future service delivery.

46. NDIS providers should maintain appropriate records and follow appropriate security procedures for record management. This includes:
    a. showing respect for people with disability by avoiding the inclusion of demeaning or derogatory language or remarks in records
    b. keeping accurate, up-to-date and legible records that report relevant details of a participant's service history, medication and support needs
    c. detailing any allegations and incidents that may have occurred, including alleged breaches of the Code, and how they were managed
    d. recording feedback, complaints, incidents and allegations
    e. recording any other issues that may have arisen while providing services
    f. maintaining sufficient detail to facilitate continuity of participant supports and inform future service delivery
    g. retaining participant records for a minimum of seven years after service provision.

47. Records should be created at the time of an event or action or as soon as possible afterwards.

Hold appropriate insurance

48. NDIS providers should have professional liability insurance that is appropriate to the size of the organisation and the supports and services it provides, as well as the environment in which they provide services. NDIS providers should seek professional advice as to the type and amount of insurance that is necessary.

4. Act with integrity, honesty and transparency

49. Integrity, honesty and transparency are crucial to developing the trust-based relationships between people with disability, NDIS providers and workers that are required for high-quality service delivery.

50. For clients to be informed consumers they need accurate information about their service providers, the services they receive, and any real or perceived conflicts of interest of the people working with them; and they should be able to make decisions in their best interest, free from inducements or pressure.

51. Consistent with this element of the Code, factors that may be relevant when assessing if conduct complies with this element of the Code include (but are not limited to) a provider's actions to:

Recommend and provide supports and services appropriate to the needs of the participant

52. People with disability have a right to accurate, accessible and timely information about the cost and efficacy of supports and services. This information may include: a clear quote for a service or support; easily understood breakdown of costs for different service options; information supporting the effectiveness of supports; the experience of other people with the service or support, and the risks and benefits of service options.

53. NDIS providers have a responsibility to only recommend and provide supports and services that are appropriate to the needs of the participant.

54. Under this obligation, NDIS providers should:
    a. supply truthful information about the capacity, qualifications, training and professional affiliations of their workforce including if a worker has been excluded from an NDIS worker screening check for a role that involves more than incidental contact with people with disability
    b. not make false claims about the efficacy of any supports, services or products
    c. give clear advice about the full costs of the service or support and what the cost covers
    d. not make claims about the efficacy of treatments or supports that cannot be substantiated independently.

Scenario

Kumi's daughter, Akiko, has cerebral palsy and has funds in her NDIS plan to receive occupational therapy supports. They visit OT Supports to discuss therapy options. OT Supports offers a range of occupational therapy supports such as home aids and modifications and fine motor skill development – all of which will be

beneficial to Akiko. However, OT Supports also suggest that Akiko would potentially benefit from working with their in-house psychologists and counsellors to address her anxiety that she has mentioned is an issue. The provider gives Kumi and Akiko some brochures about these services to consider.

After considering the information provided to them during their visit, Akiko and Kumi decide that they would like to engage OT Supports to provide occupational therapy supports, including counselling. However, upon contacting OT Supports again, the provider mentions that there is a delay in them being able to provide the counselling due to a 'red tape issue'.

Kumi tells Akiko's Local Area Coordinator about this, who in turn makes enquiries to the NDIS Commission. The NDIS Commission investigates further and finds that OT Supports are not registered to provide psychological/ counselling services, and after making more enquiries they find OT Supports had been intending to expand into this area but had not yet sought to alter their registration status to allow for these services to be provided. The NDIS Commission instructs OT Supports to stop advertising these services until they are registered to provide them.

The NDIS Commission informs Kumi of this process and refers her back to her Local Area Coordinator to seek a new provider of counselling services for Akiko.

Maintain integrity by declaring and avoiding any real or perceived conflicts of interest

55. NDIS providers should disclose to the people with disability they support or who are seeking support, any conflicts of interest – potential or real – that may impact on how they deliver supports and services to that person. This would include conflicts of a financial, business or personal nature, including any financial and/or corporate interest or relationship the NDIS provider may have with other entities, including businesses and organisations, or of a personal nature, including but not limited to cultural, religious or social relationships.

56. An NDIS provider should:
    a. not give, ask for, or accept any inducement or gift that impacts or may impact on the way it provides supports or services under the NDIS, including any referral arrangements with other providers
    b. not allow any financial or commercial interest in an organisation or company providing products, services or supports to people with disability to adversely affect the way in which the NDIS provider engages with people with disability
    c. engage in recruitment practices, such as probity checks and reference checks, to uncover any potential or real conflicts of interest of people that it is considering employing.

57. Additionally, NDIS providers should ensure their workers:
    a. are aware of their obligation to declare a conflict of interest and inform people with disability when they have an interest that may

impact supports and services provided to a person with disability (i.e. other than simply being paid for providing the services or supports);

b. do not give inducements or gifts, ask for any inducement or gift, or accept any inducement or gift of more than minor value, from people with disability, their families, carers or advocates.

58. NDIS providers should also have internal policies and guidance for workers to follow for declaring and avoiding conflicts of interest and accepting and giving gifts.

Scenario

Alex has an intellectual disability and has recently engaged Sumetra as her support coordinator. Alex and Sumetra develop a close yet professional relationship in which Alex often asks Sumetra for advice.

After a while, Alex tells Sumetra that she is really conscious about getting healthy and would like to join an exercise class to improve her fitness and meet some new people. Sumetra tells Alex that *Exercise Right* is a program that she knows really well and thinks that it will be a perfect fit for Alex. Alex attends the class the following week but realises that the class is far above her level, leaving her feeling anxious, confused and upset.

She talks to her brother Sam about her experience. Sam looks up *Exercise Right* and finds out that it is a program run by *Super Caring*, Sumetra's employer. Sam approaches *Super Caring* to ask if their management think that it is reasonable practice to have support coordinators recommending services provided by *Super Caring* without disclosing that they are also employed by the organisation.

Super Caring facilitates a face-to-face meeting with Alex and Sam, where *Super Caring* apologises for not disclosing the conflict of interest, and also apologise for the poor advice given to Alex, acknowledging that the class was not suited to her. *Super Caring* then offer to help Alex find another exercise class that is more suited to her abilities and interests. They also ensure it is part of the protocol for workers to inform clients of the conflict of interest when cross-selling products.

Avoid engaging in, participating in or promoting sharp practices

59. The term 'sharp practices' refers to a range of practices involving unfair treatment or taking advantage of people, including over-servicing, high pressure sales and inducements. Some sharp practices may undermine the integrity of NDIS providers, workers and/or the NDIS sector as a whole. Although not necessarily unlawful, sharp practices are considered unethical, dishonest and not in the interests of people with disability.

60. People with disability expect that NDIS providers will not participate in or promote sharp practices. This includes not:

a. providing services or expending funds contrary to a person with disability's approved plan
b. asking for or accepting any additional fees for providing the service
c. offering inducements or rewards that have no particular link to a person's NDIS plan and that could be perceived to encourage people to take up or continue with your organisation or a particular service option
d. engaging in high-pressure sales.

61. NDIS providers also need to ensure their workers are aware of their obligations not to participate in sharp practices.

62. Some unethical practices, such as misleading or deceptive conduct, and coercive or exploitative conduct, as well as being a potential breach of this element of the Code, may also be a breach of the laws and regulations administered by other regulatory authorities.

Scenario

As part of her NDIS Plan, Tamina has funding to purchase a new powered wheelchair to replace her old one which is outdated and has a battery malfunction. Tamina visits a wheelchair supplier and talks to a sales representative about her needs. Tamina uses her wheelchair almost exclusively indoors or on paved outdoor surfaces, but the sales representative suggests that she may be interested in a four wheel driven wheelchair with larger tyres which gives additional traction, stability and comfort on uneven surfaces such as at parks or dirt walking tracks. He notes that for this week only this particular model is 20% off, which makes it only a couple of hundred dollars more expensive than the entry level model that Tamina had been looking at and as such is excellent value-for-money. Tamina is unsure whether she really needs such an elaborate model, and says she'll go away and think about her options.

Tamina then receives follow-up phone calls from the sales representative three times over the following week asking if she's made up her mind and reminding her that this special offer ends in only a few days. Tamina feels pressured and talks to her Local Area Coordinator.

The Local Area Coordinator encourages Tamina to raise her concerns with the NDIS Commission, who investigate further and find that the incident may constitute unconscionable conduct and refer the matter to the Australian Competition and Consumer Commission (ACCC) for further investigation and action.

5. Promptly take steps to raise and act on concerns about matters that may impact the quality and safety of supports and services provided to people with disability

63. People with disability have the right to safe and quality supports and services.

64. NDIS providers have a responsibility to provide safe and quality supports and services. To do this, they should operate effective complaints, resolution, incident management, investigation and disciplinary processes, and meet relevant NDIS Commission reporting requirements. NDIS providers should also foster an environment in which people feel safe to make a complaint or provide negative feedback without fear of retribution. Providers should guarantee procedural fairness principles will be applied throughout the complaints process.

65. Consistent with this element of the Code, factors that may be relevant when assessing if conduct complies with this element of the Code include (but are not limited to) provider's actions to:

Foster an environment where people with disability, their families, carers, advocates and workers feel safe to make a complaint or report issues

66. People with disability, their families, carers, advocates and workers have the right to make a complaint and raise issues without fear of any adverse consequences, such as future refusal of service.

67. NDIS providers should seek to promote and uphold this right by fostering an environment where people with disability, their families, carers and workers feel safe to make a complaint. They can do this by:
    a. encouraging people with disability to provide feedback, make complaints or raise concerns where they have them
    b. encouraging workers to raise concerns where they have them
    c. not taking or threatening to take adverse action in relation to complaints raised with them or the NDIS Commission about their services
    d. taking all reasonable steps to ensure that workers do not threaten or take adverse action against someone who proposes to make or has made a complaint or who is involved in a reportable incident
    e. using complaints data to inform continuous improvement.

68. In some circumstances, workers and others who contact the NDIS Commission with concerns about NDIS providers in good faith are protected by whistle blower protections as well as procedural fairness practices.

Scenario

Jacob has been living in shared accommodation for the past six months. During this time Jacob has been happy with the services he has received, but he has

been recently allocated a new support worker, Karen. Jacob becomes increasingly frustrated with the way Karen has been treating him; she is abrupt and speaks down to him. Jacob remembers, from discussions with his previous worker, that he can make a complaint if he is unhappy.

Jacob emails a complaint to the provider using the provider's complaint form. He receives a response that Karen's manager will talk to Karen. After several weeks, it is obvious that Karen hasn't changed. Jacob talks to an advocate who helps him make another complaint and speak to Karen's manager directly.

The manager apologises that Jacob's complaint was not properly addressed and talks to Jacob about his preferences for a support worker. The manager talks to Karen about Jacob's concerns and makes sure she understands her responsibilities to listen and speak respectfully to clients.

The manager also undertakes an internal review of the provider's complaints management processes and finds that a number of residents don't feel comfortable making complaints or feel that complaints go unheard. The provider places signage and posters within the properties it manages and reminds workers about the complaints process – encouraging them to raise issues if they identify them and inform clients that they can make a complaint if they tell them they are unhappy with a service.

Operate effective complaints processes

69. Anyone can make a complaint about supports and services under the NDIS, including alleged breaches of the Code. This includes people with disability, family members, friends, advocates, workers and other NDIS providers.

70. NDIS providers should play an active role in supporting people with disability to understand their rights and that it is imperative to raise concerns and complain if these rights are violated, and to understand how they can make a complaint both to the NDIS provider and to the NDIS Commission.

71. NDIS providers are required to have a complaints management system in accordance with the *National Disability Insurance Scheme (Complaints Management and Resolution) Rules 2018*. Guidance on these Rules can be found on the Commission's website.

Operate effective incident management system

72. Registered providers are required to implement and maintain an incident management system to identify, assess, manage and resolve incidents that occur during the course of delivering NDIS supports or services and pose a risk of harm to people with disability. Additionally, registered providers must report the most serious of these incidents to the NDIS Commission as reportable incidents. Reportable incidents are defined in the NDIS Act 2013 as
    a. the death of a person with disability
    b. serious injury of a person with disability

c. abuse or neglect of a person with disability
d. unlawful sexual or physical contact with, or assault of, a person with disability
e. sexual misconduct committed against, or in the presence of, a person with disability, including grooming of the person for sexual activity
f. the use of a restrictive practice in relation to a person with disability, other than where the use is in accordance with an authorisation (however described) of a State or Territory in relation to the person.

73. These reporting obligations should be clearly documented in a provider's complaints and incident management arrangements. For more information on the NDIS Commission's requirements, see the *National Disability Insurance Scheme (Incident Management and Reportable Incidents) Rules 2018*.

Undertake investigative and disciplinary action and comply with external investigations

74. NDIS providers should have robust and transparent procedures for investigating and acting upon alleged breaches of the Code. Providers should also take appropriate disciplinary action to address breaches of the Code.

75. NDIS providers also have a responsibility to cooperate with any external investigations that are undertaken by the NDIS Commission or other relevant third parties.

6. Take all reasonable steps to prevent and respond to all forms of violence against, and exploitation, neglect and abuse of, people with disability

76. Evidence demonstrates that people with disability are at a far greater risk of experiencing violence, abuse, neglect and exploitation than others in the population and this often goes un-recognised and un-addressed[3]. Women and girls with disability are at far greater risk of violence, and children and young people with disability experience violence and abuse at approximately three times the rate of children without disability.

77. 'Violence, abuse, neglect and exploitation' is broadly understood to include, but is not limited to: domestic, family and interpersonal violence; physical and sexual violence and abuse; psychological or emotional harm and abuse; constraints; forced treatments and interventions; humiliation and harassment; financial abuse; violations of privacy; systemic abuse; physical and emotional

[3] https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Community_Affairs/Violence_abuse_neglect/Report

neglect; passive neglect; and wilful deprivation.

78. It is important NDIS providers take a zero-tolerance approach to violence, abuse, neglect and exploitation – using strategies to prevent, intervene early and respond to these practices.

79. Consistent with this element of the Code, factors that may be relevant when assessing if conduct complies with this element of the Code include (but are not limited to) the provider's actions to:

Commit to eliminating any form of violence, abuse, neglect and exploitation.

80. People with disability and the NDIS Commission expect that supports and services will be delivered without any violence, abuse, neglect and exploitation.

81. NDIS providers should:
    a. have policies, systems and procedures in place that are designed to increase understanding of and eliminate violence, abuse, neglect and exploitation of people with disability
    b. ensure these policies, systems and procedures are understood and used by workers
    c. encourage workers to use their own initiative to be alert to situations that may give rise to violence, abuse, neglect or exploitation and take steps to avert such situations
    d. ensure incidents and responses inform continuous improvement
    e. inform people with disability and workers of all available avenues for raising concerns or complaints, noting their right to do so without fear of retribution
    f. uphold whistle blower protections.

Scenario

Angela is living in shared accommodation provided by HousingPlus in a small regional area in Northern NSW that does not have many support workers. One evening, a disability support worker, Tamara, comes in to relieve another support worker, Julia, for the nightshift. Recently, Tamara has noticed that when she takes over from Julia, Angela is withdrawn and upset. When she asks Angela why she is upset, Angela says that Julia has been shouting at her, calling her stupid and useless.

Tamara follows HousingPlus's policy to report Julia's behaviour to her supervisor. However, they are currently understaffed, so they do not take immediate action. Tamara then makes a complaint to the NDIS Commission.

The NDIS Commission contacts HousingPlus to inform them that they are investigating the complaint. HousingPlus also begins an internal review process

and finds that the issue Tamara has raised has not been addressed. They stop Julia from providing supports while they investigate whether this is an isolated incident. At the conclusion of their investigation HousingPlus makes a finding of misconduct against Julia and commences dismissal proceedings.

The NDIS Commission monitors HousingPlus's investigation and its outcome. The NDIS Commission determines that the process and outcome taken by HousingPlus have addressed the specific issue but suggests they also review their internal complaints system to ensure issues like this are appropriately dealt with in the future. HousingPlus has the operation of their complaints system flagged for review as a part of their next audit.

Identify and respond to incidents of violence, abuse, neglect and exploitation, and report these to the NDIS Commission and, as appropriate, to other relevant authorities

82. If an incident or criminal act of violence, abuse, neglect or exploitation does occur, the primary focus of both NDIS providers and workers should be to ensure that all persons affected are safe.

83. NDIS providers should:
    a. be aware of, and abide by, any State or Territory-based mandatory reporting requirements
    b. ensure workers understand how to immediately report the incident to their supervisor and/or any other authorities if an incident or criminal act of violence, abuse, neglect or exploitation does occur or is alleged
    c. notify the NDIS Commission about reportable incidents
    d. act swiftly to involve the police and the NDIS Commission
    e. fully comply and cooperate with any investigative actions taken by the NDIS Commission or other relevant authorities, including the police.

84. An act of violence, abuse, neglect and exploitation by a participant should prompt an assessment/ re-assessment of a participant's service package and the delivery of services to ensure their supports are being delivered in a constructive manner that maximises the benefit to the participant. This process should include a review of any behaviour support plans by a specialist behaviour support provider to reduce the risks of future violence.

85. In its separate guidance for workers, the NDIS Commission notes that if a worker considers that a NDIS provider has not responded appropriately to incidents of violence, abuse and neglect or if they think the matter might be of more systemic significance they are encouraged to report the incident to the NDIS Commission. NDIS Providers should not use adverse action or threats of adverse action against such a worker. The NDIS Commission has legislative powers to protect workers and other people who report incidents to the NDIS

Commission and can take regulatory action against NDIS providers that engage in this behaviour.

Reduce and eliminate restrictive practices

86. A restrictive practice is any practice or intervention that has the effect of restricting the rights or freedom of movement of a person with disability.

87. The *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018* (Restrictive Practices and Behaviour Support Rules) describe regulated restrictive practices as involving seclusion, or chemical, mechanical, physical or environmental restraint. In the past, restrictive practices were often used as a first line of response for people with behaviours of concern (behaviours that pose a risk of harm to the person or others). It is now recognised that restrictive practices can represent serious human rights infringements and that routine use has often been harmful and exacerbated the behaviours they were intended to address.

88. Governments are committed to reducing and eliminating the use of restrictive practices, consistent with the recommendation of the United Nations Committee on the Rights of Persons with Disabilities and in 2014 endorsed the National Framework for Reducing and Eliminating the Use of Restrictive Practices in the Disability Service Sector.

89. NDIS providers have a responsibility to reduce and eliminate restrictive practices within their service delivery. NDIS providers supporting people who have a behaviour support plan that includes a restrictive practice need to comply with the Restrictive Practices and Behaviour Support Rules, guidance on these Rules can be found on the NDIS Commission's website.

Scenario

Jane has a psychosocial disability. Her tenancy support provider has placed locks on the cupboards and fridges around her house to limit her access to food. This practice has occurred for years without review, with a high turnover of support workers. As a result of the recurring restriction, Jane begins to shoplift food to meet her needs. Jane's sister, Barbara, discovers that Jane has been shoplifting and gets involved, soon discovering the locks placed around Jane's house.

A routine review of Jane's behaviour support plan notes that this restrictive practice is not part of her Plan. When the NDIS Commission undertakes further queries, the provider says the restrictive practice was done 'for Jane's own good' because of her weight gain. The NDIS Commission works with Jane's Behaviour Support Practitioner to review the situation. The Practitioner requests a medical review, finding that the drugs Jane is required to take are causing her weight gain, so there is no behavioural concern that would require locks on the cupboards. The Practitioner works with Jane's support workers to educate them on Jane's condition and refine Jane's behaviour support plan.

7. Take all reasonable steps to prevent and respond to sexual misconduct

90. People with disability have a right to sexual expression as well as to develop and maintain sexual relationships. As part of this, they need access to information and support to assist them to make informed and positive choices about sex, sexuality, relationships and reproductive health and wellbeing, as well as exercise their rights in regard to privacy.

91. However, people with disability experience are also at increased risk of all forms of sexual violence and sexual misconduct.

92. Sexual misconduct is a broad term encompassing any unwelcome acts or behaviour that are experienced by the person with disability as being sexual in nature. This includes physical and verbal actions committed without consent or by force, intimidation, coercion or manipulation. It includes sexual violence and exploitation but is not limited to actions which constitute a criminal offence.

93. The support relationship between a worker and a person with disability they support relies on a high degree of trust. All forms of sexual misconduct constitute a breach of this trust and a breach of the Code.

94. NDIS providers have a key role in implementing practices that minimise the risk of sexual misconduct. They must have in place clear guidance for staff behaviour and processes for reporting sexual misconduct to the NDIS Commission and any other relevant authorities.

95. Consistent with this element of the Code, factors that may be relevant when assessing if conduct complies with this element of the Code include (but are not limited to) provider's actions to:

Have in place clear guidance for staff behaviour

96. It is a core expectation of people with disability and the NDIS Commission that NDIS providers will develop policy and guidance to prevent and respond to sexual misconduct. This must explicitly indicate that workers are expected to adhere to the highest standards of behaviour, be respectful and take every action to make sure people with disability are safe. This means having professional boundaries in place for relationships between staff and people with disability, and preventing and responding to any inappropriate behaviours by anyone to a person with disability, including sexual misconduct.

97. This guidance must state that workers will not commit sexual misconduct with persons with disability they support.

98. An NDIS provider's guidance for their workers should:
    a. distinguish between sexual misconduct and appropriate conversations around a participant's sexual support or family planning needs

b. distinguish between inappropriate touching and appropriate touching
c. guide workers in setting boundaries with the person they are working with
d. guide workers in determining whether their own or others' relationships have become inappropriate and instruct them to cease any such relationship.

99. More detailed information on the behaviours that may constitute sexual misconduct is contained in the **Glossary** which is not exhaustive.

100. NDIS providers should ensure that workers are aware of obligations they may have under other professional codes of conduct. There are some professions where prohibitions on close personal, physical or emotional relationships are also contained in the professional standards or code of conduct applying to the relevant profession. Workers found not to have complied with a professional code or standard regarding sexual misconduct while providing NDIS supports and services may be regarded as breaching the NDIS Code of Conduct.

101. NDIS providers should also inform people with disability, their families and carers about the guidance around appropriate behaviour and relationships.

Scenario

Nathan is an adult with a psychosocial disability who attends weekly sessions with Jacinta, a psychologist. During one session, Jacinta asks Nathan a series of questions about his previous sexual relationships, his sexual preferences, and whether he is currently in a sexual relationship. Nathan is confused as to how this line of questioning relates to the issues that he generally discusses with Jacinta, and asks her what the purpose of her questioning is. Jacinta responds by noting their allocated time is up for today and suggests they continue their conversation over a casual lunch later that week.

Nathan gets the feeling that something is not quite right with either Jacinta's questioning or her lunch proposal and feels very uncomfortable. Later that day, he calls his provider about his concerns. The provider tells Nathan it has strict guidance for staff about how they interact with people they work with and that, as a psychologist, Jacinta must comply with professional standards as well as the Code of Conduct.

The provider conducts an investigation and finds that Jacinta's questioning around Nathan's sexuality may have been relevant to the broader psychosocial supports that she had been engaged to provide. However, her proposal to meet with Nathan for lunch, outside of a professional capacity, was a direct breach of the NDIS Code of Conduct, and may also constitute a breach of the *Australian Psychological Society Code of Ethics*.

Nathan is given the option of choosing a different psychologist which he accepts.

The provider records the incident, counsels Jacinta and sets up arrangements to closely supervise Jacinta's work. The provider also reminds her of internal

guidelines, which detail appropriate behaviour and practice. This includes ensuring she understands that meeting in other than a professional capacity is never acceptable in any circumstance.

They also refer the matter to the Australian Psychological Society and notify the NDIS Commission.

Operate effective processes for dealing with sexual misconduct

102. NDIS providers should ensure that there are appropriate policies and procedures in place for workers to identify and report any alleged sexual misconduct, unlawful sexual or physical conduct or inappropriate relationships to the provider and to the NDIS Commission and relevant authorities, such as the police or child protection authorities, and relevant professional bodies.

103. It is crucial that NDIS providers create an environment in which people with disability feel safe and are informed about how to make a complaint about any alleged sexual misconduct, and that the complaint is made without fear of retribution or loss of services. NDIS providers have a responsibility to take steps to facilitate access to independent advocacy support or support for harm or trauma experienced if the person desires this support.

104. While it is understood that all NDIS providers will contact appropriate authorities as part of their response to an incident, registered NDIS providers have a particular obligation to notify the NDIS Commission under the *National Disability Insurance Scheme (Reportable Incidents) Rules 2018* about allegations of sexual misconduct.

Part 3: The NDIS Code of Conduct in Practice

105. The Commission has responsibility for overseeing the compliance of NDIS providers and workers with the NDIS Code of Conduct when delivering supports and services in the NDIS sector. This section outlines actions that can be taken in relation to breaches of the Code and its relationship with other professional codes.

106. In considering issues that may arise with non-compliance of the Code, the NDIS Commission will take into account a number of factors including the size of an organisation, the type of supports and services delivered and the environment in which these are delivered, participant support needs, other factors that apply to the supports and services, and other relevant circumstances.

Breaches of the Code

107. Anyone can make a complaint about supports and services funded under the NDIS, including alleged breaches of the Code. This includes people with disability, family members, friends, workers, advocates and other providers. In the first instance, people are encouraged to contact the NDIS provider to make

complaints.

108. NDIS providers are expected to adhere to the Code, take steps to ensure their workers adhere to the Code and to investigate and take appropriate action to address any breaches.

109. If an NDIS provider directs a worker to do something that may constitute a breach of the Code, the conduct of both the NDIS provider and the worker will be considered against the requirements of the Code if the worker complies with the direction.

110. The NDIS Commission can commence an investigation as a result of any information it receives about an NDIS provider or worker's potential breach of the Code whether it is in relation to a complaint, a reportable incident or from any other source. The NDIS Commission will work with all relevant people and conduct investigations fairly and efficiently and in accordance with the principles of natural justice.

111. The NDIS Commission has the role of collecting, correlating, analysing and disseminating information relating to complaints that arise out of, or in connection with, the provision of supports or services by NDIS providers and their workers.

112. The NDIS Commission will gather, integrate and assess information about sharp practices from multiple sources, including workers, NDIS provider registration data, participant feedback and complaints, reportable incidents, referrals and intelligence from other agencies including the NDIA, and from its own market studies.

113. The NDIS Commission is required to abide by the privacy and confidentiality obligations imposed under federal law, including the *Privacy Act 1988* (Cth) and the NDIS Act.

Consequences of breaching the Code

114. The NDIS Commission, an independent regulator, is empowered to take a range of sanctions and remedial action if NDIS providers or workers breach the Code.

115. Penalties for breaching the Code will depend on the nature of the breach. For breaches of a less serious nature, the NDIS Commission may, for example, decide to use training and education, warnings and directions. For the most serious breaches, the NDIS Commission may choose a different response, for example, going to court to have civil penalties imposed, deregistering NDIS providers, or banning NDIS providers or workers from providing services and supports in the NDIS sector.

116. The Commissioner may publish on the NDIS Commission's website the result of any action it has taken against an NDIS provider or person employed or otherwise engaged by an NDIS provider.

Relationship with other Professional Codes

117. The Code has been developed with reference to other relevant codes to ensure a consistent definition of acceptable practice, with minimal additional administrative burden.

118. NDIS providers should be aware that workers who are required to comply with an existing professional code of conduct, such as nurses, psychologists and health care workers, will also be required to comply with the NDIS Code of Conduct and other applicable regulatory frameworks (for example, child protection requirements).

119. If a professional is found not to have complied with their own professional standards in providing NDIS supports and services, they may have also breached the NDIS Code of Conduct. The reverse may also be the case.

120. The NDIS Commission will, as far as practicable, coordinate any regulatory activity with the professional body or other regulator, as appropriate, to ensure there is no unnecessary duplication and manage any overlapping areas of regulation.

Review of the Guidance

121. This Guidance has been developed in consultation with the disability sector and the broader community. The NDIS Commission will regularly review the Guidance based on learnings from its various functions and in consultation with stakeholders.

122. Any material changes made will be communicated widely through a range of channels to inform NDIS providers and workers of any changes in guidance that may assist them in meeting the requirements of the Code.

Glossary

Phrase	Definition
Behaviour Support Plan	A documented plan that: • outlines the strategies that seek to support a person with disability; • responds to the person with disability's needs; • responds to the causes of behaviours of concern;

	• provides a roadmap for reducing or eliminating the use of any restrictive practices.
Carer	Someone who provides support and help to a person with disability in the activities of their day to day life but not as an employee or person otherwise engaged by an NDIS provider. A carer will often be a family member or guardian of the person.
Conflict of Interest	Conflict of interest can be potential or real and occurs when a worker or an NDIS provider is in a position to exploit their own professional or official capacity for personal or corporate benefit (other than in the usual course of charging fees for services or supports rendered). Conflicts of interest could include conflicts of a financial, business or personal nature, including any financial and/or corporate interest or relationship the NDIS provider may have with other entities, including businesses and organisations, or of a personal nature, including but not limited to cultural, religious or social relationships.
Complaints Process	In addition to the NDIS Commission having a complaints function overseen by a Complaints Commissioner, registered NDIS providers are required to have effective internal complaints management and resolution systems that are appropriate for the size of a provider and for the services or supports they provide.
Incident Management System	The incident management system that registered NDIS providers are obliged to implement and report on to the NDIS Commission, in accordance with the *NDIS (Incident Management and Reportable Incidents) Rules 2018*.
Local Area Coordinator (LAC)	Local organisations working in partnership with the NDIA, to help participants, their families and carers access the NDIS. LACs will help participants write and manage their plans and also connect participants to mainstream services and local and community-based supports.
NDIA	National Disability Insurance Agency. The Commonwealth government organisation administering the NDIS.

Participant	A person who the CEO of the NDIA decides meets the NDIS access requirements in response to a valid access request and so becomes a participant in the NDIS.
Plan	Means the participant's plan that is in effect under section 37 of the NDIS Act. Generally this will be a written agreement worked out with the participant, stating their goals and needs, and the reasonable and necessary supports the NDIS will fund for them. Each participant has their own individual plan.
Registered NDIS Provider	A service provider that has registered with the NDIS Commission to provide services or supports under the NDIS.
Restrictive Practices	An intervention such as seclusion, physical, chemical, mechanical or environmental restraint that has the effect of restricting the rights or freedom of movement of a person with disability.
NDIS Sector	The organisations and companies providing disability support services and the peak bodies that represent them.
Sexual Misconduct	Inappropriate behaviour that may include a. asking the person on a date b. touching any part of a person's body in a sexual way c. touching a person in a way they do not wish to be touched d. displaying their genitals to the person e. coercing, by pressuring or tricking, a person to engage in sexual behaviours or acts f. making sexual or erotic comments to the person – in person or by text message, email or social media message (as well as written comments, this includes images and audio) g. making sexually suggestive comments or jokes h. intentionally staring at a person in a way that makes them feel uncomfortable

	i. making comments about a person's sexuality or appearance j. making requests of a sexual nature, including to remove clothing, for sexually explicit photographs, videos or for sexual activities k. showing the person pictures or videos of naked people, or people undertaking sexual activities l. ignoring or encouraging sexual behaviour between people with disability that is non-consensual or exploitative. This list does not cover all situations and there may be other activities or behaviours that constitute sexual misconduct.
Sharp Practices	Business practices that may in a technical sense be legal but are unethical or dishonest.
Support	Things to help a person undertake daily life activities and enable them to participate in the community and reach their goals.
Worker	Persons employed or otherwise engaged by an NDIS provider. For example, people working in the disability support sector in either a paid or voluntary capacity for an NDIS provider.

NDIS Quality and Safeguards Commission

NDIS Practice Standards

NDIS Practice Standards and Quality Indicators

July 2018

Version 1

Contents

What are the NDIS Practice Standards?

The NDIS Practice Standards create an important benchmark for providers to assess their performance, and to demonstrate how they provide high quality and safe supports and services to NDIS participants. Together with the NDIS Code of Conduct, the NDIS Practice Standards will assist NDIS participants to be aware of what quality service provision they should expect from NDIS providers.

The outcomes of the NDIS Practice Standards are included within the *National Disability Insurance Scheme (Provider Registration and Practice Standards) Rules 2018*. The *National Disability Insurance Scheme (Quality Indicators) Guidelines 2018* list the outcomes of the NDIS Practice Standards and also the associated quality indicators NDIS providers can use to demonstrate conformity with the outcomes.

The NDIS Practice Standards consist of a core module and several supplementary modules that apply according to the types of supports and services NDIS providers deliver, and the corporate structure of the organisation.

The **Core** module covers:

- rights and responsibility for participants
- governance and operational management
- the provision of supports, and
- the support provision environment

The **supplementary** modules cover:

- High intensity daily personal activities
- Specialist behaviour support
- Implementing behaviour support plans
- Early childhood supports
- Specialised support co-ordination, and
- Specialist disability accommodation.

Each module has:

- a series of high-level, participant-focused outcomes, and
- for each outcome, quality indicators that auditors will use to assess a provider's compliance with the Practice Standards

Core Module

1. Rights and Responsibilities

These NDIS Practice Standards set out the rights of participants and the responsibilities of providers that deliver supports and services to them.

Person – centred supports

Outcome: Each participant accesses supports that promote, uphold and respect their legal and human rights and is enabled to exercise informed choice and control. The provision of supports promotes, upholds and respects individual rights to freedom of expression, self-determination and decision-making.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant's legal and human rights are understood and incorporated into everyday practice.
- Communication with each participant about the provision of supports is responsive to their needs and is provided in the language, mode of communication and terms that the participant is most likely to understand.
- Each participant is supported to engage with their family, friends and chosen community as directed by the participant

Individual values and beliefs

Outcome: Each participant accesses supports that respect their culture, diversity, values and beliefs.

To achieve this outcome, the following indicators should be demonstrated:

- At the direction of the participant, the culture, diversity, values and beliefs of that participant are identified and sensitively responded to.
- Each participant's right to practice their culture, values and beliefs while accessing supports is supported

Privacy and Dignity

Outcome: Each participant accesses supports that respect and protect their dignity and right to privacy.

To achieve this outcome, the following indicators should be demonstrated:

- Consistent processes and practices are in place that respect and protect the personal privacy and dignity of each participant.
- Each participant is advised of confidentiality policies using the language, mode of communication and terms that the participant is most likely to understand.
- Each participant understands and agrees to what personal information will be collected and why, including recorded material in audio and/or visual format

Independence and informed choice

Outcome: Each participant is supported by the provider to make informed choices, exercise control and maximise their independence relating to the supports provided.

To achieve this outcome, the following indicators should be demonstrated:

- Active decision-making and individual choice is supported for each participant including the timely provision of information using the language, mode of communication and terms that the participant is most likely to understand.
- Each participant's right to the dignity of risk in decision-making is supported. When needed, each participant is supported to make informed choices about the benefits and risks of the options under consideration.
- Each participant's autonomy is respected, including their right to intimacy and sexual expression.
- Each participant has sufficient time to consider and review their options and seek advice if required, at any stage of support provision, including assessment, planning, provision, review and exit.
- Each participant's right to access an advocate (including an independent advocate) of their choosing is supported, as is their right to have the advocate present

Violence, Abuse, Neglect, Exploitation and Discrimination

Outcome: Each participant accesses supports free from violence, abuse, neglect, exploitation or discrimination.

To achieve this outcome, the following indicators should be demonstrated:

- Policies, procedures and practices are in place which actively prevent violence, abuse, neglect, exploitation or discrimination.
- Each participant is provided with information about the use of an advocate (including an independent advocate) and access to an advocate is facilitated where allegations of violence, abuse, neglect, exploitation or discrimination have been made.
- Allegations and incidents of violence, abuse, neglect, exploitation or discrimination, are acted upon, each participant affected is supported and assisted, records are made of any details and outcomes of reviews and investigations (where applicable) and action is taken to prevent similar incidents occurring again.

2. Provider Governance and Operational Management

These NDIS Practice Standards set out the governance and operational management responsibilities for NDIS Providers.

Governance and Operational Management

Outcome: Each participant's support is overseen by robust governance and operational management systems relevant (proportionate) to the size, and scale of the provider and the scope and complexity of supports delivered.

To achieve this outcome, the following indicators should be demonstrated:

- Opportunities are provided by the governing body for people with disability to contribute to the governance of the organisation and have input into the development of organisational policy and processes relevant to the provision of supports and the protection of participant rights.
- A defined structure is implemented by the governing body to meet a governing body's financial, legislative, regulatory and contractual responsibilities, and to monitor and respond to quality and safeguarding matters associated with delivering supports to participants.
- The skills and knowledge required for the governing body to govern effectively are identified, and relevant training is undertaken by members of the governing body to address any gaps.
- The governing body ensures that strategic and business planning considers legislative requirements, organisational risks, other requirements related to operating under the

NDIS (for example Agency requirements and guidance), participants' and workers' needs and the wider organisational environment.

- The performance of management, including responses to individual issues, is monitored by the governing body to drive continuous improvement in management practices.
- The provider is managed by a suitably qualified and/or experienced persons with clearly defined responsibility, authority and accountability for the provision of supports.
- There is a documented system of delegated responsibility and authority to another suitable person in the absence of a usual position holder in place.
- Perceived and actual conflicts of interest are proactively managed and documented, including through development and maintenance of organisational policies.

Risk Management

Outcome: Risks to participants, workers and the provider are identified and managed.

To achieve this outcome, the following indicators should be demonstrated:

- Risks to the organisation, including risks to participants, financial and work health and safety risks, and risks associated with provision of supports are identified, analysed, prioritised and treated.
- A documented system that effectively manages identified risks is in place, and is relevant and proportionate to the size and scale of the provider and the scope and complexity of supports provided.
- Support delivery is linked to a risk management system which includes:
  - Incident Management;
  - Complaints Management;
  - Work Health and Safety;
  - Human Resource Management;
  - Financial Management;
  - Information Management; and
  - Governance

Quality Management

Outcome: Each participant benefits from a quality management system relevant and proportionate to the size and scale of the provider, which promotes continuous improvement of support delivery.

To achieve this outcome, the following indicators should be demonstrated:

- A quality management system is maintained that is relevant and proportionate to the size and scale of the provider and the scope and complexity of the supports delivered. The system defines how to meet the requirements of legislation and these standards. The system is reviewed and updated as required to improve support delivery.
- The provider's quality management system has a documented program of internal audits relevant (proportionate) to the size and scale of the provider and the scope and complexity of supports delivered.
- The provider's quality management system supports continuous improvement, using outcomes, risk related data, evidence-informed practice and feedback from participants and workers

Information Management

Outcome: Management of each participant's information ensures that it is identifiable, accurately recorded, current and confidential. Each participant's information is easily accessible to the participant and appropriately utilised by relevant workers.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant's consent is obtained to collect, use and retain their information or to disclose their information (including assessments) to other parties, including details of the purpose of collection, use and disclosure. Each participant is informed in what circumstances the information could be disclosed, including that the information could be provided without their consent if required or authorised by law.
- Each participant is informed of how their information is stored and used, and when and how each participant can access or correct their information, and withdraw or amend their prior consent.
- An information management system is maintained that is relevant and proportionate to the size and scale of the organisation and records each participant's information in an accurate and timely manner.
- Documents are stored with appropriate use, access, transfer, storage, security, retrieval, retention, destruction and disposal processes relevant and proportionate to the scope and complexity of supports delivered.

Feedback and Complaints Management

Outcome: Each participant has knowledge of and access to the provider's complaints management and resolution system. Complaints and other feedback made by all parties are welcomed, acknowledged, respected and well-managed.

To achieve this outcome, the following indicators should be demonstrated:

- A complaints management and resolution system is maintained that is relevant and proportionate to the scope and complexity of supports delivered and the size and scale of the organisation. The system follows principles of procedural fairness and natural justice and complies with the requirements under the *National Disability Insurance Scheme (Complaints Management and Resolution) Rules 2018.*
- Each participant is provided with information on how to give feedback or make a complaint, including avenues external to the provider, and their right to access advocates. There is a supportive environment for any person who provides feedback and/or makes complaints.
- Demonstrated continuous improvement in complaints and feedback management by regular review of complaint and feedback policies and procedures, seeking of participant views on the accessibility of the complaints management and resolution system, and incorporation of feedback throughout the provider's organisation.
- All workers are aware of, trained in, and comply with the required procedures in relation to complaints handling.

Incident Management

Outcome: Each participant is safeguarded by the provider's incident management system, ensuring that incidents are acknowledged, respond to, well-managed and learned from.

To achieve this outcome, the following indicators should be demonstrated:

- An incident management system is maintained that is relevant and proportionate to the scope and complexity of supports delivered and the size and scale of the organisation. The system complies with the requirements under the *National Disability Insurance Scheme (Incident Management and Reportable Incidents) Rules 2018.*
- Each participant is provided with information on incident management, including how incidents involving the participant have been managed.
- Demonstrated continuous improvement in incident management by regular review of incident management policies and procedures, review of the causes, handling and outcomes of incidents, seeking of participant and worker views, and incorporation of feedback throughout the provider's organisation.

- All workers are aware of, trained in, and comply with the required procedures in relation to incident management.

Human Resource Management

Outcome: Each participant's support needs are met by workers who are competent in relation to their role, hold relevant qualifications, and who have relevant expertise and experience to provide person-centred support.

To achieve this outcome, the following indicators should be demonstrated:

- The skills and knowledge required of each position within a provider are identified and documented together with the responsibilities, scope and limitations of each position.
- Records of worker pre-employment checks, qualifications and experience are maintained.
- An orientation and induction process is in place that is completed by workers including completion of the mandatory NDIS worker orientation program.
- A system to identify, plan, facilitate, record and evaluate the effectiveness of training and education for workers is in place to ensure that workers meet the needs of each participant. The system identifies training that is mandatory and includes training in relation to staff obligations under the NDIS Practice Standards and other National Disability Insurance Scheme rules.
- Timely supervision, support and resources are available to workers relevant to the scope and complexity of supports delivered.
- The performance of workers is managed, developed and documented, including through providing feedback and development opportunities.

Continuity of Supports

Outcome: Each participant has access to timely and appropriate support without interruption.

To achieve this outcome, the following indicators should be demonstrated:

- Day-to-day operations are managed in an efficient and effective way to avoid disruption and ensure continuity of supports.
- In the event of worker absence or vacancy, a suitably qualified and/or experienced person performs the role.
- Supports are planned with each participant to meet their specific needs and preferences. These needs and preferences are documented and provided to workers

prior to commencing work with each participant to ensure the participant's experience is consistent with their expressed preferences.

- Arrangements are in place to ensure support is provided to the participant without interruption throughout the period of their service agreement. These arrangements are relevant and proportionate to the scope and complexity of supports delivered by the provider.
- Where changes or interruptions are unavoidable, alternative arrangements are explained and agreed with the participant.
- Where applicable, disaster preparedness and planning measures are in place to enable continuation of critical supports before, during and after a disaster.

3. Provision of Supports

These NDIS Practice Standards set out the responsibilities for NDIS Providers when providing supports to participants.

Access to supports

Outcome: Each participant accesses the most appropriate supports that meet their needs, goals and preferences.

To achieve this outcome, the following indicators should be demonstrated:

- The supports available, and any access / entry criteria (including any associated costs) are clearly defined and documented. This information is communicated to each participant using the language, mode of communication and terms that the participant is most likely to understand.
- Reasonable adjustments to the support delivery environment are made and monitored to ensure it is fit for purpose and each participant's health, privacy, dignity, quality of life and independence is supported.
- Each participant is supported to understand under what circumstances supports can be withdrawn. Access to supports required by the participant will not be withdrawn or denied solely on the basis of a dignity of risk choice that has been made by the participant.

Support Planning

Outcome: Each participant is actively involved in the development of their support plans. Support plans reflect participant needs, requirements, preferences, strengths and goals, and are regularly reviewed.

To achieve this outcome, the following indicators should be demonstrated:

- With each participant's consent, work is undertaken with the participant and their support network to enable effective assessment and to develop a support plan. Appropriate information and access is sought from a range of resources to ensure the participant's needs, support requirements, preferences, strengths and goals are included in the assessment and the support plan.
- In collaboration with each participant, a risk assessment is completed and documented for each participant's support plan, then appropriate strategies to treat known risks are planned and implemented.
- Periodic reviews of the effectiveness of risk management strategies are undertaken with each participant to ensure risks are being adequately addressed, and changes are made when required.
- Each support plan is reviewed annually or earlier in collaboration with each participant, according to their changing needs or circumstances. Progress in meeting desired outcomes and goals is assessed, at a frequency relevant and proportionate to risks, the participant's functionality and the participant's wishes.
- Where progress is different from expected outcomes and goals, work is done with the participant to change and update the support plan.
- Where appropriate, and with the consent of the participant, information on the support plan is communicated to family members, carers, other providers and relevant government agencies.

Service Agreements with Participants

Outcome: Each participant has a clear understanding of the supports they have chosen and how they will be provided.

To achieve this outcome, the following indicators should be demonstrated:

- Collaboration occurs with each participant to develop a service agreement which establishes expectations, explains the supports to be delivered, and specifies any conditions attached to the delivery of supports, including why these conditions are attached.
- Each participant is supported to understand their service agreement and conditions using the language, mode of communication and terms that the participant is most likely to understand.
- Where the service agreement is created in writing, each participant receives a copy of their agreement signed by the participant and the provider. Where this is not practicable, or the participant chooses not to have an agreement, a record is made of the circumstances under which the participant did not receive a copy of their agreement.
- Where the provider delivers supported independent living supports to participants in specialist disability accommodation dwellings, documented arrangements are in place with each participant and each specialist disability accommodation provider. At a minimum, the arrangements should outline the party or parties responsible and their roles (where applicable) for the following matters:
  a) How a Participant's concerns about the dwelling will be communicated and addressed;
  b) How potential conflicts involving participant(s) will be managed;
  c) How changes to participant circumstances and/or support needs will be agreed and communicated;
  d) In shared living, how vacancies will be filled, including each participant's right to have their needs, preferences and situation taken into account; and
  e) How behaviours of concern which may put tenancies at risk will be managed, if this is a relevant issue for the participant.

Responsive Support Provision

Outcome: Each participant accesses responsive, timely, competent and appropriate supports to meet their needs, desired outcomes and goals.

To achieve this outcome, the following indicators should be demonstrated:

- Supports are provided based on the least intrusive options, in accordance with contemporary evidence-informed practices that meet participant needs and help achieve desired outcomes.
- Where agreed in the service agreement, and with the participant's consent or direction, links are developed and maintained through collaboration with other providers to share information and meet participant needs.
- Reasonable efforts are made to involve the participant in selecting their workers, including the preferred gender of workers providing personal care supports.
- Where a participant has specific needs which require monitoring and/or daily support, workers are appropriately trained and understand the participant's needs and preferences.

Transitions to or from the provider

Outcome: Each participant experiences a planned and coordinated transition to or from the provider.

To achieve this outcome, the following indicators should be demonstrated:

- A planned transition to or from the provider is facilitated in collaboration with each participant when possible, and this is documented, communicated and effectively managed.
- Risks associated with each transition to or from the provider are identified, documented and responded to.
- Processes for transitioning to or from the provider are developed, applied, reviewed and communicated.

4. Support Provision Environment

These NDIS Practice Standards set out the environment in which supports are to provided to participants.

Safe environment

Outcome: Each participants accesses supports in a safe environment that is appropriate to their needs.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant can easily identify workers engaged to provide the agreed supports.
- Where supports are provided in the participant's home, work is undertaken with the participant to ensure a safe support delivery environment.
- Where relevant, work is undertaken with other providers and services to identify and treat risks, ensure safe environments, and prevent and manage injuries.

Participant Money and Property

Outcome: Participant money and property is secure and each participant uses their own money and property as they determine.

To achieve this outcome, the following indicators should be demonstrated:

- Where the provider has access to a participant's money or other property, processes to ensure that it is managed, protected and accounted for are developed, applied, reviewed and communicated. Participants' money or other property is only used with the consent of the participant and for the purposes intended by the participant.
- If required, each participant is supported to access and spend their own money as the participant determines.
- Participants are not given financial advice or information other than that which would reasonably be required under the participant's plan.

Management of Medication

Outcome: Each participant requiring medication is confident their provider administers, stores and monitors the effects of their medication and works to prevent errors or incidents.

To achieve this outcome, the following indicators should be demonstrated:

- Records clearly identify the medication and dosage required by each participant, including all information required to correctly identify the participant and to safely administer the medication.
- All workers responsible for administering medication understand the effects and side-effects of the medication and the steps to take in the event of an incident involving medication.
- All medications are stored safely and securely, can be easily identified and differentiated, and are only accessed by appropriately trained workers.

Management of Waste

Outcome: Each participant, each worker, and any other person in the home is protected from harm as a result of exposure to waste, infectious or hazardous substances generated during the delivery of supports.

To achieve this outcome, the following indicators should be demonstrated:

- Policies, procedures and practices are in place for the safe and appropriate storage and disposal of waste, infectious or hazardous substances that comply with current legislation and local health district requirements.
- All incidents involving infectious material, body substances or hazardous substances are reported, recorded, investigated and reviewed.
- An emergency plan is in place to respond to clinical waste or hazardous substance management issues and/or accidents. Where the plan is implemented, its effectiveness is evaluated, and revisions are made if required.
- Workers involved in the management of waste and hazardous substances receive training to ensure safe and appropriate handling. This includes training on any protective equipment and clothing required when handling waste or hazardous substances.

High Intensity Daily Personal Activities Module

These NDIS Practice Standards set out the responsibilities of NDIS providers when providing supports and services to participants that require …

Complex Bowel Care

Outcome: Each Participant requiring complex bowel care receives appropriate support relevant (proportionate) to their individual needs.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant is involved in the assessment and development of the plan for their complex bowel care management. With their consent, the participant's health status is subject to regular and timely review by an appropriately qualified health practitioner. The plan identifies how risks, incidents and emergencies will be managed, including required actions and escalation to ensure participant wellbeing.
- Appropriate policies and procedures are in place, including a training plan for workers, that relate to the support provided to each participant receiving complex bowel care.
- All workers working with a participant requiring complex bowel care have received training, relating specifically to each participant's needs, type of complex bowel care and high intensity support skills descriptor for providing complex bowel care, delivered by an appropriately qualified health practitioner or person that meets the high intensity support skills descriptor for complex bowel care.

Enteral (Naso-Gastric Tube – Jejunum or Duodenum) Feeding and Management

Outcome: Each participant requiring enteral feeding and management receives appropriate nutrition, fluids and medication, relevant and proportionate to their individual needs.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant is involved in the assessment and development of the plan for their enteral feeding and management. With their consent, the participant's health status is subject to regular and timely review by an appropriately qualified health practitioner. The plan identifies how risks, incidents and emergencies will be managed, including required actions and escalation to ensure participant wellbeing.
- Appropriate policies and procedures are in place, including a training plan for workers, that relate to the support provided to each participant who has enteral feeding needs.
- All workers working with a participant who requires enteral feeding have completed training, relating specifically to each participant's needs, type and method of enteral feeding and regime, and high intensity support skills descriptor for enteral feeding,

delivered by an appropriately qualified health practitioner or person that meets the high intensity support skills descriptor for enteral feeding.

Tracheostomy Management

Outcome: Each participant with a tracheostomy receives appropriate suctioning and management of their tracheostomy relevant and proportionate to their individual needs.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant is involved in the assessment and development of the plan for their tracheostomy suctioning and management. With their consent, the participant's health status is subject to regular and timely review by an appropriately qualified health practitioner. The plan identifies how risks, incidents and emergencies will be managed, including required actions and escalation to ensure participant wellbeing.
- Appropriate policies and procedures are in place, including a training plan for workers, that relate to the support provided to each participant with a tracheostomy.
- All workers have completed training, relating specifically to each participant's needs, managing any tracheostomy related incident and high intensity support skills descriptor for providing tracheostomy care (without ventilation) and supporting a person dependent on ventilation, delivered by an appropriately qualified health practitioner or person that meets the high intensity support skills descriptor for tracheostomy suctioning and management.

Urinary Catheter Management (In-dwelling Urinary Catheter, In-out Catheter, Suprapubic Catheter)

Outcome: Each participant with a catheter receives appropriate catheter management relevant and proportionate to their individual needs.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant is involved in the assessment and development of the plan for management of their catheter. With their consent, the participant's health status is subject to regular and timely review by an appropriately qualified health practitioner. The plan identifies how risks, incidents and emergencies will be managed, including required actions and escalation to ensure participant wellbeing.
- Appropriate policies and procedures are in place, including a training plan for workers, that relate to the support provided to each participant with a catheter.
- All workers have completed training, relating specifically to each participant's needs, type of catheter and high intensity support skills descriptor for catheter changing and management, delivered by an appropriately qualified health practitioner or a person

that meets the high intensity support skills descriptor for urinary catheter changing and management.

Ventilator Management

Outcome: Each participant requiring ventilator management receives appropriate support relevant and proportionate to their individual needs and the specific ventilator used.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant is involved in the assessment and development of the plan for their ventilator management. With their consent, the participant's health status is subject to regular and timely review by an appropriately qualified health practitioner. The plan identifies how risks, incidents and emergencies will be managed, including required actions and escalation to ensure participant wellbeing.
- Appropriate policies and procedures are in place, including a training plan for workers, that relate to the support provided to each participant who is ventilator dependent.
- All workers have completed training, relating specifically to each participant's ventilation needs, managing a related incident and the high intensity support skills descriptor for ventilator management, delivered by an appropriately qualified health practitioner or person who meets the high intensity support skills descriptor for ventilator management.

Subcutaneous Injections

Outcome: Each participant requiring subcutaneous injections receives appropriate support relevant and proportionate to their individual needs and specific subcutaneous injections and medication administered.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant is involved in the assessment and development of the plan for their subcutaneous injections which includes dosage measurement and calculation. With their consent, each participant's health status is subject to regular and timely review by an appropriately qualified health practitioner. The plan identifies how risks, incidents and emergencies will be managed, including required actions and escalation to ensure participant wellbeing.
- There are documented written or phone orders by the health practitioner prescribing the medication that trained workers may administer by subcutaneous injection.

- Appropriate policies and procedures are in place, including a training plan for workers, that relate to the support provided to participants requiring subcutaneous injections and related medication.
- All workers have completed training, relating specifically to the participant's injection and medication needs and high intensity support skills descriptor for subcutaneous injections, delivered by an appropriately qualified health practitioner or person that meets the high intensity support skills descriptor for subcutaneous injections. Workers must also have a basic understanding of the participant's related health condition.

Complex Wound Management

Outcome: Each participant requiring complex wound management receives appropriate support relevant and proportionate to their individual needs.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant is involved in the assessment and development of the plan for their complex wound management. With their consent, the participant's health status is subject to regular and timely review by an appropriately qualified health practitioner. The plan identifies how risks, incidents and emergencies will be managed, including required actions and escalation to ensure participant wellbeing.
- Appropriate policies and procedures are in place, including a training plan for workers, that relate to the support provided to each participant requiring complex wound management.
- All workers working with a participant requiring complex wound management have received training, relating specifically to the participant's needs that are affected by their wound management regime (for example, showering, toileting and mobility) and high intensity support skills descriptor for providing complex wound management, delivered by an appropriately qualified health practitioner or person that meets the high intensity support skills descriptor for complex wound management.

Specialist Behaviour Support Module

These NDIS Practice Standards apply to NDIS providers who are registered to provide specialist behaviour support to NDIS participants.

Behaviour Support in the NDIS

Outcome: Each participant accesses behaviour support that is appropriate to their needs which incorporates evidence-informed practice and complies with relevant legislation and policy frameworks.

To achieve this outcome, the following indicators should be demonstrated:

- The *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018* are understood and applied.
- All NDIS behaviour support practitioners have been assessed as suitable to deliver specialised positive behaviour support, including assessments and development of behaviour support plans.
- Each NDIS behaviour support practitioner undertakes ongoing professional development to remain current with evidence-informed practice and approaches to behaviour support, including positive behaviour support.
- A specialist behaviour support clinical supervisor provides clinical supervision of each work practice of the NDIS behaviour support practitioner.
- Demonstrated commitment to reducing and eliminating restrictive practices through policies, procedures and practices.

Restrictive Practices

Outcome: Each participant is only subject to a restrictive practice that meets any state and territory authorisation (however described) requirements and the relevant requirements and safeguards outlined in Commonwealth legislation and policy.

To achieve this outcome, the following indicators should be demonstrated:

- Knowledge and understanding of regulated restrictive practices as described in the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018* and knowledge and understanding of any relevant state or territory legislation and/or policy requirements and processes for obtaining authorisation (however described) for the use of any restrictive practices included in a behaviour support plan.

- Each Behaviour Support Practitioner undertakes professional development to maintain an understanding of practices considered restrictive and the risks associated with those practices.
- Each participant and, with the participant's consent, their support network, providers implementing behaviour support plans, and other relevant stakeholders are engaged in discussions about the need for restrictive practices and they understand the risks associated with their use. Alternatives to the use of restrictive practices are promoted as part of these discussions.
- Each participant and, with the participant's consent, their support network, their providers implementing behaviour support plans and other relevant stakeholders are engaged in the development of behaviour support strategies that are proportionate to the risk of harm to the participant or others.
- Restrictive practices are only included in a participant's behaviour support plan in accordance with relevant Commonwealth legislation and/or policy requirements and relevant state or territory legislation and/or policy requirements for obtaining authorisation (however described) for the use of any restrictive practices.
- Regulated restrictive practices in behaviour support plans comply with the conditions prescribed in the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018.*
- Each participant's behaviour support plan or interim behaviour support plan includes strategies that will lead to the reduction and elimination of any restrictive practices included in the plan.
- Support is provided to other providers implementing a behaviour support plan, in delivering services, implementing strategies in the plan and evaluating the effectiveness of current approaches aimed at reducing and eliminating restrictive practices.

Functional Behaviour Assessments and Behaviour Support Plans

Outcome: Each participant's quality of life is maintained and improved by tailored, evidence-informed behaviour support plans that are responsive to their needs.

To achieve this outcome, the following indicators should be demonstrated:

- Work is undertaken with each participant and their support network to undertake a behaviour support assessment that identifies unmet participant needs, the function and/or purpose of behaviours, and identify strategies to address behaviours of concern.
- Behaviour support plans take into account all appropriate sources of information such as the behaviour support assessment, and with the consent of the participant, the participant's support network, the providers implementing behaviour support plans,

and assessments carried out by other collaborating providers and mainstream service providers.

- Behaviour support plans are consistent with evidence-informed practice, including proactive strategies.
- The interface between a reasonable and necessary supports under a participant's plan and any other supports or services under a general system of service delivery that the participant receives, are considered, and strategies and protocols are developed to integrate supports/services as practicable.
- Behaviour support plans are developed in consultation with the providers implementing behaviour support plans, and the behaviour support plan is given to those providers for their consideration and acceptance.
- All behaviour support plans containing a regulated restrictive practice are provided to the Commissioner in the time and manner prescribed in the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018.*

Supporting the Implementation of the Behaviour Support Plan

Outcome: Each participant's behaviour support plan is implemented effectively to meet the participant's behaviour support needs.

To achieve this outcome, the following indicators should be demonstrated:

- Assistance is given to ensure that the providers implementing behaviour support plans understand the relevant state or territory legislative and/or policy requirements for obtaining authorisation (however described) for the use of a restrictive practice included in a behaviour support plan, including any conditions around the use of restrictive practices.
- Reasonable measures are taken to ensure the participant, and with the participant's consent, the participant's support network, and the providers implementing behaviour support plans, understand the rationale underpinning the behaviour support plan. Instructions and guidance are developed to support the participant, the providers implementing behaviour support plans and the participant's support network to effectively implement the behaviour support plan.
- Providers implementing behaviour support plans are made aware of the reporting requirements prescribed in the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018.*
- Person-focused training, coaching and mentoring is facilitated or delivered to each of the providers implementing behaviour support plans, and, with each participant's consent, their support network (where applicable). It covers the strategies required to implement a participant's behaviour support plan, including positive behaviour support strategies.

- Development of behaviour support plans for each participant, in collaboration with the providers implementing the behaviour support plan.
- Where the specialist behaviour support provider recommends that workers implementing a behaviour support plan receive training on the safe use of a restrictive practice included in a plan, oversight is retained to ensure the training addresses the strategies contained within each participant's behaviour support plan.
- Ongoing support and advice is offered to providers implementing behaviour support plans, and, with the participant's consent, their support network (where applicable), to address barriers to implementation.

Behaviour Support Plan Monitoring and Review

Outcome: Each participant has a current behaviour support plan that reflects their needs, improves their quality of life and supports their progress towards positive change. The plan progresses towards the reduction and elimination of restrictive practices, where these are in place for the participant.

To achieve this outcome, the following indicators should be demonstrated:

- The progress and effectiveness of implemented strategies are evaluated through regular engagement with the participant, and by reviewing, recording and monitoring data collected by providers implementing behaviour support plans.
- Modifications to the strategies contained in each participant's behaviour support plan are made based on engagement with the participant and the results of the information and data analysis, and with the participant's consent, these changes are communicated and training is provided (where required) to their support network on the modified strategies.
- Opportunities to reduce the use of restrictive practices based on documented positive change are pursued.
- The Commissioner is notified and work is undertaken with the Commissioner to address such situations:
  a) where effective engagement with providers implementing behaviour support plans is not possible for any reason; or
  b) if the supports and services are not being implemented in accordance with the behaviour support plan.
- Each participant's behaviour support plan is reviewed at least every twelve months. Consideration is given to whether the participant's needs, situation or progress create a need for more frequent reviews, including if the participant's behaviour changes, or if a new provider is required to implement the plan.

- The Commissioner is notified of changes in each participant's behaviour support plan in the manner and timeframe prescribed in the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018.*

Reportable Incidents involving the Use of a Restrictive Practice

Outcome: Each participant that is subject to an emergency or unauthorised use of a restrictive practice has the use of that practice reported and reviewed.

To achieve this outcome, the following indicators should be demonstrated:

- Support is given to the providers implementing each participant's behaviour support plan in responding to a reportable incident involving the use of restrictive practices.
- Each participant, and with the participant's consent, their support network, the providers implementing behaviour support plans and other stakeholders are included in the review of incidents.

Interim Behaviour Support Plans

Outcome: Each participant with an immediate need for a behaviour support plan receives an interim behaviour support plan which minimises the risk to the participant and others.

To achieve this outcome, the following indicators should be demonstrated:

- When a participant develops an immediate need for behaviour support, the participant and the providers implementing behaviour support plans are involved in evaluating the risks posed to the participant and others by the participant's behaviour, and an interim behaviour support plan is developed that appropriately manages that risk.
- Advice and guidance is given to the providers implementing behaviour support plans and, with the participant's consent, their support network on the effective implementation of the interim behaviour support plan.

Implementing Behaviour Support Plans Module

These NDIS Practice Standards apply to NDIS providers who are registered to provide specialist behaviour support to NDIS participants. They also apply to providers using restrictive practices in the delivery of any NDIS supports and services.

Behaviour Support in the NDIS

Outcome: Each participant accesses behaviour support that is appropriate to their needs which incorporates evidence-informed practice and complies with relevant legislation and policy frameworks.

To achieve this outcome, the following indicators should be demonstrated:

- Knowledge and understanding of the NDIS and state and territory behaviour support legislative and policy frameworks.
- Demonstrated appropriate knowledge and understanding of evidence-informed practice approaches to behaviour support.
- Demonstrated commitment to reducing and eliminating restrictive practices through policies, procedures and practices.

Regulated Restrictive Practices

Outcome: Each participant is only subject to a regulated restrictive practice that meets any state and territory authorisation (however described) requirements and the relevant requirements and safeguards outlined in Commonwealth legislation and policy.

To achieve this outcome, the following indicators should be demonstrated:

- Knowledge and understanding of regulated restrictive practices as described in the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018* and knowledge and understanding of any relevant state or territory legislation and/or policy requirements and processes for obtaining authorisation (however described) for the use of any regulated restrictive practices included in a behaviour support plan.
- Where state or territory legislation and/or policy requires authorisation (however described) to, the use of a regulated restrictive practice, such authorisation is obtained and evidence submitted.
- Regulated restrictive practices are only used in accordance with a behaviour support plan and all the requirements as prescribed in the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018.* Regulated restrictive practices are implemented, documented and reported in a way that is compliant with relevant legislation and/or policy requirements.

- Work is undertaken with specialist behaviour support providers to evaluate the effectiveness of current approaches aimed at reducing and eliminating restrictive practices, including the implementation of strategies in the behaviour support plan.
- Workers maintain the skills required to use restrictive practices and support the participant and other stakeholders to understand the risks associated with the use of restrictive practices.

Supporting the Assessment and Development of Behaviour Support Plans

Outcome: Each participant's quality of life is maintained and improved by tailored, evidence-informed behaviour support plans that are responsive to their needs.

To achieve this outcome, the following indicators should be demonstrated:

- The specialist behaviour support provider is supported to gather information for the functional behavioural assessment and other relevant assessments.
- Collaboration occurs with the specialist behaviour support provider to develop each participant's behaviour support plan and the clear identification of key responsibilities in implementing and reviewing the plan.
- Relevant workers have the necessary skills to inform the development of the participant's behaviour support plan.
- Relevant workers have access to appropriate training to enhance their skills in, and knowledge of, positive behaviour supports and restrictive practices.

Behaviour Support Plan Implementation

Outcome: Each participant's behaviour support plan is implemented effectively to meet the participant's behaviour support needs.

To achieve this outcome, the following indicators should be demonstrated:

- Policies and procedures that support the implementation of behaviour support plans are developed and maintained.
- Work is actively undertaken with the specialist behaviour support providers to implement each participant's behaviour support plan and to align support delivery with evidence-informed practice and positive behaviour support.
- Workers are supported to develop and maintain the skills required to consistently implement the strategies in each participant's behaviour support plan consistent with the behaviour support skills descriptor.

- Specialist behaviour support providers are supported to train the workers of the providers implementing behaviour support plans in the use and monitoring of behaviour support strategies in the behaviour support plan, including positive behaviour support.
- Workers receive training in the safe use of restrictive practices.
- Collaboration is undertaken with other providers that work with the participant to implement strategies in the participant's behaviour support plan.
- Performance management ensures that workers are implementing strategies in the participant's behaviour support plan appropriately.

Monitoring and Reporting the Use of Regulated Restrictive Practices

Outcome: Each participant is only subject to a restrictive practice that is reported to the Commission.

To achieve this outcome, the following indicators should be demonstrated:

- Demonstrated compliance with monthly online reporting requirements in relation to the use of regulated restrictive practices, as prescribed in the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018.*
- Data is monitored to identify actions for improving outcomes.
- Data is used to provide feedback to workers, and with the participant's consent, their support network, and their specialist behaviour support provider about the implementation of the behaviour support plan to inform the reduction and elimination of restrictive practices.

Behaviour Support Plan Review

Outcome: Each participant has a current behaviour support plan that reflects their needs, and works towards improving their quality of life, reducing behaviours of concern, and reducing and eliminating the use of restrictive practices.

To achieve this outcome, the following indicators should be demonstrated:

- The implementation of the participant's behaviour support plan is monitored through a combination of formal and informal approaches, including through feedback from the participant, team meetings, data collection and record keeping, other feedback and supervision.

- Information is recorded and data is collected as required by the specialist behaviour support provider and as prescribed in the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018.*
- Identification of circumstances where the participant's needs, situation or progress create a need for more frequent review, including if the participant's behaviour changes.
- Contributions are made to the reviews of the strategies in a participant's behaviour support plan, with the primary focus of reducing or eliminating restrictive practices based on observed progress or positive changes in the participant's situation.

Reportable Incidents involving the Use of a Restrictive Practice

Outcome: Each participant that is subject to an emergency or unauthorised use of a restrictive practice has the use of that practice reported and reviewed.

To achieve this outcome, the following indicators should be demonstrated:

- The participant's immediate referral to, and assessment by a medical practitioner (where appropriate) is supported following an incident.
- Collaboration is undertaken with mainstream service providers, such as police and/or other emergency services, mental health and emergency department, treating medical practitioners and other allied health clinicians, in responding to the unauthorised use of a restrictive practice.
- The Commissioner is notified of all reportable incidents involving the use of an unauthorised restrictive practice in accordance with the *National Disability Insurance Scheme (Incident Management and Reportable Incidents) Rules 2018.*
- Where an unauthorised restrictive practice has been used, the workers and management of providers implementing behaviour support plans engage in debriefing to identify areas for improvement and to inform further action. The outcomes of the debriefing are documented.
- Based on the review of incidents, the supports to the participant are adjusted, and where appropriate, the engagement of a specialist behaviour support provider is facilitated to develop or review the participant's behaviour support plan or interim behaviour support plan, if required, in accordance with the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018.*
- Authorisation processes (however described) are initiated as required by their jurisdiction.
- The participant, and with the participant's consent, their support network and other stakeholders as appropriate, are included in the review of incidents.

Interim Behaviour Support Plans

Outcome: Each participant with an immediate need for a behaviour support plan receives an interim behaviour support plan based on evidence-informed practice, which minimises risk to the participant and others.

To achieve this outcome, the following indicators should be demonstrated:

- Collaboration is undertaken with mainstream service providers (such as police and/or other emergency services, mental health and emergency departments, treating medical practitioners and other allied health clinicians) in contributing to an interim behaviour support plan developed by a specialist behaviour support provider.
- Work is undertaken with the specialist behaviour support provider to support the development of the interim behaviour support plan.
- Workers are supported and facilitated to receive training in the implementation of the interim behaviour support plan.

Early Childhood Supports Module

These NDIS Practice Standards apply to NDIS providers who are registered to provide early childhood supports to NDIS participants.

The Child

Outcome: Each child participant accesses supports that promote and respect their legal and human rights, support their development of functional skills, and enable them to participate meaningfully and be included in everyday activities with their peers.

To achieve this outcome, the following indicators should be demonstrated:

- Knowledge and understanding of each participant's legal and human rights, and incorporation of those rights into everyday practice.
- Implementation of practices and procedures to manage risk with a focus on creating a safe environment for children.
- Compliance with all relevant state and territory legislation relating to the reporting of risk of harm to children.
- Facilitation of the active involvement of the participant's support network in the participant's development.

The Family

Outcome: Each family receives family-centred supports that are culturally inclusive, responsive, and focus on their strengths.

To achieve this outcome, the following indicators should be demonstrated:

- Each support plan is based on child and family choice and control and is undertaken with the family.
- The family's expertise and knowledge about their child is recognised and respected.
- The family's strengths, needs and priorities are identified by working in partnership with the family.
- Each support plan is flexible and individualised to reflect the child's and family members' preferences and learning styles.
- Each support plan is culturally responsive and respectful of the family's cultural beliefs and their community.
- Information and supports are provided in a clear, easy to understand and flexible manner by integrating the support into the child's everyday routine.

- The strengths of the family are promoted and developed and the family is assisted to develop their own network of formal and informal resources, with recognition that positive outcomes for children do not rely solely on therapeutic child-focused programs.
- Work is undertaken with the family to inform and strengthen their participation in, and contribution to, the child's learning and development.

Inclusion

Outcome: Each participant accesses supports that engage their natural environments and enable inclusive and meaningful participation in their family and community life.

To achieve this outcome, the following indicators should be demonstrated:

- Assessment of each child's development focuses on the child's functions in their everyday routines and activities in their natural learning environments.
- A child's inclusive, meaningful and active participation in their family life, community life and natural environments is promoted.
- Links with each family's community and other support agencies are enabled and built upon.
- Each child's inclusion through participation in daily routines in their natural learning environments is promoted.

Collaboration

Outcome: Each participant receives coordinated supports from a collaborative team comprising their family, the provider and other relevant providers, to facilitate their development and address the family's needs and priorities.

To achieve this outcome, the following indicators should be demonstrated:

- If the family wishes to engage a key worker, work is undertaken with the family and other providers to identify a suitable key worker.
- Close collaborative links with the family and other collaborating providers are established to coordinate the team around each child.
- With the consent of the family, information, knowledge and skills are communicated and shared between the family, the provider, and other collaborating providers.
- Where relevant, collaboration between supports and services is undertaken to ensure that transition/exit planning meets the needs of each child and their family.

Capacity Building

Outcome: Each participant receives supports that build the knowledge, skills and abilities of the family and other collaborating providers in order to support the child's learning and development.

To achieve this outcome, the following indicators should be demonstrated:

- Work is undertaken with the support network in each child's life to build their capacity to achieve the functional outcomes identified in the support plan.
- Each family's confidence is built to understand how their family routines and everyday activities can support their child's development.
- The capacity of the child, family and collaborating providers involved with the child is built through coaching, capacity building supports and collaborative teamwork.
- Collaboration is undertaken to affirm, challenge, and support the child, family and collaborating providers to further develop their skills and to improve practice and relationships.
- Feedback and learnings from the child, family and other professionals is used to improve support delivery

Evidence – Informed Practice

Outcome: Each participant receives evidence-informed supports from providers with quality standards and validated practice.

To achieve this outcome, the following indicators should be demonstrated:

- Intervention strategies are based on explicit principles, validated practices, best available research and relevant laws and regulations.
- Appropriate information, knowledge, skills and expertise are in place to deliver quality supports to families.
- Knowledge and skills are maintained through continuing relevant professional development, ongoing self-reflection, self-assessment and monitoring of practices.

Outcome based approach

Outcome: Each participant receives supports that are outcome-based and goal-focused.

To achieve this outcome, the following indicators should be demonstrated:

- The functional outcomes for the child and their family are based on their needs and priorities, and the skills needed to achieve those outcomes are identified through collaboration with the child and their family.
- Each child has a documented support plan that describes the interventions and their functional outcomes.
- The family is actively involved in the assessment of the child and the development and review of the support plan.
- A copy of the support plan is provided to the family in the language, mode of communication and terms that they are most likely to understand.
- The functional outcomes support the child's meaningful participation in family and community life.
- The assessment, intervention planning and outcomes for the child and the family are measured, evaluated and reported in ways that are meaningful to, and understood by, the family.

Specialist Support Co-ordination Module

These NDIS Practice Standards apply to NDIS providers who are registered to provide specialist support co-ordination to NDIS participants.

Specialised Support Co-ordination

Outcome: Each participant receiving specialised support coordination receives tailored support to implement, monitor and review their support plans and reduce the risk and complexity of their situation.

To achieve this outcome, the following indicators should be demonstrated:

- Demonstrated knowledge and understanding of the risk factors experienced by each participant with high-risk and/or complex needs.
- Participants are involved in the evaluation of their situation and the identification of the supports required to prevent or respond to a crisis, incident or breakdown of support arrangements, and the promotion of safety for the participant and others.
- Consultation is undertaken with the participant and, with the participant's consent, the participant's support network and mainstream services (as appropriate) in planning and coordinating supports to implement the participant's plan, and any plan review.
- In consideration of each participant's individual needs, preferences and circumstances, suitable NDIS providers and mainstream service providers that have the appropriate skills and experience to deliver the required support are identified.
- There is proactive engagement to ensure that all providers implementing the participant's plan understand and respond to the risk and/or complexity of the participant's situation, and collaborate with other relevant providers, where required.
- All monitoring and reporting obligations associated with the participant's plan are managed effectively.

Management of a Participant's NDIS Supports

Outcome: Each participant exercises meaningful choice and control over their supports and maximises the value for money they receive from their supports.

To achieve this outcome, the following indicators should be demonstrated:

- Supports and services are arranged using the participant's NDIS amounts as directed by the participant and for the purposes intended by the participant.

- Each participant has been provided with information about their support options using the language, mode of communication and terms that the participant is most likely to understand.
- As appropriate, each participant is supported to build their capacity to coordinate, self-direct and manage their supports and to understand how to participate in Agency planning processes such as establishing agreements with service providers and managing budget flexibility.
- Supports funded under a participant's plan are used effectively and efficiently, and are complemented by community and mainstream services to achieve the objectives of the participant's plan.

Conflict of interest

Outcome: Each participant receives transparent, factual advice about their support options which promotes choice and control.

To achieve this outcome, the following indicators should be demonstrated:

- Conflict of interest policies are provided or explained to each participant using the language, mode of communication and terms that the participant is most likely to understand.
- Each participant is supported to understand the distinction between the provision of specialised support coordination and other reasonable and necessary supports funded under a participant's plan using the language, mode of communication and terms that the participant is most likely to understand.
- If the provider has an interest in any support option available to the participant, the participant is aware of this interest. The participant understands that any choice they made about providers of other supports will not impact on the provision of the specialised support coordination.
- Referrals to and from other providers are documented for each participant.

Specialist Disability Accommodation Module

These NDIS Practice Standards apply to NDIS providers who are registered to provide specialist disability accommodation to NDIS participants.

Rights and Responsibilities

Outcome: Each participant's access to specialist disability accommodation dwellings is consistent with their legal and human rights and they are supported to exercise informed choice and control.

To achieve this outcome, the following indicators should be demonstrated:

- Knowledge and understanding of each participant's legal and human rights, and incorporation of these rights into everyday practice, including through reasonable adjustments or modifications to the dwelling to meet each participant's needs.
- Any agreement or contract entered into with each participant, and any communication with the participant about the provision of specialist disability accommodation, including about rights and responsibilities in relation to the dwelling, is responsive to their needs and provided in the language, mode of communication and terms which that participant is most likely to understand.
- Each participant's autonomy, including their right to privacy, intimacy and sexual expression is respected.

Conflict of Interest

Outcome: Each participant's right to exercise choice and control over other NDIS support provision is not limited by their choice of specialist disability accommodation dwelling.

To achieve this outcome, the following indicators should be demonstrated:

- Organisational policies are in place that detail how perceived or actual conflicts of interests are managed. The conflict of interest policies are made available to participants in the language, mode of communication and terms which each participant is most likely to understand.
- Conflicts of interest, perceived or actual, are proactively managed and documented.
- The participant is supported to understand the distinction between the provision of specialist disability accommodation and other NDIS supports delivered in the dwelling. Where a specialist disability accommodation provider is delivering both specialist disability accommodation and other NDIS supports to the same participant, there are separate service agreements.

- The participant's housing rights, including security of tenure, are upheld, irrespective of any decision/s the participant makes about the provision of other NDIS supports within the specialist disability accommodation dwelling (notwithstanding any matters covered by the specialist disability accommodation service agreement).

Service Agreements with Participants

Outcome: Each participant is supported to understand the terms and conditions that apply to their specialist disability accommodation dwelling and the associated service and/or tenancy agreements.

To achieve this outcome, the following indicators should be demonstrated:

- Work is undertaken with each participant to develop a written service agreement that meets the requirements of the *National Disability Insurance Scheme (Specialist Disability Accommodation Conditions) Rules 2018*, and any applicable state or territory residential tenancy legislation.
- In the absence of any applicable state or territory residential tenancy legislation, written service agreements should deal with the following matters:
  a) specify the rent that must be paid by the participant and the method and timing of making rental payments and arrangements for the issuance of rental payment receipts;
  b) specify the value and management arrangements in relation to any bond that is required from the participant;
  c) if applicable, specify any board payments that have been agreed with the participant, what the board payments will cover and the method and timing of making the board payments;
  d) specify the minimum period of notice that will be given by the provider before the provider increases the amount of rent or board (where applicable) payable by the participant;
  e) specify:
     a. the name, telephone number and address of the provider's agent (if any) and the responsibilities of the agent; or
     b. if the provider does not have an agent, the address and telephone number, of the provider.
  f) require the provider to notify the participant in writing within 5 business days of any change during the agreement of the matters provided for in paragraph (f), unless applicable state or territory law stipulates an alternative notice period;
  g) specify the commencement date of the agreement, the duration of the agreement, and the manner in which the agreement can be extended;

h) specify the circumstances in which the agreement can be terminated by either the participant or the provider;

i) require the provider to give the participant a minimum of 90 days' notice before the participant is required to vacate the premises, unless shorter notice is required to address risks of harm to the participant or others;

j) explain the process for requesting repairs or maintenance to be undertaken.

- The agreement establishes expectations, explains the responsibilities of the specialist disability accommodation provider in relation to the dwelling, and specifies the rights and responsibilities of the participant in accessing the dwelling.
- The agreement includes information about dwelling safety features, including fire alarms and building evacuation procedures, and how this information will be communicated to other providers who deliver supported independent living to each participant in the dwelling.
- Each participant is supported to understand the agreement, including any conditions, by using the language, mode of communication and terms which that participant is most likely to understand.
- Each participant receives a copy of their agreement signed by the participant and the provider. Where this is not practicable, a record is made detailing the circumstances in which the participant did not receive a copy of their agreement.

Enrolment of SDA Properties

Outcome: Each participant's specialist disability accommodation dwelling meets the requirements of the design type, category and other standards that were identified through the dwelling enrolment process.

To achieve this outcome, the following indicators should be demonstrated:

- Mechanisms are in place to ensure a provider's enrolled specialist disability accommodation dwellings meet the design type, category and density restriction requirements of the *National Disability Insurance Scheme (Specialist Disability Accommodation Conditions) Rules 2018*.
- Mechanisms are in place to ensure a provider maintains ongoing compliance with the *National Disability Insurance Scheme (Specialist Disability Accommodation Conditions) Rules 2018* and all relevant laws and standards, including building standards and tenancy laws that apply to specialist disability accommodation dwellings.
- Enrolled dwellings are in a good state of repair and are being appropriately maintained, having regard to the safety, security and privacy of residents

Tenancy Management

Outcome: Each participant accessing a specialist disability accommodation dwelling is able to exercise choice and control and is supported by effective tenancy management.

To achieve this outcome, the following indicators should be demonstrated:

- Demonstrated adherence to the requirements established in the *National Disability Insurance Scheme (Specialist Disability Accommodation Conditions) Rules 2018.*
- Where applicable, policies and procedures are in place about how a provider will declare, advertise and fill vacancies in shared living, including how each participant's views, preferences and needs are documented and taken into account. The policies are made available to participants in the language, mode of communication and terms which each participant is most likely to understand.
- Documented arrangements are in place with each participant and each participant's other NDIS providers that deliver supported independent living supports within a specialist disability accommodation dwelling. At a minimum, the arrangements should outline the party or parties responsible and their roles (where applicable) for the following matters:
    a) How the specialist disability accommodation provider will work with other providers who deliver supported independent living supports to ensure the shared living arrangement is working for all tenants;
    b) How potential conflicts involving the participant will be managed;
    c) Policies and procedures for responding to violence, abuse, exploitation or conflict involving one or more participant which may impact on the condition of the dwelling;
    d) How each participant's concerns about the specialist disability accommodation dwelling will be communicated to and addressed by the specialist disability accommodation provider;
    e) How behaviours of concern will be managed, if this a relevant issue for the participant;
    f) How changes to a participant's circumstances or supports will be agreed and communicated;
    g) Arrangements for continuity of supports (including specialist disability accommodation) in the event or a natural disaster or other emergency; and
    h) In shared living, how vacancies will be filled including the participant's right to have their needs, wishes, choices and situation taken into account.

Where the participant does not consent to an agreement, the specialist disability accommodation provider has a documented record of this.

- Allegations and incidents of violence, abuse, neglect, exploitation or discrimination, are acted upon, each participant affected is supported and assisted, records are made

of any details and outcomes of reviews and investigations (where applicable), and action is taken to prevent similar incidents occurring in the future.

- Where a change in participant needs or circumstances occurs, reasonable adjustments are made to accommodate the changes. If the changed support needs exceed the design category or functionality of the dwelling, work is undertaken to modify the dwelling, following consideration of the impact of the modifications on the other tenants (if applicable). Where the participant's needs or circumstances cannot be accommodated, the participant, and any relevant support providers are made aware of the need to find alternative accommodation.
- A complaints management and resolution system is maintained that meets the requirements of the *National Disability Insurance Scheme (Complaints Management and Resolution) Rules 2018* and follows the principles of procedural fairness and natural justice.
- An incident management system is maintained in accordance with the *National Disability Insurance Scheme (Incident Management and Reportable Incidents) Rules 2018*.
- State or territory legislative requirements regarding the provision of tenancy-related notices are adhered to and each participant is aware of their right to seek review of a decision, where applicable.
- Policies, procedures and agreements relating to any tenancy management are provided in the language, mode of communication and terms which each participant is most likely to understand.

Verification Module

These NDIS Practice Standards apply to NDIS providers who are individual sole traders or partnerships delivering lower risk or less complex NDIS supports and services.

Human Resource Management

Outcome: Each participant's support needs are met by workers who are competent in relation to their role, hold relevant qualifications, and who have relevant expertise and experience to provide person-centred support.

To achieve this outcome, the following indicators should be demonstrated:

- Records of worker identity, right to work, pre-employment checks, qualifications and/ or experience are maintained.
- Workers complete mandatory NDIS orientation module and records of continuing professional development are maintained.

Incident Management

Outcome: Each participant is safeguarded by the provider's incident management system, ensuring that incidents are acknowledged, respond to, well-managed and learned from.

To achieve this outcome, the following indicators should be demonstrated:

- An incident management system is maintained that is relevant and proportionate to the scope and complexity of supports delivered and the size and scale of the organisation. The system complies with the requirements under the *National Disability Insurance Scheme (Incident Management and Reportable Incidents) Rules 2018*.

Complaints Management

Outcome: Each participant has knowledge of and access to the provider's complaints management and resolution system. Complaints made by all parties are welcomed, acknowledged, respected and well-managed.

To achieve this outcome, the following indicators should be demonstrated:

- A complaints management and resolution system is maintained that is relevant and proportionate to the scope and complexity of supports delivered and the size and scale of the organisation. The system follows principles of procedural fairness and natural justice and complies with the requirements under the *National Disability Insurance Scheme (Complaints Management and Resolution) Rules 2018.*

Risk Management

Outcome: Risks to participants, workers and the provider are identified and managed.

To achieve this outcome, the following indicators should be demonstrated:

- A documented system that effectively manages work health and safety risks is in place, and is relevant and proportionate to the size and scale of the provider and the scope and complexity of supports.
- Appropriate insurance is in place, including professional indemnity, public liability and accident insurance

NDIS Quality and Safeguards Commission

NDIS Practice Standards

NDIS Practice Standards and Quality Indicators

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Contents

What are the NDIS Practice Standards?

The NDIS Practice Standards create an important benchmark for providers to assess their performance, and to demonstrate how they provide high quality and safe supports and services to NDIS participants. Together with the NDIS Code of Conduct, the NDIS Practice Standards will assist NDIS participants to be aware of what quality service provision they should expect from NDIS providers.

The outcomes of the NDIS Practice Standards are included within the *National Disability Insurance Scheme (Provider Registration and Practice Standards) Rules 2018*. The *National Disability Insurance Scheme (Quality Indicators) Guidelines 2018* list the outcomes of the NDIS Practice Standards and also the associated quality indicators NDIS providers can use to demonstrate conformity with the outcomes.

The NDIS Practice Standards consist of a core module and several supplementary modules that apply according to the types of supports and services NDIS providers deliver.

The **Core** module covers:

- rights and responsibility for participants
- governance and operational management
- the provision of supports, and
- the support provision environment

The **supplementary** modules cover:

- High intensity daily personal activities
- Specialist behaviour support
- Implementing behaviour support plans
- Early childhood supports
- Specialised support co-ordination, and
- Specialist disability accommodation.

Each module has:

- a series of high-level, participant-focused outcomes, and
- for each outcome, quality indicators that auditors will use to assess a provider's compliance with the Practice Standards

Core Module

1. Rights and Responsibilities

These NDIS Practice Standards set out the rights of participants and the responsibilities of providers that deliver supports and services to them.

Person – centred supports

Outcome: Each participant accesses supports that promote, uphold and respect their legal and human rights and is enabled to exercise informed choice and control. The provision of supports promotes, upholds and respects individual rights to freedom of expression, self-determination and decision-making.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant's legal and human rights are understood and incorporated into everyday practice.
- Communication with each participant about the provision of supports is responsive to their needs and is provided in the language, mode of communication and terms that the participant is most likely to understand.
- Each participant is supported to engage with their family, friends and chosen community as directed by the participant

Individual values and beliefs

Outcome: Each participant accesses supports that respect their culture, diversity, values and beliefs.

To achieve this outcome, the following indicators should be demonstrated:

- At the direction of the participant, the culture, diversity, values and beliefs of that participant are identified and sensitively responded to.
- Each participant's right to practice their culture, values and beliefs while accessing supports is supported

Privacy and Dignity

Outcome: Each participant accesses supports that respect and protect their dignity and right to privacy.

To achieve this outcome, the following indicators should be demonstrated:

- Consistent processes and practices are in place that respect and protect the personal privacy and dignity of each participant.
- Each participant is advised of confidentiality policies using the language, mode of communication and terms that the participant is most likely to understand.
- Each participant understands and agrees to what personal information will be collected and why, including recorded material in audio and/or visual format

Independence and informed choice

Outcome: Each participant is supported by the provider to make informed choices, exercise control and maximise their independence relating to the supports provided.

To achieve this outcome, the following indicators should be demonstrated:

- Active decision-making and individual choice is supported for each participant including the timely provision of information using the language, mode of communication and terms that the participant is most likely to understand.
- Each participant's right to the dignity of risk in decision-making is supported. When needed, each participant is supported to make informed choices about the benefits and risks of the options under consideration.
- Each participant's autonomy is respected, including their right to intimacy and sexual expression.
- Each participant has sufficient time to consider and review their options and seek advice if required, at any stage of support provision, including assessment, planning, provision, review and exit.
- Each participant's right to access an advocate (including an independent advocate) of their choosing is supported, as is their right to have the advocate present

Violence, Abuse, Neglect, Exploitation and Discrimination

Outcome: Each participant accesses supports free from violence, abuse, neglect, exploitation or discrimination.

To achieve this outcome, the following indicators should be demonstrated:

- Policies, procedures and practices are in place which actively prevent violence, abuse, neglect, exploitation or discrimination.
- Each participant is provided with information about the use of an advocate (including an independent advocate) and access to an advocate is facilitated where allegations of violence, abuse, neglect, exploitation or discrimination have been made.
- Allegations and incidents of violence, abuse, neglect, exploitation or discrimination, are acted upon, each participant affected is supported and assisted, records are made of any details and outcomes of reviews and investigations (where applicable) and action is taken to prevent similar incidents occurring again.

2. Provider Governance and Operational Management

These NDIS Practice Standards set out the governance and operational management responsibilities for NDIS Providers.

Governance and Operational Management

Outcome: Each participant's support is overseen by robust governance and operational management systems relevant (proportionate) to the size, and scale of the provider and the scope and complexity of supports delivered.

To achieve this outcome, the following indicators should be demonstrated:

- Opportunities are provided by the governing body for people with disability to contribute to the governance of the organisation and have input into the development of organisational policy and processes relevant to the provision of supports and the protection of participant rights.
- A defined structure is implemented by the governing body to meet a governing body's financial, legislative, regulatory and contractual responsibilities, and to monitor and respond to quality and safeguarding matters associated with delivering supports to participants.
- The skills and knowledge required for the governing body to govern effectively are identified, and relevant training is undertaken by members of the governing body to address any gaps.
- The governing body ensures that strategic and business planning considers legislative requirements, organisational risks, other requirements related to operating under the

NDIS (for example Agency requirements and guidance), participants' and workers' needs and the wider organisational environment.

- The performance of management, including responses to individual issues, is monitored by the governing body to drive continuous improvement in management practices.
- The provider is managed by a suitably qualified and/or experienced persons with clearly defined responsibility, authority and accountability for the provision of supports.
- There is a documented system of delegated responsibility and authority to another suitable person in the absence of a usual position holder in place.
- Perceived and actual conflicts of interest are proactively managed and documented, including through development and maintenance of organisational policies.

Risk Management

Outcome: Risks to participants, workers and the provider are identified and managed.

To achieve this outcome, the following indicators should be demonstrated:

- Risks to the organisation, including risks to participants, financial and work health and safety risks, and risks associated with provision of supports are identified, analysed, prioritised and treated.
- A documented system that effectively manages identified risks is in place, and is relevant and proportionate to the size and scale of the provider and the scope and complexity of supports provided.
- Support delivery is linked to a risk management system which includes:
  - Incident Management;
  - Complaints Management;
  - Work Health and Safety;
  - Human Resource Management;
  - Financial Management;
  - Information Management; and
  - Governance

Quality Management

Outcome: Each participant benefits from a quality management system relevant and proportionate to the size and scale of the provider, which promotes continuous improvement of support delivery.

To achieve this outcome, the following indicators should be demonstrated:

- A quality management system is maintained that is relevant and proportionate to the size and scale of the provider and the scope and complexity of the supports delivered. The system defines how to meet the requirements of legislation and these standards. The system is reviewed and updated as required to improve support delivery.
- The provider's quality management system has a documented program of internal audits relevant (proportionate) to the size and scale of the provider and the scope and complexity of supports delivered.
- The provider's quality management system supports continuous improvement, using outcomes, risk related data, evidence-informed practice and feedback from participants and workers

Information Management

Outcome: Management of each participant's information ensures that it is identifiable, accurately recorded, current and confidential. Each participant's information is easily accessible to the participant and appropriately utilised by relevant workers.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant's consent is obtained to collect, use and retain their information or to disclose their information (including assessments) to other parties, including details of the purpose of collection, use and disclosure. Each participant is informed in what circumstances the information could be disclosed, including that the information could be provided without their consent if required or authorised by law.
- Each participant is informed of how their information is stored and used, and when and how each participant can access or correct their information, and withdraw or amend their prior consent.
- An information management system is maintained that is relevant and proportionate to the size and scale of the organisation and records each participant's information in an accurate and timely manner.
- Documents are stored with appropriate use, access, transfer, storage, security, retrieval, retention, destruction and disposal processes relevant and proportionate to the scope and complexity of supports delivered.

Feedback and Complaints Management

Outcome: Each participant has knowledge of and access to the provider's complaints management and resolution system. Complaints and other feedback made by all parties are welcomed, acknowledged, respected and well-managed.

To achieve this outcome, the following indicators should be demonstrated:

- A complaints management and resolution system is maintained that is relevant and proportionate to the scope and complexity of supports delivered and the size and scale of the organisation. The system follows principles of procedural fairness and natural justice and complies with the requirements under the *National Disability Insurance Scheme (Complaints Management and Resolution) Rules 2018.*
- Each participant is provided with information on how to give feedback or make a complaint, including avenues external to the provider, and their right to access advocates. There is a supportive environment for any person who provides feedback and/or makes complaints.
- Demonstrated continuous improvement in complaints and feedback management by regular review of complaint and feedback policies and procedures, seeking of participant views on the accessibility of the complaints management and resolution system, and incorporation of feedback throughout the provider's organisation.
- All workers are aware of, trained in, and comply with the required procedures in relation to complaints handling.

Incident Management

Outcome: Each participant is safeguarded by the provider's incident management system, ensuring that incidents are acknowledged, respond to, well-managed and learned from.

To achieve this outcome, the following indicators should be demonstrated:

- An incident management system is maintained that is relevant and proportionate to the scope and complexity of supports delivered and the size and scale of the organisation. The system complies with the requirements under the *National Disability Insurance Scheme (Incident Management and Reportable Incidents) Rules 2018.*
- Each participant is provided with information on incident management, including how incidents involving the participant have been managed.
- Demonstrated continuous improvement in incident management by regular review of incident management policies and procedures, review of the causes, handling and outcomes of incidents, seeking of participant and worker views, and incorporation of feedback throughout the provider's organisation.

- All workers are aware of, trained in, and comply with the required procedures in relation to incident management.

Human Resource Management

Outcome: Each participant's support needs are met by workers who are competent in relation to their role, hold relevant qualifications, and who have relevant expertise and experience to provide person-centred support.

To achieve this outcome, the following indicators should be demonstrated:

- The skills and knowledge required of each position within a provider are identified and documented together with the responsibilities, scope and limitations of each position.
- Records of worker pre-employment checks, qualifications and experience are maintained.
- An orientation and induction process is in place that is completed by workers including completion of the mandatory NDIS worker orientation program.
- A system to identify, plan, facilitate, record and evaluate the effectiveness of training and education for workers is in place to ensure that workers meet the needs of each participant. The system identifies training that is mandatory and includes training in relation to staff obligations under the NDIS Practice Standards and other National Disability Insurance Scheme rules.
- Timely supervision, support and resources are available to workers relevant to the scope and complexity of supports delivered.
- The performance of workers is managed, developed and documented, including through providing feedback and development opportunities.

Continuity of Supports

Outcome: Each participant has access to timely and appropriate support without interruption.

To achieve this outcome, the following indicators should be demonstrated:

- Day-to-day operations are managed in an efficient and effective way to avoid disruption and ensure continuity of supports.
- In the event of worker absence or vacancy, a suitably qualified and/or experienced person performs the role.
- Supports are planned with each participant to meet their specific needs and preferences. These needs and preferences are documented and provided to workers

prior to commencing work with each participant to ensure the participant's experience is consistent with their expressed preferences.

- Arrangements are in place to ensure support is provided to the participant without interruption throughout the period of their service agreement. These arrangements are relevant and proportionate to the scope and complexity of supports delivered by the provider.
- Where changes or interruptions are unavoidable, alternative arrangements are explained and agreed with the participant.
- Where applicable, disaster preparedness and planning measures are in place to enable continuation of critical supports before, during and after a disaster.

3. Provision of Supports

These NDIS Practice Standards set out the responsibilities for NDIS Providers when providing supports to participants.

Access to supports

Outcome: Each participant accesses the most appropriate supports that meet their needs, goals and preferences.

To achieve this outcome, the following indicators should be demonstrated:

- The supports available, and any access / entry criteria (including any associated costs) are clearly defined and documented. This information is communicated to each participant using the language, mode of communication and terms that the participant is most likely to understand.
- Reasonable adjustments to the support delivery environment are made and monitored to ensure it is fit for purpose and each participant's health, privacy, dignity, quality of life and independence is supported.
- Each participant is supported to understand under what circumstances supports can be withdrawn. Access to supports required by the participant will not be withdrawn or denied solely on the basis of a dignity of risk choice that has been made by the participant.

Support Planning

Outcome: Each participant is actively involved in the development of their support plans. Support plans reflect participant needs, requirements, preferences, strengths and goals, and are regularly reviewed.

To achieve this outcome, the following indicators should be demonstrated:

- With each participant's consent, work is undertaken with the participant and their support network to enable effective assessment and to develop a support plan. Appropriate information and access is sought from a range of resources to ensure the participant's needs, support requirements, preferences, strengths and goals are included in the assessment and the support plan.
- In collaboration with each participant, a risk assessment is completed and documented for each participant's support plan, then appropriate strategies to treat known risks are planned and implemented.
- Periodic reviews of the effectiveness of risk management strategies are undertaken with each participant to ensure risks are being adequately addressed, and changes are made when required.
- Each support plan is reviewed annually or earlier in collaboration with each participant, according to their changing needs or circumstances. Progress in meeting desired outcomes and goals is assessed, at a frequency relevant and proportionate to risks, the participant's functionality and the participant's wishes.
- Where progress is different from expected outcomes and goals, work is done with the participant to change and update the support plan.
- Where appropriate, and with the consent of the participant, information on the support plan is communicated to family members, carers, other providers and relevant government agencies.

Service Agreements with Participants

Outcome: Each participant has a clear understanding of the supports they have chosen and how they will be provided.

To achieve this outcome, the following indicators should be demonstrated:

- Collaboration occurs with each participant to develop a service agreement which establishes expectations, explains the supports to be delivered, and specifies any conditions attached to the delivery of supports, including why these conditions are attached.
- Each participant is supported to understand their service agreement and conditions using the language, mode of communication and terms that the participant is most likely to understand.
- Where the service agreement is created in writing, each participant receives a copy of their agreement signed by the participant and the provider. Where this is not practicable, or the participant chooses not to have an agreement, a record is made of the circumstances under which the participant did not receive a copy of their agreement.
- Where the provider delivers supported independent living supports to participants in specialist disability accommodation dwellings, documented arrangements are in place with each participant and each specialist disability accommodation provider. At a minimum, the arrangements should outline the party or parties responsible and their roles (where applicable) for the following matters:
  a) How a Participant's concerns about the dwelling will be communicated and addressed;
  b) How potential conflicts involving participant(s) will be managed;
  c) How changes to participant circumstances and/or support needs will be agreed and communicated;
  d) In shared living, how vacancies will be filled, including each participant's right to have their needs, preferences and situation taken into account; and
  e) How behaviours of concern which may put tenancies at risk will be managed, if this is a relevant issue for the participant.

Responsive Support Provision

Outcome: Each participant accesses responsive, timely, competent and appropriate supports to meet their needs, desired outcomes and goals.

To achieve this outcome, the following indicators should be demonstrated:

- Supports are provided based on the least intrusive options, in accordance with contemporary evidence-informed practices that meet participant needs and help achieve desired outcomes.
- Where agreed in the service agreement, and with the participant's consent or direction, links are developed and maintained through collaboration with other providers to share information and meet participant needs.
- Reasonable efforts are made to involve the participant in selecting their workers, including the preferred gender of workers providing personal care supports.
- Where a participant has specific needs which require monitoring and/or daily support, workers are appropriately trained and understand the participant's needs and preferences.

Transitions to or from the provider

Outcome: Each participant experiences a planned and coordinated transition to or from the provider.

To achieve this outcome, the following indicators should be demonstrated:

- A planned transition to or from the provider is facilitated in collaboration with each participant when possible, and this is documented, communicated and effectively managed.
- Risks associated with each transition to or from the provider are identified, documented and responded to.
- Processes for transitioning to or from the provider are developed, applied, reviewed and communicated.

4. Provision of Supports Enviroment

These NDIS Practice Standards set out the environment in which supports are to provided to participants.

Safe environment

Outcome: Each participants accesses supports in a safe environment that is appropriate to their needs.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant can easily identify workers engaged to provide the agreed supports.
- Where supports are provided in the participant's home, work is undertaken with the participant to ensure a safe support delivery environment.
- Where relevant, work is undertaken with other providers and services to identify and treat risks, ensure safe environments, and prevent and manage injuries.

Participant Money and Property

Outcome: Participant money and property is secure and each participant uses their own money and property as they determine.

To achieve this outcome, the following indicators should be demonstrated:

- Where the provider has access to a participant's money or other property, processes to ensure that it is managed, protected and accounted for are developed, applied, reviewed and communicated. Participants' money or other property is only used with the consent of the participant and for the purposes intended by the participant.
- If required, each participant is supported to access and spend their own money as the participant determines.
- Participants are not given financial advice or information other than that which would reasonably be required under the participant's plan.

Management of Medication

Outcome: Each participant requiring medication is confident their provider administers, stores and monitors the effects of their medication and works to prevent errors or incidents.

To achieve this outcome, the following indicators should be demonstrated:

- Records clearly identify the medication and dosage required by each participant, including all information required to correctly identify the participant and to safely administer the medication.
- All workers responsible for administering medication understand the effects and side-effects of the medication and the steps to take in the event of an incident involving medication.
- All medications are stored safely and securely, can be easily identified and differentiated, and are only accessed by appropriately trained workers.

Management of Waste

Outcome: Each participant, each worker, and any other person in the home is protected from harm as a result of exposure to waste, infectious or hazardous substances generated during the delivery of supports.

To achieve this outcome, the following indicators should be demonstrated:

- Policies, procedures and practices are in place for the safe and appropriate storage and disposal of waste, infectious or hazardous substances that comply with current legislation and local health district requirements.
- All incidents involving infectious material, body substances or hazardous substances are reported, recorded, investigated and reviewed.
- An emergency plan is in place to respond to clinical waste or hazardous substance management issues and/or accidents. Where the plan is implemented, its effectiveness is evaluated, and revisions are made if required.
- Workers involved in the management of waste and hazardous substances receive training to ensure safe and appropriate handling. This includes training on any protective equipment and clothing required when handling waste or hazardous substances.

High Intensity Daily Personal Activities Module

These NDIS Practice Standards set out the responsibilities of NDIS providers when providing supports and services to participants that require:

Complex Bowel Care

Outcome: Each Participant requiring complex bowel care receives appropriate support relevant (proportionate) to their individual needs.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant is involved in the assessment and development of the plan for their complex bowel care management. With their consent, the participant's health status is subject to regular and timely review by an appropriately qualified health practitioner. The plan identifies how risks, incidents and emergencies will be managed, including required actions and escalation to ensure participant wellbeing.
- Appropriate policies and procedures are in place, including a training plan for workers, that relate to the support provided to each participant receiving complex bowel care.
- All workers working with a participant requiring complex bowel care have received training, relating specifically to each participant's needs, type of complex bowel care and high intensity support skills descriptor for providing complex bowel care, delivered by an appropriately qualified health practitioner or person that meets the high intensity support skills descriptor for complex bowel care.

Enteral (Naso-Gastric Tube – Jejunum or Duodenum) Feeding and Management

Outcome: Each participant requiring enteral feeding and management receives appropriate nutrition, fluids and medication, relevant and proportionate to their individual needs.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant is involved in the assessment and development of the plan for their enteral feeding and management. With their consent, the participant's health status is subject to regular and timely review by an appropriately qualified health practitioner. The plan identifies how risks, incidents and emergencies will be managed, including required actions and escalation to ensure participant wellbeing.
- Appropriate policies and procedures are in place, including a training plan for workers, that relate to the support provided to each participant who has enteral feeding needs.
- All workers working with a participant who requires enteral feeding have completed training, relating specifically to each participant's needs, type and method of enteral feeding and regime, and high intensity support skills descriptor for enteral feeding,

delivered by an appropriately qualified health practitioner or person that meets the high intensity support skills descriptor for enteral feeding.

Tracheostomy Management

Outcome: Each participant with a tracheostomy receives appropriate suctioning and management of their tracheostomy relevant and proportionate to their individual needs.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant is involved in the assessment and development of the plan for their tracheostomy suctioning and management. With their consent, the participant's health status is subject to regular and timely review by an appropriately qualified health practitioner. The plan identifies how risks, incidents and emergencies will be managed, including required actions and escalation to ensure participant wellbeing.
- Appropriate policies and procedures are in place, including a training plan for workers, that relate to the support provided to each participant with a tracheostomy.
- All workers have completed training, relating specifically to each participant's needs, managing any tracheostomy related incident and high intensity support skills descriptor for providing tracheostomy care (without ventilation) and supporting a person dependent on ventilation, delivered by an appropriately qualified health practitioner or person that meets the high intensity support skills descriptor for tracheostomy suctioning and management.

Urinary Catheter Management (In-dwelling Urinary Catheter, In-out Catheter, Suprapubic Catheter)

Outcome: Each participant with a catheter receives appropriate catheter management relevant and proportionate to their individual needs.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant is involved in the assessment and development of the plan for management of their catheter. With their consent, the participant's health status is subject to regular and timely review by an appropriately qualified health practitioner. The plan identifies how risks, incidents and emergencies will be managed, including required actions and escalation to ensure participant wellbeing.
- Appropriate policies and procedures are in place, including a training plan for workers, that relate to the support provided to each participant with a catheter.
- All workers have completed training, relating specifically to each participant's needs, type of catheter and high intensity support skills descriptor for catheter changing and management, delivered by an appropriately qualified health practitioner or a person

that meets the high intensity support skills descriptor for urinary catheter changing and management.

Ventilator Management

Outcome: Each participant requiring ventilator management receives appropriate support relevant and proportionate to their individual needs and the specific ventilator used.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant is involved in the assessment and development of the plan for their ventilator management. With their consent, the participant's health status is subject to regular and timely review by an appropriately qualified health practitioner. The plan identifies how risks, incidents and emergencies will be managed, including required actions and escalation to ensure participant wellbeing.
- Appropriate policies and procedures are in place, including a training plan for workers, that relate to the support provided to each participant who is ventilator dependent.
- All workers have completed training, relating specifically to each participant's ventilation needs, managing a related incident and the high intensity support skills descriptor for ventilator management, delivered by an appropriately qualified health practitioner or person who meets the high intensity support skills descriptor for ventilator management.

Subcutaneous Injections

Outcome: Each participant requiring subcutaneous injections receives appropriate support relevant and proportionate to their individual needs and specific subcutaneous injections and medication administered.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant is involved in the assessment and development of the plan for their subcutaneous injections which includes dosage measurement and calculation. With their consent, each participant's health status is subject to regular and timely review by an appropriately qualified health practitioner. The plan identifies how risks, incidents and emergencies will be managed, including required actions and escalation to ensure participant wellbeing.
- There are documented written or phone orders by the health practitioner prescribing the medication that trained workers may administer by subcutaneous injection.

- Appropriate policies and procedures are in place, including a training plan for workers, that relate to the support provided to participants requiring subcutaneous injections and related medication.
- All workers have completed training, relating specifically to the participant's injection and medication needs and high intensity support skills descriptor for subcutaneous injections, delivered by an appropriately qualified health practitioner or person that meets the high intensity support skills descriptor for subcutaneous injections. Workers must also have a basic understanding of the participant's related health condition.

Complex Wound Management

Outcome: Each participant requiring complex wound management receives appropriate support relevant and proportionate to their individual needs.

To achieve this outcome, the following indicators should be demonstrated:

- Each participant is involved in the assessment and development of the plan for their complex wound management. With their consent, the participant's health status is subject to regular and timely review by an appropriately qualified health practitioner. The plan identifies how risks, incidents and emergencies will be managed, including required actions and escalation to ensure participant wellbeing.
- Appropriate policies and procedures are in place, including a training plan for workers, that relate to the support provided to each participant requiring complex wound management.
- All workers working with a participant requiring complex wound management have received training, relating specifically to the participant's needs that are affected by their wound management regime (for example, showering, toileting and mobility) and high intensity support skills descriptor for providing complex wound management, delivered by an appropriately qualified health practitioner or person that meets the high intensity support skills descriptor for complex wound management.

Specialist Behaviour Support Module

These NDIS Practice Standards apply to NDIS providers who are registered to provide specialist behaviour support to NDIS participants.

Behaviour Support in the NDIS

Outcome: Each participant accesses behaviour support that is appropriate to their needs which incorporates evidence-informed practice and complies with relevant legislation and policy frameworks.

To achieve this outcome, the following indicators should be demonstrated:

- The *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018* are understood and applied.
- All NDIS behaviour support practitioners have been assessed as suitable to deliver specialised positive behaviour support, including assessments and development of behaviour support plans.
- Each NDIS behaviour support practitioner undertakes ongoing professional development to remain current with evidence-informed practice and approaches to behaviour support, including positive behaviour support.
- A specialist behaviour support clinical supervisor provides clinical supervision of each work practice of the NDIS behaviour support practitioner.
- Demonstrated commitment to reducing and eliminating restrictive practices through policies, procedures and practices.

Restrictive Practices

Outcome: Each participant is only subject to a restrictive practice that meets any state and territory authorisation (however described) requirements and the relevant requirements and safeguards outlined in Commonwealth legislation and policy.

To achieve this outcome, the following indicators should be demonstrated:

- Knowledge and understanding of regulated restrictive practices as described in the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018* and knowledge and understanding of any relevant state or territory legislation and/or policy requirements and processes for obtaining authorisation (however described) for the use of any restrictive practices included in a behaviour support plan.

- Each Behaviour Support Practitioner undertakes professional development to maintain an understanding of practices considered restrictive and the risks associated with those practices.
- Each participant and, with the participant's consent, their support network, providers implementing behaviour support plans, and other relevant stakeholders are engaged in discussions about the need for restrictive practices and they understand the risks associated with their use. Alternatives to the use of restrictive practices are promoted as part of these discussions.
- Each participant and, with the participant's consent, their support network, their providers implementing behaviour support plans and other relevant stakeholders are engaged in the development of behaviour support strategies that are proportionate to the risk of harm to the participant or others.
- Restrictive practices are only included in a participant's behaviour support plan in accordance with relevant Commonwealth legislation and/or policy requirements and relevant state or territory legislation and/or policy requirements for obtaining authorisation (however described) for the use of any restrictive practices.
- Regulated restrictive practices in behaviour support plans comply with the conditions prescribed in the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018.*
- Each participant's behaviour support plan or interim behaviour support plan includes strategies that will lead to the reduction and elimination of any restrictive practices included in the plan.
- Support is provided to other providers implementing a behaviour support plan, in delivering services, implementing strategies in the plan and evaluating the effectiveness of current approaches aimed at reducing and eliminating restrictive practices.

Functional Behaviour Assessments and Behaviour Support Plans

Outcome: Each participant's quality of life is maintained and improved by tailored, evidence-informed behaviour support plans that are responsive to their needs.

To achieve this outcome, the following indicators should be demonstrated:

- Work is undertaken with each participant and their support network to undertake a behaviour support assessment that identifies unmet participant needs, the function and/or purpose of behaviours, and identify strategies to address behaviours of concern.
- Behaviour support plans take into account all appropriate sources of information such as the behaviour support assessment, and with the consent of the participant, the participant's support network, the providers implementing behaviour support plans,

and assessments carried out by other collaborating providers and mainstream service providers.

- Behaviour support plans are consistent with evidence-informed practice, including proactive strategies.
- The interface between a reasonable and necessary supports under a participant's plan and any other supports or services under a general system of service delivery that the participant receives, are considered, and strategies and protocols are developed to integrate supports/services as practicable.
- Behaviour support plans are developed in consultation with the providers implementing behaviour support plans, and the behaviour support plan is given to those providers for their consideration and acceptance.
- All behaviour support plans containing a regulated restrictive practice are provided to the Commissioner in the time and manner prescribed in the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018.*

Supporting the Implementation of the Behaviour Support Plan

Outcome: Each participant's behaviour support plan is implemented effectively to meet the participant's behaviour support needs.

To achieve this outcome, the following indicators should be demonstrated:

- Assistance is given to ensure that the providers implementing behaviour support plans understand the relevant state or territory legislative and/or policy requirements for obtaining authorisation (however described) for the use of a restrictive practice included in a behaviour support plan, including any conditions around the use of restrictive practices.
- Reasonable measures are taken to ensure the participant, and with the participant's consent, the participant's support network, and the providers implementing behaviour support plans, understand the rationale underpinning the behaviour support plan. Instructions and guidance are developed to support the participant, the providers implementing behaviour support plans and the participant's support network to effectively implement the behaviour support plan.
- Providers implementing behaviour support plans are made aware of the reporting requirements prescribed in the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018.*
- Person-focused training, coaching and mentoring is facilitated or delivered to each of the providers implementing behaviour support plans, and, with each participant's consent, their support network (where applicable). It covers the strategies required to implement a participant's behaviour support plan, including positive behaviour support strategies.

- Development of behaviour support plans for each participant, in collaboration with the providers implementing the behaviour support plan.
- Where the specialist behaviour support provider recommends that workers implementing a behaviour support plan receive training on the safe use of a restrictive practice included in a plan, oversight is retained to ensure the training addresses the strategies contained within each participant's behaviour support plan.
- Ongoing support and advice is offered to providers implementing behaviour support plans, and, with the participant's consent, their support network (where applicable), to address barriers to implementation.

Behaviour Support Plan Monitoring and Review

Outcome: Each participant has a current behaviour support plan that reflects their needs, improves their quality of life and supports their progress towards positive change. The plan progresses towards the reduction and elimination of restrictive practices, where these are in place for the participant.

To achieve this outcome, the following indicators should be demonstrated:

- The progress and effectiveness of implemented strategies are evaluated through regular engagement with the participant, and by reviewing, recording and monitoring data collected by providers implementing behaviour support plans.
- Modifications to the strategies contained in each participant's behaviour support plan are made based on engagement with the participant and the results of the information and data analysis, and with the participant's consent, these changes are communicated and training is provided (where required) to their support network on the modified strategies.
- Opportunities to reduce the use of restrictive practices based on documented positive change are pursued.
- The Commissioner is notified and work is undertaken with the Commissioner to address such situations:
  a) where effective engagement with providers implementing behaviour support plans is not possible for any reason; or
  b) if the supports and services are not being implemented in accordance with the behaviour support plan.
- Each participant's behaviour support plan is reviewed at least every twelve months. Consideration is given to whether the participant's needs, situation or progress create a need for more frequent reviews, including if the participant's behaviour changes, or if a new provider is required to implement the plan.

- The Commissioner is notified of changes in each participant's behaviour support plan in the manner and timeframe prescribed in the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018.*

Reportable Incidents involving the Use of a Restrictive Practice

Outcome: Each participant that is subject to an emergency or unauthorised use of a restrictive practice has the use of that practice reported and reviewed.

To achieve this outcome, the following indicators should be demonstrated:

- Support is given to the providers implementing each participant's behaviour support plan in responding to a reportable incident involving the use of restrictive practices.
- Each participant, and with the participant's consent, their support network, the providers implementing behaviour support plans and other stakeholders are included in the review of incidents.

Interim Behaviour Support Plans

Outcome: Each participant with an immediate need for a behaviour support plan receives an interim behaviour support plan which minimises the risk to the participant and others.

To achieve this outcome, the following indicators should be demonstrated:

- When a participant develops an immediate need for behaviour support, the participant and the providers implementing behaviour support plans are involved in evaluating the risks posed to the participant and others by the participant's behaviour, and an interim behaviour support plan is developed that appropriately manages that risk.
- Advice and guidance is given to the providers implementing behaviour support plans and, with the participant's consent, their support network on the effective implementation of the interim behaviour support plan.

Implementing Behaviour Support Plans Module

These NDIS Practice Standards apply to NDIS providers who are registered to provide specialist behaviour support to NDIS participants. They also apply to providers using restrictive practices in the delivery of any NDIS supports and services.

Behaviour Support in the NDIS

Outcome: Each participant accesses behaviour support that is appropriate to their needs which incorporates evidence-informed practice and complies with relevant legislation and policy frameworks.

To achieve this outcome, the following indicators should be demonstrated:

- Knowledge and understanding of the NDIS and state and territory behaviour support legislative and policy frameworks.
- Demonstrated appropriate knowledge and understanding of evidence-informed practice approaches to behaviour support.
- Demonstrated commitment to reducing and eliminating restrictive practices through policies, procedures and practices.

Regulated Restrictive Practices

Outcome: Each participant is only subject to a regulated restrictive practice that meets any state and territory authorisation (however described) requirements and the relevant requirements and safeguards outlined in Commonwealth legislation and policy.

To achieve this outcome, the following indicators should be demonstrated:

- Knowledge and understanding of regulated restrictive practices as described in the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018* and knowledge and understanding of any relevant state or territory legislation and/or policy requirements and processes for obtaining authorisation (however described) for the use of any regulated restrictive practices included in a behaviour support plan.
- Where state or territory legislation and/or policy requires authorisation (however described) to, the use of a regulated restrictive practice, such authorisation is obtained and evidence submitted.
- Regulated restrictive practices are only used in accordance with a behaviour support plan and all the requirements as prescribed in the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018.* Regulated restrictive practices are implemented, documented and reported in a way that is compliant with relevant legislation and/or policy requirements.

- Work is undertaken with specialist behaviour support providers to evaluate the effectiveness of current approaches aimed at reducing and eliminating restrictive practices, including the implementation of strategies in the behaviour support plan.
- Workers maintain the skills required to use restrictive practices and support the participant and other stakeholders to understand the risks associated with the use of restrictive practices.

Supporting the Assessment and Development of Behaviour Support Plans

Outcome: Each participant's quality of life is maintained and improved by tailored, evidence-informed behaviour support plans that are responsive to their needs.

To achieve this outcome, the following indicators should be demonstrated:

- The specialist behaviour support provider is supported to gather information for the functional behavioural assessment and other relevant assessments.
- Collaboration occurs with the specialist behaviour support provider to develop each participant's behaviour support plan and the clear identification of key responsibilities in implementing and reviewing the plan.
- Relevant workers have the necessary skills to inform the development of the participant's behaviour support plan.
- Relevant workers have access to appropriate training to enhance their skills in, and knowledge of, positive behaviour supports and restrictive practices.

Behaviour Support Plan Implementation

Outcome: Each participant's behaviour support plan is implemented effectively to meet the participant's behaviour support needs.

To achieve this outcome, the following indicators should be demonstrated:

- Policies and procedures that support the implementation of behaviour support plans are developed and maintained.
- Work is actively undertaken with the specialist behaviour support providers to implement each participant's behaviour support plan and to align support delivery with evidence-informed practice and positive behaviour support.
- Workers are supported to develop and maintain the skills required to consistently implement the strategies in each participant's behaviour support plan consistent with the behaviour support skills descriptor.

- Specialist behaviour support providers are supported to train the workers of the providers implementing behaviour support plans in the use and monitoring of behaviour support strategies in the behaviour support plan, including positive behaviour support.
- Workers receive training in the safe use of restrictive practices.
- Collaboration is undertaken with other providers that work with the participant to implement strategies in the participant's behaviour support plan.
- Performance management ensures that workers are implementing strategies in the participant's behaviour support plan appropriately.

Monitoring and Reporting the Use of Regulated Restrictive Practices

Outcome: Each participant is only subject to a restrictive practice that is reported to the Commission.

To achieve this outcome, the following indicators should be demonstrated:

- Demonstrated compliance with monthly online reporting requirements in relation to the use of regulated restrictive practices, as prescribed in the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018.*
- Data is monitored to identify actions for improving outcomes.
- Data is used to provide feedback to workers, and with the participant's consent, their support network, and their specialist behaviour support provider about the implementation of the behaviour support plan to inform the reduction and elimination of restrictive practices.

Behaviour Support Plan Review

Outcome: Each participant has a current behaviour support plan that reflects their needs, and works towards improving their quality of life, reducing behaviours of concern, and reducing and eliminating the use of restrictive practices.

To achieve this outcome, the following indicators should be demonstrated:

- The implementation of the participant's behaviour support plan is monitored through a combination of formal and informal approaches, including through feedback from the participant, team meetings, data collection and record keeping, other feedback and supervision.

- Information is recorded and data is collected as required by the specialist behaviour support provider and as prescribed in the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018.*
- Identification of circumstances where the participant's needs, situation or progress create a need for more frequent review, including if the participant's behaviour changes.
- Contributions are made to the reviews of the strategies in a participant's behaviour support plan, with the primary focus of reducing or eliminating restrictive practices based on observed progress or positive changes in the participant's situation.

Reportable Incidents involving the Use of a Restrictive Practice

Outcome: Each participant that is subject to an emergency or unauthorised use of a restrictive practice has the use of that practice reported and reviewed.

To achieve this outcome, the following indicators should be demonstrated:

- The participant's immediate referral to, and assessment by a medical practitioner (where appropriate) is supported following an incident.
- Collaboration is undertaken with mainstream service providers, such as police and/or other emergency services, mental health and emergency department, treating medical practitioners and other allied health clinicians, in responding to the unauthorised use of a restrictive practice.
- The Commissioner is notified of all reportable incidents involving the use of an unauthorised restrictive practice in accordance with the *National Disability Insurance Scheme (Incident Management and Reportable Incidents) Rules 2018.*
- Where an unauthorised restrictive practice has been used, the workers and management of providers implementing behaviour support plans engage in debriefing to identify areas for improvement and to inform further action. The outcomes of the debriefing are documented.
- Based on the review of incidents, the supports to the participant are adjusted, and where appropriate, the engagement of a specialist behaviour support provider is facilitated to develop or review the participant's behaviour support plan or interim behaviour support plan, if required, in accordance with the *National Disability Insurance Scheme (Restrictive Practices and Behaviour Support) Rules 2018.*
- Authorisation processes (however described) are initiated as required by their jurisdiction.
- The participant, and with the participant's consent, their support network and other stakeholders as appropriate, are included in the review of incidents.

Interim Behaviour Support Plans

Outcome: Each participant with an immediate need for a behaviour support plan receives an interim behaviour support plan based on evidence-informed practice, which minimises risk to the participant and others.

To achieve this outcome, the following indicators should be demonstrated:

- Collaboration is undertaken with mainstream service providers (such as police and/or other emergency services, mental health and emergency departments, treating medical practitioners and other allied health clinicians) in contributing to an interim behaviour support plan developed by a specialist behaviour support provider.
- Work is undertaken with the specialist behaviour support provider to support the development of the interim behaviour support plan.
- Workers are supported and facilitated to receive training in the implementation of the interim behaviour support plan.

Early Childhood Supports Module

These NDIS Practice Standards apply to NDIS providers who are registered to provide early childhood supports to NDIS participants.

The Child

Outcome: Each child participant accesses supports that promote and respect their legal and human rights, support their development of functional skills, and enable them to participate meaningfully and be included in everyday activities with their peers.

To achieve this outcome, the following indicators should be demonstrated:

- Knowledge and understanding of each participant's legal and human rights, and incorporation of those rights into everyday practice.
- Implementation of practices and procedures to manage risk with a focus on creating a safe environment for children.
- Compliance with all relevant state and territory legislation relating to the reporting of risk of harm to children.
- Facilitation of the active involvement of the participant's support network in the participant's development.

The Family

Outcome: Each family receives family-centred supports that are culturally inclusive, responsive, and focus on their strengths.

To achieve this outcome, the following indicators should be demonstrated:

- Each support plan is based on child and family choice and control and is undertaken with the family.
- The family's expertise and knowledge about their child is recognised and respected.
- The family's strengths, needs and priorities are identified by working in partnership with the family.
- Each support plan is flexible and individualised to reflect the child's and family members' preferences and learning styles.
- Each support plan is culturally responsive and respectful of the family's cultural beliefs and their community.
- Information and supports are provided in a clear, easy to understand and flexible manner by integrating the support into the child's everyday routine.

- The strengths of the family are promoted and developed and the family is assisted to develop their own network of formal and informal resources, with recognition that positive outcomes for children do not rely solely on therapeutic child-focused programs.
- Work is undertaken with the family to inform and strengthen their participation in, and contribution to, the child's learning and development.

Inclusion

Outcome: Each participant accesses supports that engage their natural environments and enable inclusive and meaningful participation in their family and community life.

To achieve this outcome, the following indicators should be demonstrated:

- Assessment of each child's development focuses on the child's functions in their everyday routines and activities in their natural learning environments.
- A child's inclusive, meaningful and active participation in their family life, community life and natural environments is promoted.
- Links with each family's community and other support agencies are enabled and built upon.
- Each child's inclusion through participation in daily routines in their natural learning environments is promoted.

Collaboration

Outcome: Each participant receives coordinated supports from a collaborative team comprising their family, the provider and other relevant providers, to facilitate their development and address the family's needs and priorities.

To achieve this outcome, the following indicators should be demonstrated:

- If the family wishes to engage a key worker, work is undertaken with the family and other providers to identify a suitable key worker.
- Close collaborative links with the family and other collaborating providers are established to coordinate the team around each child.
- With the consent of the family, information, knowledge and skills are communicated and shared between the family, the provider, and other collaborating providers.
- Where relevant, collaboration between supports and services is undertaken to ensure that transition/exit planning meets the needs of each child and their family.

Capacity Building

Outcome: Each participant receives supports that build the knowledge, skills and abilities of the family and other collaborating providers in order to support the child's learning and development.

To achieve this outcome, the following indicators should be demonstrated:

- Work is undertaken with the support network in each child's life to build their capacity to achieve the functional outcomes identified in the support plan.
- Each family's confidence is built to understand how their family routines and everyday activities can support their child's development.
- The capacity of the child, family and collaborating providers involved with the child is built through coaching, capacity building supports and collaborative teamwork.
- Collaboration is undertaken to affirm, challenge, and support the child, family and collaborating providers to further develop their skills and to improve practice and relationships.
- Feedback and learnings from the child, family and other professionals is used to improve support delivery

Evidence – Informed Practice

Outcome: Each participant receives evidence-informed supports from providers with quality standards and validated practice.

To achieve this outcome, the following indicators should be demonstrated:

- Intervention strategies are based on explicit principles, validated practices, best available research and relevant laws and regulations.
- Appropriate information, knowledge, skills and expertise are in place to deliver quality supports to families.
- Knowledge and skills are maintained through continuing relevant professional development, ongoing self-reflection, self-assessment and monitoring of practices.

Outcome based approach

Outcome: Each participant receives supports that are outcome-based and goal-focused.

To achieve this outcome, the following indicators should be demonstrated:

- The functional outcomes for the child and their family are based on their needs and priorities, and the skills needed to achieve those outcomes are identified through collaboration with the child and their family.
- Each child has a documented support plan that describes the interventions and their functional outcomes.
- The family is actively involved in the assessment of the child and the development and review of the support plan.
- A copy of the support plan is provided to the family in the language, mode of communication and terms that they are most likely to understand.
- The functional outcomes support the child's meaningful participation in family and community life.
- The assessment, intervention planning and outcomes for the child and the family are measured, evaluated and reported in ways that are meaningful to, and understood by, the family.

Specialist Support Co-ordination Module

These NDIS Practice Standards apply to NDIS providers who are registered to provide specialist support co-ordination to NDIS participants.

Specialised Support Co-ordination

Outcome: Each participant receiving specialised support coordination receives tailored support to implement, monitor and review their support plans and reduce the risk and complexity of their situation.

To achieve this outcome, the following indicators should be demonstrated:

- Demonstrated knowledge and understanding of the risk factors experienced by each participant with high-risk and/or complex needs.
- Participants are involved in the evaluation of their situation and the identification of the supports required to prevent or respond to a crisis, incident or breakdown of support arrangements, and the promotion of safety for the participant and others.
- Consultation is undertaken with the participant and, with the participant's consent, the participant's support network and mainstream services (as appropriate) in planning and coordinating supports to implement the participant's plan, and any plan review.
- In consideration of each participant's individual needs, preferences and circumstances, suitable NDIS providers and mainstream service providers that have the appropriate skills and experience to deliver the required support are identified.
- There is proactive engagement to ensure that all providers implementing the participant's plan understand and respond to the risk and/or complexity of the participant's situation, and collaborate with other relevant providers, where required.
- All monitoring and reporting obligations associated with the participant's plan are managed effectively.

Management of a Participant's NDIS Supports

Outcome: Each participant exercises meaningful choice and control over their supports and maximises the value for money they receive from their supports.

To achieve this outcome, the following indicators should be demonstrated:

- Supports and services are arranged using the participant's NDIS amounts as directed by the participant and for the purposes intended by the participant.

- Each participant has been provided with information about their support options using the language, mode of communication and terms that the participant is most likely to understand.
- As appropriate, each participant is supported to build their capacity to coordinate, self-direct and manage their supports and to understand how to participate in Agency planning processes such as establishing agreements with service providers and managing budget flexibility.
- Supports funded under a participant's plan are used effectively and efficiently, and are complemented by community and mainstream services to achieve the objectives of the participant's plan.

Conflict of interest

Outcome: Each participant receives transparent, factual advice about their support options which promotes choice and control.

To achieve this outcome, the following indicators should be demonstrated:

- Conflict of interest policies are provided or explained to each participant using the language, mode of communication and terms that the participant is most likely to understand.
- Each participant is supported to understand the distinction between the provision of specialised support coordination and other reasonable and necessary supports funded under a participant's plan using the language, mode of communication and terms that the participant is most likely to understand.
- If the provider has an interest in any support option available to the participant, the participant is aware of this interest. The participant understands that any choice they made about providers of other supports will not impact on the provision of the specialised support coordination.
- Referrals to and from other providers are documented for each participant.

Specialist Disability Accommodation Module

These NDIS Practice Standards apply to NDIS providers who are registered to provide specialist disability accommodation to NDIS participants.

Rights and Responsibilities

Outcome: Each participant's access to specialist disability accommodation dwellings is consistent with their legal and human rights and they are supported to exercise informed choice and control.

To achieve this outcome, the following indicators should be demonstrated:

- Knowledge and understanding of each participant's legal and human rights, and incorporation of these rights into everyday practice, including through reasonable adjustments or modifications to the dwelling to meet each participant's needs.
- Any agreement or contract entered into with each participant, and any communication with the participant about the provision of specialist disability accommodation, including about rights and responsibilities in relation to the dwelling, is responsive to their needs and provided in the language, mode of communication and terms which that participant is most likely to understand.
- Each participant's autonomy, including their right to privacy, intimacy and sexual expression is respected.

Conflict of Interest

Outcome: Each participant's right to exercise choice and control over other NDIS support provision is not limited by their choice of specialist disability accommodation dwelling.

To achieve this outcome, the following indicators should be demonstrated:

- Organisational policies are in place that detail how perceived or actual conflicts of interests are managed. The conflict of interest policies are made available to participants in the language, mode of communication and terms which each participant is most likely to understand.
- Conflicts of interest, perceived or actual, are proactively managed and documented.
- The participant is supported to understand the distinction between the provision of specialist disability accommodation and other NDIS supports delivered in the dwelling. Where a specialist disability accommodation provider is delivering both specialist disability accommodation and other NDIS supports to the same participant, there are separate service agreements.

- The participant's housing rights, including security of tenure, are upheld, irrespective of any decision/s the participant makes about the provision of other NDIS supports within the specialist disability accommodation dwelling (notwithstanding any matters covered by the specialist disability accommodation service agreement).

Service Agreements with Participants

Outcome: Each participant is supported to understand the terms and conditions that apply to their specialist disability accommodation dwelling and the associated service and/or tenancy agreements.

To achieve this outcome, the following indicators should be demonstrated:

- Work is undertaken with each participant to develop a written service agreement that meets the requirements of the *National Disability Insurance Scheme (Specialist Disability Accommodation Conditions) Rules 2018*, and any applicable state or territory residential tenancy legislation.
- In the absence of any applicable state or territory residential tenancy legislation, written service agreements should deal with the following matters:
  a) specify the rent that must be paid by the participant and the method and timing of making rental payments and arrangements for the issuance of rental payment receipts;
  b) specify the value and management arrangements in relation to any bond that is required from the participant;
  c) if applicable, specify any board payments that have been agreed with the participant, what the board payments will cover and the method and timing of making the board payments;
  d) specify the minimum period of notice that will be given by the provider before the provider increases the amount of rent or board (where applicable) payable by the participant;
  e) specify:
     a. the name, telephone number and address of the provider's agent (if any) and the responsibilities of the agent; or
     b. if the provider does not have an agent, the address and telephone number, of the provider.
  f) require the provider to notify the participant in writing within 5 business days of any change during the agreement of the matters provided for in paragraph (f), unless applicable state or territory law stipulates an alternative notice period;
  g) specify the commencement date of the agreement, the duration of the agreement, and the manner in which the agreement can be extended;

h) specify the circumstances in which the agreement can be terminated by either the participant or the provider;

i) require the provider to give the participant a minimum of 90 days' notice before the participant is required to vacate the premises, unless shorter notice is required to address risks of harm to the participant or others;

j) explain the process for requesting repairs or maintenance to be undertaken.

- The agreement establishes expectations, explains the responsibilities of the specialist disability accommodation provider in relation to the dwelling, and specifies the rights and responsibilities of the participant in accessing the dwelling.
- The agreement includes information about dwelling safety features, including fire alarms and building evacuation procedures, and how this information will be communicated to other providers who deliver supported independent living to each participant in the dwelling.
- Each participant is supported to understand the agreement, including any conditions, by using the language, mode of communication and terms which that participant is most likely to understand.
- Each participant receives a copy of their agreement signed by the participant and the provider. Where this is not practicable, a record is made detailing the circumstances in which the participant did not receive a copy of their agreement.

Enrolment of SDA Properties

Outcome: Each participant's specialist disability accommodation dwelling meets the requirements of the design type, category and other standards that were identified through the dwelling enrolment process.

To achieve this outcome, the following indicators should be demonstrated:

- Mechanisms are in place to ensure a provider's enrolled specialist disability accommodation dwellings meet the design type, category and density restriction requirements of the *National Disability Insurance Scheme (Specialist Disability Accommodation Conditions) Rules 2018*.
- Mechanisms are in place to ensure a provider maintains ongoing compliance with the *National Disability Insurance Scheme (Specialist Disability Accommodation Conditions) Rules 2018* and all relevant laws and standards, including building standards and tenancy laws that apply to specialist disability accommodation dwellings.
- Enrolled dwellings are in a good state of repair and are being appropriately maintained, having regard to the safety, security and privacy of residents

Tenancy Management

Outcome: Each participant accessing a specialist disability accommodation dwelling is able to exercise choice and control and is supported by effective tenancy management.

To achieve this outcome, the following indicators should be demonstrated:

- Demonstrated adherence to the requirements established in the *National Disability Insurance Scheme (Specialist Disability Accommodation Conditions) Rules 2018.*
- Where applicable, policies and procedures are in place about how a provider will declare, advertise and fill vacancies in shared living, including how each participant's views, preferences and needs are documented and taken into account. The policies are made available to participants in the language, mode of communication and terms which each participant is most likely to understand.
- Documented arrangements are in place with each participant and each participant's other NDIS providers that deliver supported independent living supports within a specialist disability accommodation dwelling. At a minimum, the arrangements should outline the party or parties responsible and their roles (where applicable) for the following matters:
    a) How the specialist disability accommodation provider will work with other providers who deliver supported independent living supports to ensure the shared living arrangement is working for all tenants;
    b) How potential conflicts involving the participant will be managed;
    c) Policies and procedures for responding to violence, abuse, exploitation or conflict involving one or more participant which may impact on the condition of the dwelling;
    d) How each participant's concerns about the specialist disability accommodation dwelling will be communicated to and addressed by the specialist disability accommodation provider;
    e) How behaviours of concern will be managed, if this a relevant issue for the participant;
    f) How changes to a participant's circumstances or supports will be agreed and communicated;
    g) Arrangements for continuity of supports (including specialist disability accommodation) in the event or a natural disaster or other emergency; and
    h) In shared living, how vacancies will be filled including the participant's right to have their needs, wishes, choices and situation taken into account.

Where the participant does not consent to an agreement, the specialist disability accommodation provider has a documented record of this.

- Allegations and incidents of violence, abuse, neglect, exploitation or discrimination, are acted upon, each participant affected is supported and assisted, records are made

of any details and outcomes of reviews and investigations (where applicable), and action is taken to prevent similar incidents occurring in the future.

- Where a change in participant needs or circumstances occurs, reasonable adjustments are made to accommodate the changes. If the changed support needs exceed the design category or functionality of the dwelling, work is undertaken to modify the dwelling, following consideration of the impact of the modifications on the other tenants (if applicable). Where the participant's needs or circumstances cannot be accommodated, the participant, and any relevant support providers are made aware of the need to find alternative accommodation.
- A complaints management and resolution system is maintained that meets the requirements of the *National Disability Insurance Scheme (Complaints Management and Resolution) Rules 2018* and follows the principles of procedural fairness and natural justice.
- An incident management system is maintained in accordance with the *National Disability Insurance Scheme (Incident Management and Reportable Incidents) Rules 2018*.
- State or territory legislative requirements regarding the provision of tenancy-related notices are adhered to and each participant is aware of their right to seek review of a decision, where applicable.
- Policies, procedures and agreements relating to any tenancy management are provided in the language, mode of communication and terms which each participant is most likely to understand.

Verification Module

These NDIS Practice Standards apply to NDIS providers who are delivering lower risk/lower complexity supports and services.

NDIS supports and services.

Human Resource Management

Outcome: Each participant's support needs are met by workers who are competent in relation to their role, hold relevant qualifications, and who have relevant expertise and experience to provide person-centred support.

To achieve this outcome, the following indicators should be demonstrated:

- Records of worker identity, right to work, pre-employment checks, qualifications and/ or experience are maintained.
- Workers complete mandatory NDIS orientation module and records of continuing professional development are maintained.

Incident Management

Outcome: Each participant is safeguarded by the provider's incident management system, ensuring that incidents are acknowledged, respond to, well-managed and learned from.

To achieve this outcome, the following indicators should be demonstrated:

- An incident management system is maintained that is relevant and proportionate to the scope and complexity of supports delivered and the size and scale of the organisation. The system complies with the requirements under the *National Disability Insurance Scheme (Incident Management and Reportable Incidents) Rules 2018*.

Complaints Management

Outcome: Each participant has knowledge of and access to the provider's complaints management and resolution system. Complaints made by all parties are welcomed, acknowledged, respected and well-managed.

To achieve this outcome, the following indicators should be demonstrated:

- A complaints management and resolution system is maintained that is relevant and proportionate to the scope and complexity of supports delivered and the size and scale of the organisation. The system follows principles of procedural fairness and natural justice and complies with the requirements under the *National Disability Insurance Scheme (Complaints Management and Resolution) Rules 2018.*

Risk Management

Outcome: Risks to participants, workers and the provider are identified and managed.

To achieve this outcome, the following indicators should be demonstrated:

- A documented system that effectively manages work health and safety risks is in place, and is relevant and proportionate to the size and scale of the provider and the scope and complexity of supports.
- Appropriate insurance is in place, including professional indemnity, public liability and accident insurance

This alert is based on advice from Australian Government that should be regularly reviewed by NDIS providers.

No images? Click here

Provider Alert

NDIS Quality & Safeguards Commission

CORONAVIRUS INFORMATION FOR PROVIDERS - 9 March 2020

This alert is based on advice from the Australian Government Department of Health that should be regularly reviewed by NDIS providers.

Background

- On 30 January 2020, the World Health Organization declared the Coronavirus COVID-19 outbreak a Public Health Emergency of International Concern.
- Some people with disability are more likely to be vulnerable to the severe adverse effects associated with COVID-19.

Your obligations

As an NDIS provider, you have obligations under the NDIS Code of Conduct and the NDIS Practice Standards, as well as your conditions of registration, that relate to the delivery of safe, quality supports and services, and the management of risks associated with the supports you provide to NDIS participants.

Possible COVID-19 infection of providers, workers and people otherwise engaged by a provider to deliver NDIS supports, and the risk of infection of NDIS participants, present risks that you are expected to manage in the context of your obligations under the NDIS Code of Conduct and relevant NDIS Practice Standards.

The NDIS Code of Conduct requires workers and providers who deliver NDIS supports to NDIS participants to, among other things:

- provide supports and services in a safe and competent manner with care and skill
- promptly take steps to raise and act on concerns about matters that might have an impact on the quality and safety of supports provided to people with disability.

The NDIS Practice Standards provide guidance for registered providers, including standards for:

• **Governance and operational management, including:**

- having robust governance and operational management systems
- considering organisational risks, other requirements related to operating under the NDIS, participants' and workers' needs and the wider organisational environment in your strategic and business planning
- identifying and managing risks, both to participants and workers
- analysing, prioritising and treating risks to the organisation, including participants, work health and safety risks, and risks associated with providing supports
- ensuring continuity of support so that participants access timely and appropriate support without interruption, including that disaster preparedness and planning measures are in place to enable continuation of critical supports before, during or after a disaster.

• **Provision of supports environment, including:**

- that each participant must access supports in a safe environment that is appropriate to their needs. This includes, where relevant, you working with other providers and services to identify and treat risks, ensure safe environments, and prevent and manage injuries
- verification standards include a requirement for risk management, including managing work health and safety, which requires protecting the health, safety and wellbeing of workers and others who may be affected by work activities – including NDIS participants.

Notifying the NDIS Commission of certain events

It is a condition of your registration with the NDIS Commission that you notify us of changes or events that adversely affect your ability to deliver supports and services to NDIS participants. This includes any change or event that:

- significantly affects your ability to comply with your conditions of registration and the NDIS Practice Standards
- seriously impairs your ability to effectively conduct your operations and deliver ongoing supports or services to NDIS participants
- adversely affects a person with disability's access to the supports or services you are registered to provide.

Reducing the risk to participants

While COVID-19 is of concern, it is important to remember that most people who display symptoms (such as fever, cough, sore throat or tiredness) are likely suffering from a cold or other respiratory illness—not COVID-19.

The Department of Health advises that people most at risk of getting the virus are those who have recently been in in a high-risk country/region and people who have been in close contact with someone who has a confirmed case of coronavirus.

If a worker has returned from a country or region that is at higher risk for COVID-19, they should not have contact with NDIS participants. This relates to people who:

- have travelled to (including transiting through) mainland China in the 14 days before the onset of illness
- left or transited through Iran on or after 1 March 2020
- have travelled from the Republic of Korea (South Korea) on or after 5 March 2020
- had close or casual contact with a confirmed case of COVID-19 in the 14 days before illness onset.

In addition, you should **reinforce staff hygiene practices**, in particular:

- Washing hands frequently with soap and water, before and after eating, and after going to the toilet (see more information about hand washing published by the Department of Health
- Covering the mouth when coughing and sneezing, disposing of tissues, and using alcohol-based hand sanitiser
- If unwell, avoiding contact with others (i.e. touching, kissing, hugging, and other intimate contact)

You should review your practices and advice to staff – including your business continuity plans – to prepare for implementing activities that will continue to provide critical supports and services to participants while reducing their risk of exposure to COVID-19.

Undertake contingency planning in the event that staff involved in the delivery of services are affected by COVID-19 and are unable to work.

COVID-19 health information

You should keep up to date with Department of Health recommendations on how to respond should a staff member or an NDIS participant displays symptoms.

The Department of Health website contains useful up to date information on COVID-19, including ways to contact the Department of Health.

Other links

The following resources have been developed by the Australian Department of Health:

- Regular updates on COVID-19
- Coronavirus (COVID-19) resources
- Information for health care and residential care workers
- COVID-19 weekly epidemiology reports, Australia

- Australian Health Sector Emergency Response Plan for Novel Coronavirus
- Australian Guidelines for the Prevention and Control of Infection in Healthcare

The following resources are on the NDIS Commission website:

- NDIS Code of Conduct (NDIS providers)
- NDIS Practice Standards
- Notification of changes or events form (Registered providers)

The following advice is on the NDIA website for providers and participants:

- NDIS and disaster response

General Enquiries

1800 035 544 (free call from landlines)

Our contact centre is open 9am to 4.30pm in the NT
9.00am to 5.00pm in the ACT, NSW, QLD, SA, TAS and VIC. Monday to Friday, excluding public holidays.

To provide feedback, contact the NDIS Commission by emailing contactcentre@ndiscommission.gov.au.

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NDIS Quality and Safeguards Commission
PO Box 210
Penrith NSW 2750

Coronavirus (COVID-19)

Information for support workers and access to PPE

The following information has been cleared by the Australian Government Department of Health.

- People who have returned from anywhere overseas, or have been in close contact with someone confirmed to have COVID-19, must self-isolate for 14 days.
- If you develop symptoms, including a fever and cough, immediately and urgently seek medical attention.
- This information sheet should be read in conjunction with the 'What you need to know' and 'Isolation guidance' information sheets on the Australian Government Department of Health website.

Can I go to work?

Like others, people working in the disability services sector need to stay at home for 14 days after returning from overseas or being in close contact with someone confirmed to have COVID-19. Employees who are in isolation cannot go to work and should alert their employer. Depending on the type of work, and provided the employee is well, they may want to discuss alternative arrangements such as working from home. See the 'Isolation guidance' information sheets on the Department of Health website.

Disability support workers should not attend work if they have a fever, or symptoms of a respiratory illness.

What should I tell my staff?

Employers should provide information to all employees and contract staff on relevant information and procedures to prevent the spread of coronavirus. Employers should inform staff who meet the above criteria that they should remain isolated in their home.

Employees should advise their employer if they develop symptoms during the isolation period, particularly if they have been in the workplace or in contact with a client. Public health authorities may contact employers in the event an employee is confirmed to have coronavirus.

NDIS providers can find information about coronavirus, including provider obligations, how to reduce the risk to participants, and links to updates and resources on the NDIS Quality and Safeguards Commission website.

Is training available?

The Australian Government Department of Health has developed a free online training module: Infection prevention and control for COVID-19.

This training module is for all support workers, including those in disability and aged care. It covers the fundamentals of infection prevention and control for COVID-19, including

- COVID-19 – what is it?
- Signs and symptoms
- Keeping safe – protecting participants and your workforce
- Myth busting

At the end of this module, you should be able to:

- understand the basics about the COVID-19 virus, including how it is spread
- describe what you can do to protect participants and your workforce
- know what to do if you develop symptoms
- know what to do if the person you are supporting develops symptoms
- tell the difference between myths and facts of COVID-19.

If you have any technical questions relating to the training portal, please email support@covid-19training.gov.au

The Department of Health has also developed a webinar on COVID-19 preparedness for in-home and community aged care. This webinar is also relevant to all providers and workers in the disability sector.

Should disability support workers wear Personal Protective Equipment (PPE)?

If you are working with people with disability, continue to practise good hygiene – wearing gloves where required, washing your hands frequently and so on.

There is no need for disability or health workers to wear surgical masks unless you are working directly with clients or patients who are exhibiting symptoms of COVID-19. Further guidance on the use of surgical masks is on the Department of Health website.

How can providers access PPE?

The Australian Government Department of Health provides the following advice for providers to access PPE.

If a case of COVID-19 is suspected by a medical professional, workers will need to practise further infection control measures including use of appropriate PPE.

In the context of NDIS supports and services, where a case of COVID-19 is suspected by a medical professional, PPE may be required in settings where:

- supports being provided are essential to the participant's life, health of safety due to withdrawal or alteration of critical supports
- contact between people exceeds Department of Health guidelines for social distancing or isolation
- there are heightened risks to people with disability due to their vulnerabilities.

These situations may arise in supported living arrangements, or where essential supports are provided to a person in their own home.

In line with standard procedure, all requests for stock from the National Medical Stockpile should be sent to: NDISCOVIDPPE@health.gov.au

The Department of Health is triaging requests for stock from the National Medical Stockpile and is recommending deployments of protective equipment from the Stockpile according to need. Requesting parties will be asked to demonstrate that:

- they have been unable to source masks through the open market
- existing stocks have been depleted
- who the requested masks are intended for
- how the masks are to be prioritised and distributed in order to minimise transmission to greatest effect
- how previous Stockpile stocks (if applicable) have been used efficiently and effectively.

In the event of an outbreak in a supported independent living setting, NDIS providers should contact the Department to request PPE from the Stockpile immediately.

More information

For the latest advice, information and resources, go to www.health.gov.au

Call the National Coronavirus Health Information Line on 1800 020 080. It operates 24 hours a day, seven days a week. If you require translating or interpreting services, call 131 450.

The phone number of each state or territory public health agency is available at www.health.gov.au/state-territory-contacts

Information for NDIS participants and providers is available at www.ndis.gov.au and www.ndiscommission.gov.au

Links to previous COVID-19 provider alerts

- 19 March 2020: Business continuity planning
- 9 March 2020: Provider obligations and COVID-19 health information
- 7 February 2020: Information about the novel coronavirus outbreak

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Source of information: https://www.ndis.gov.au/coronavirus/participants-coronavirus-covid-19/your-health-and-safety

26 March: Should support workers be wearing masks?

It is not necessary to ask your support workers to wear face masks if they do not have a confirmed case of coronavirus (COVID-19). Surgical masks in the community are only helpful in preventing people who have coronavirus (COVID-19) from spreading it to others. If you are well and your support worker is well, you do not need to wear surgical masks as there is little evidence supporting the widespread use of surgical masks in healthy people to prevent transmission in public.

More information about the use of surgical masks .

Source of information: https://www.ndis.gov.au/coronavirus/participants-coronavirus-covid-19/your-health-and-safety

7 April: Personal Protective Equipment (PPE)

Due to the global shortage of PPE, consider your need for PPE.

Providers who use PPE as a regular part of their support arrangements should continue to access PPE through their usual means or through providers they use.

Where this is no longer possible, and there is a clinical need, they should approach the National Medical Stockpile.

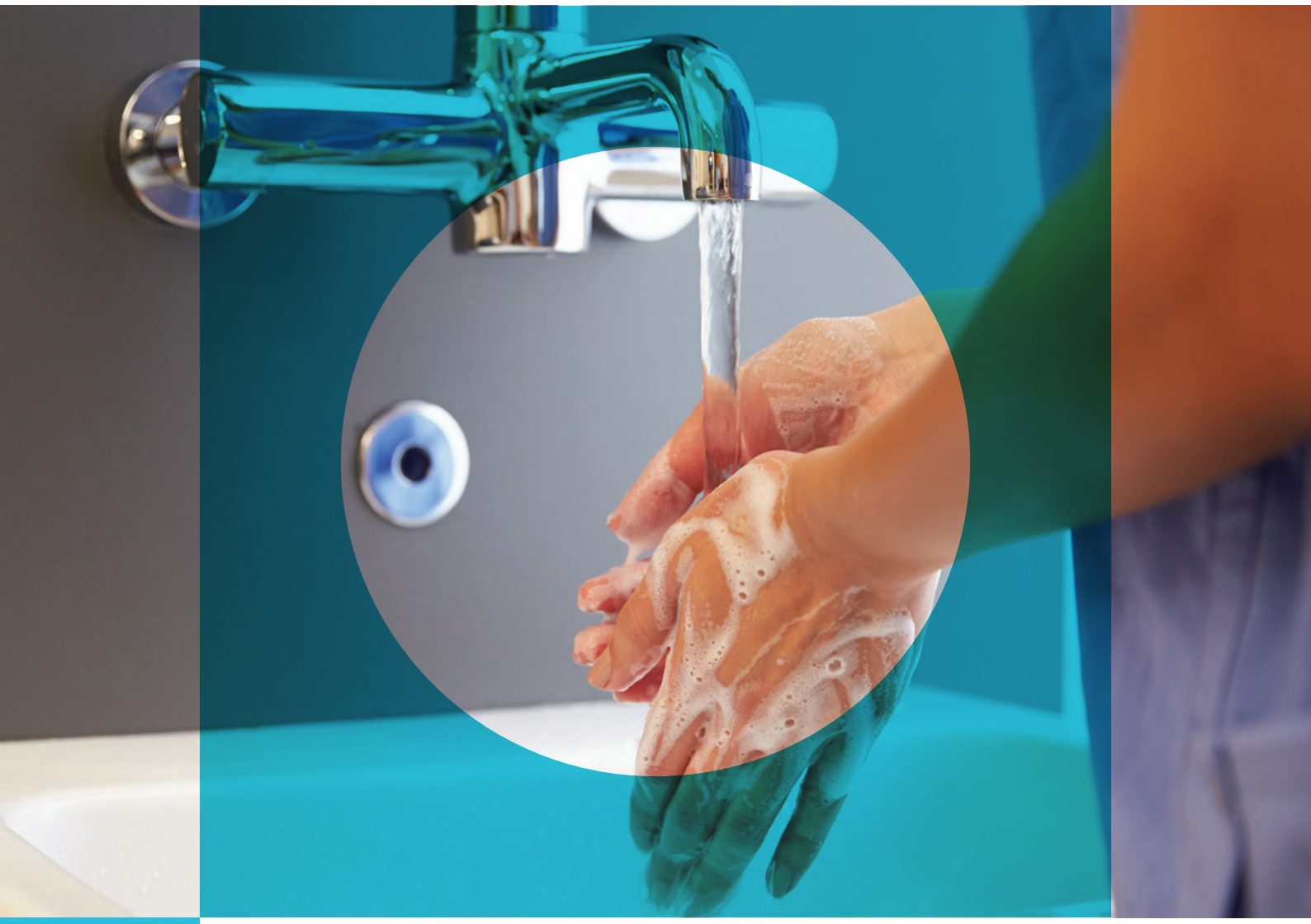
Access to PPE will be prioritised for NDIS providers who deliver personal care and for other activities that require close physical contact:

- where the participant has a confirmed or suspected case of COVID-19,
- if there is an immediate threat to the continuity of safe quality care due to lack of access to PPE, or
- where there is a clinical need.

For more information about using and getting access to PPE, visit the NDIS Commission website .

Australian Government
National Health and Medical Research Council
Australian Commission on Safety and Quality in Health Care

Australian Guidelines for the Prevention and Control of Infection in Healthcare



NHMRC
AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE

Description

The Guidelines provide a nationally accepted approach to infection prevention and control, focusing on core principles and priority areas for action. They provide a basis for healthcare workers and healthcare facilities to develop detailed protocols and processes for infection prevention and control specific to local settings.

This approach is underpinned by a risk-management framework to ensure the basic principles of infection prevention and control can be applied to a wide range of healthcare settings including hospitals, day procedure units, office-based practice, long-term care facilities, remote area health services, home and community nursing and emergency services. It is recognised that the level of risk may differ according to the different types of facility and therefore some recommendations should be justified by risk assessment. When implementing these recommendations all healthcare facilities need to consider the risk of transmission of infection and implement according to their specific setting and circumstances.

The evidence base for the Guidelines addresses the highest level of risk of infection transmission in the healthcare setting, and has predominantly been drawn from the acute-care setting. The recommendations should be read in the context of the evidence base and the advice on the practical application of the recommendations.

Sponsors/Funding

The *Australian Guidelines for the Prevention and Control of Infection in Healthcare* were co-funded by the National Health and Medical Research Council and Australian Commission on Safety and Quality in Health Care.

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P: (02) 6217 9000

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Summary of recommendations

3.1.1 Hand hygiene

Strong Recommendation

1. It is recommended that routine hand hygiene is performed:
   - before touching a patient
   - before a procedure
   - after a procedure or body substance exposure risk
   - after touching a patient
   - after touching a patient's surroundings.

Hand hygiene must also be performed before putting on gloves and after the removal of gloves.

Practice Statement

2. It is good practice for patients to perform hand hygiene and be educated about the benefits of hand hygiene for infection prevention and control.

Patients should be involved in hand hygiene and offered the opportunity to clean their hands when appropriate, including before meals and after using the toilet, commode or bedpan/urinal. Patient preferences for hand hygiene products may differ, and they should be provided with the option of alcohol-based hand rubs, hand wipes or access to hand wash basins, based on any specific needs.

Strong Recommendation

3. It is recommended that alcohol-based hand rubs that contain between 60% and 80% v/v ethanol or equivalent should be used for all routine hand hygiene practices.

Statutory Requirement

4. It is good practice that alcohol-based hand rubs that meet the requirements of European Standard EN 1500 are used for all routine hand hygiene practices.

Note: This advice aligns with mandatory requirements as set by Australia's Therapeutic Goods Administration regarding testing standards for bactericidal effect (Therapeutic Goods Act 1989).

Strong Recommendation

5. It is recommended that soap and water should be used for hand hygiene when hands are visibly soiled.

Weak Recommendation

6. It is suggested that hand hygiene is performed in the presence of known or suspected *Clostridium difficile* and non-enveloped viruses such as norovirus as follows:
   - If gloves have not been worn, if gloves have been breached or if there is visible contamination of the hands despite glove use, use soap and water to facilitate the mechanical removal of spores. After washing, hands should be dried thoroughly with a single-use towel.
   - If gloves have been worn, a lower density of contamination of the hands would be expected and alcohol- based hand rub remains the agent of choice for hand hygiene.

3.1.2 Use and management of sharps, safety engineered devices and medication vials

Statutory Requirement

7. It is good practice to follow safe sharp handling practices including:
   - not passing sharps directly from hand to hand
   - keep handling to a minimum
   - not recapping, bending or breaking needles after use.

Note: This advice reflects best practice as advised by expert consensus and available evidence. Healthcare workers must also consider relevant state or territory legislation that controls the management of clinical and related waste (including sharps) and Commonwealth workplace health and safety legislation (Work Health and Safety Act 2011).

Practice Statement

8. It is good practice to dispose of single-use sharps immediately into an approved sharps container at the point-of-use.

The person who has used the single-use sharp must be responsible for its immediate safe disposal. Sharps containers must not be filled above the mark that indicates the maximum fill level.

3.1.3 Routine management of the physical environment

Practice Statement

9. It is good practice to routinely clean surfaces as follows:
   - Clean frequently touched surfaces with detergent solution at least daily, when visibly soiled and after every known contamination.
   - Clean general surfaces and fittings when visibly soiled and immediately after spillage.

Practice Statement

10. It is good practice for shared clinical equipment to be cleaned with a detergent solution between patient uses, and disinfected where indicated.

Exceptions to this should be justified by risk assessment.

Practice Statement

11. It is good practice that surface barriers are used to protect clinical surfaces (including equipment) that are:
    - touched frequently with gloved hands during the delivery of patient care
    - likely to become contaminated with blood or body substances
    - difficult to clean.

Exceptions to this should be justified by risk assessment. Equipment should be appropriately cleaned between patients or uses, regardless of whether a surface barrier has been used.

Weak Recommendation

12. It is suggested that site decontamination should occur after spills of blood or other potentially infectious materials.

Spills of blood or other potentially infectious materials should be promptly cleaned as follows:

- wear gloves and other personal protective equipment appropriate to the task
- confine and contain spill, clean visible matter with disposable absorbent material and discard the used cleaning materials in the appropriate waste container
- clean the spill area with a cloth or paper towels using detergent solution.

Use of Therapeutic Goods Administration-listed hospital-grade disinfectants with specific claims or a chlorine-based product such as sodium hypochlorite should be based on assessment of risk of transmission of infectious agents from that spill (see Section 3.1.3). The decision to use disinfectants should be dependent upon the compatibility of the disinfectant with the materials where the spill occurred.

Practice Statement

13. It is good practice to use a chlorine-based product such as sodium hypochlorite or a Therapeutic Goods Administration-listed hospital-grade disinfectant with specific claims in addition to standard cleaning practices to effectively manage norovirus specific outbreaks.

3.1.3.1 Emerging disinfection methods

Weak Recommendation

14. It is suggested that sodium hypochlorite disinfection be used as an adjunct to standard cleaning in healthcare facilities.

The use of sodium hypochlorite disinfection in addition to a detergent solution is suggested for terminal cleans of rooms of patients known or suspected to have *C.difficile* associated disease or multi-drug resistant organisms.

The use of sodium hypochlorite disinfection in addition to detergent solution is suggested to terminate outbreaks of *C. difficile.*

Weak Recommendation AGAINST

15. The effectiveness of hydrogen peroxide vapour disinfection as an adjunct to routine cleaning in healthcare facilities is yet to be established. Therefore routine use is not suggested in healthcare facilities.

Hydrogen peroxide vapour may be considered in high-risk settings and during outbreaks when other disinfection options have been exhausted.

Weak Recommendation AGAINST

16. The effectiveness of ultra-violet light disinfection as an adjunct to routine terminal cleaning in healthcare facilities is yet to be established. Therefore routine use is not suggested in healthcare facilities.

Ultra-violet light disinfection may be considered in high-risk settings and during outbreaks when other disinfection options have been exhausted.

Weak Recommendation AGAINST

17. The effectiveness of ultra-violet light disinfection in combination with sodium hypochlorite for terminal cleaning in healthcare facilities is yet to be established. Therefore routine use is not suggested in healthcare facilities.

Ultra-violet light disinfection in combination with sodium hypochlorite may be considered in high-risk settings and during outbreaks when other disinfection options have been exhausted.

Weak Recommendation AGAINST

18. The effectiveness of surfaces, fittings or furnishing containing materials with antimicrobial properties in healthcare facilities is yet to be established. Therefore routine use is not suggested in healthcare facilities.

3.1.6 Aseptic technique

Weak Recommendation

19. It is suggested that sterile gloves are used for aseptic procedures and contact with sterile sites.

3.2.2 Contact precautions

Weak Recommendation

20. It is suggested that contact precautions, in addition to standard precautions, are implemented in the presence of known or suspected infectious agents that are spread by direct or indirect contact with the patient or the patient's environment.

Weak Recommendation

21. It is suggested that appropriate hand hygiene be undertaken and personal protective equipment worn to prevent contact transmission.

It is suggested that when working with patients who require contact precautions, healthcare workers should:

- perform hand hygiene
- put on gloves and gown upon entry to the patient-care area
- if performing multiple tasks whilst in the patient-care area, apply the principles of standard precautions and remove gloves, perform hand hygiene and apply clean gloves between tasks when required to minimise risk of infection transmission
- ensure that clothing and skin do not contact potentially contaminated environmental surfaces
- remove gown and gloves and perform hand hygiene before leaving the patient-care area.

Weak Recommendation

22. It is suggested that patient-dedicated equipment or single-use patient-care equipment be used for patients on contact precautions.

If common use of equipment for multiple patients is unavoidable, clean the equipment and allow it to dry before use on another patient.

3.2.3 Droplet precautions

Weak Recommendation

23. It is suggested that droplet precautions, in addition to standard precautions, are implemented for patients known or suspected to be infected with agents transmitted by respiratory droplets that are generated by a patient when coughing, sneezing or talking.

Weak Recommendation

24. It is suggested that a surgical mask should be worn when entering a patient-care environment to prevent droplet transmission.

Practice Statement

25. It is good practice to place patients who require droplet precautions in a single-patient room.

3.2.4 Airborne precautions

Strong Recommendation

26. It is recommended that airborne precautions, in addition to standard precautions, are implemented in the presence of known or suspected infectious agents that are transmitted person-to-person by the airborne route.

Weak Recommendation

27. It is suggested that a correctly fitted P2 respirator is worn when entering the patient-care area when an airborne-transmissible infectious agent is known or suspected to be present.

Practice Statement

28. It is good practice to place patients on airborne precautions in a negative pressure room (Class N/Type 5) with bathroom facilities or in a room from which air does not circulate to other areas.

Exceptions to this should be justified by risk assessment.

3.3 Personal protective equipment

Weak Recommendation

29. It is suggested that clean aprons/gowns should:
    - be appropriate to the task being undertaken
    - be worn for a single procedure or episode of patient care where contamination with body substances is likely.

The used apron/gown should be removed in the area where the episode of patient care takes place.

Weak Recommendation

30. It is suggested that face and eye protection should be worn during procedures that generate splashes or sprays of blood and body substances into the face and eyes.

Weak Recommendation

31. It is suggested that single-use, fit for purpose gloves are worn for:
    - each invasive procedure
    - contact with sterile sites and non-intact skin or mucous membranes
    - activity that has been assessed as carrying a risk of exposure to blood and body substances.

Hand hygiene should be performed prior to donning gloves and after gloves are removed.

Gloves must be changed between patients and after every episode of individual care.

3.4.1 Multi-resistant organisms

Weak Recommendation

32. It is suggested that contact precautions be considered for all patients colonised or infected with a multi-resistant organism (MRO) where there is anticipated patient and/or environmental contact, including:
    - performing hand hygiene and putting on gloves and gowns before entering the patient-care area
    - using patient-dedicated or single-use non-critical patient-care equipment
    - using a single-patient room or, if unavailable, cohorting patients with the same strain of MRO in designated patient-care areas (upon approval from the healthcare facility's Infection Control Team)
    - ensuring consistent cleaning and disinfection of surfaces in close proximity to the patient and those likely to be touched by the patient and healthcare workers.

Practice Statement

33. It is good practice for healthcare facilities to maintain a surveillance system to record the presence of all multi-resistant organisms.

3.4.2 Outbreak investigation and management

Practice Statement

34. It is good practice for all outbreaks, however minor, to be investigated promptly and thoroughly and the outcomes of the investigations documented.

3.4.2.1 Infection control strategies to contain an outbreak

Practice Statement

35. It is good practice to consider the use of early bay closures to control known or suspected norovirus outbreaks rather than ward/unit closures.

Rather than closing an entire ward or unit to manage an outbreak of norovirus in a healthcare facility, it may be more efficient to control an outbreak through cohorting symptomatic patients in bays. If taken,this approach needs to be implemented promptly and early (within three days of the first case becoming ill) in combination with adequate infection control strategies.

3.5.2 Invasive medical devices

Practice Statement

36. It is good practice for healthcare facilities to develop, implement and review processes to address the insertion, use and maintenance, and removal of invasive medical devices. These processes should be centred on the principles of only using devices if they are deemed essential, and removing them as soon as no longer needed.

Healthcare facilities should undertake a risk assessment to assist with determining appropriate procedures and timing for the removal of invasive medical devices and for the surveillance and management of invasive medical devices.

4.1.1 Clinical governance in infection prevention and control

Practice Statement

37. It is good practice for healthcare facilities to have effective clinical handover processes in place that includes infection risks.

Healthcare facilities should develop and implement a structured system for clinical handover, including documented policies and protocols.

4.1.4 Risk management

Practice Statement

38. It is good practice to use chlorhexidine in appropriate situations and only when clinically indicated.

Healthcare professionals should consider the appropriateness of using chlorhexidine in every clinical situation, as discussed in these Guidelines.

Chlorhexidine-containing products, devices or solutions must never be used on or around patients with known chlorhexidine sensitivity.

Practice Statement

39. It is good practice to include chlorhexidine in a healthcare facility's chemical register. Any adverse reactions to chlorhexidine should be maintained in an organisational risk register and reported to the Therapeutic Goods Administration.

4.2.1 Health status screening and immunisation

Statutory Requirement

40. It is recommended that all healthcare workers to be vaccinated in accordance with the recommendations for healthcare workers in the Australian Immunisation Handbook.

Note: The advice reflects recommended practice supported by strong evidence. Healthcare facilities must also consider relevant state, territory and/or Commonwealth legislation regarding mandatory vaccination programs for healthcare workers.

4.2.2 Exclusion periods for healthcare workers with acute infections

Practice Statement

41. It is good practice for healthcare workers and visitors to adhere to norovirus exclusion periods.

Healthcare workers should not be at work from symptom onset until 48 hours after symptom resolution. On returning to the healthcare facility, healthcare workers should adhere to appropriate hand hygiene practices.

4.3 Education and training

Practice Statement

42. It is good practice for infection control professionals to partake in ongoing professional development in order to gain the necessary expertise to fulfil their role. Infection prevention and control staff at all levels should be supported to access formal and informal education and training relevant to their role.

1. Introduction

Effective infection prevention and control is central to providing high quality healthcare for patients and a safe working environment for those that work in healthcare settings.

Healthcare associated infection is preventable

Healthcare associated infections (HAIs) are infections acquired as a direct or indirect result of healthcare[10]. There is international evidence to suggest a considerable infection burden exists among long-term care residents however in Australia there are few published studies on the rate of infection[1][2][3][4]. In Australian acute healthcare facilities, there are around 165,000 HAIs each year[7]. This makes HAIs the most common complication affecting patients in hospital. As well as causing unnecessary pain and suffering for patients and their families, these adverse events prolong hospital stays and are costly to the health system. Approximately 7% of hospitalised patients will acquire a HAI, with an estimated increase to the cost of a patient's admission of 8.6%[8]. The problem does not just affect patients and workers in hospitals — HAIs can occur in any healthcare setting, including office-based practices (e.g. general practice clinics, dental clinics, community health facilities), the setting in which paramedics work and long-term care facilities. Any person working in or entering a healthcare facility is at risk. However, healthcare associated infection is a potentially preventable adverse event rather than an unpredictable complication and it is possible to significantly reduce the rate of HAIs through effective infection prevention and control.

Infection prevention and control is everybody's business

Understanding the modes of transmission of infectious organisms and knowing how and when to apply the basic principles of infection prevention and control is critical to the success of an infection control program. This responsibility applies to everybody working in and visiting a healthcare facility, including administrators, staff, patients and carers. Infection prevention and control is integral to clinical care and often requires a range of strategies to be successful. It should not be considered as an additional set of practices but as part of standard care.

Successful approaches for preventing and reducing harms arising from HAIs involve applying a risk-management framework to manage 'human' and 'system' factors associated with the transmission of infectious agents. This approach ensures that infectious agents, whether common (e.g. gastrointestinal viruses) or evolving (e.g. influenza or multi-resistant organisms), can be managed effectively.

Involving patients and their carers is essential to successful infection prevention and control in clinical care. Patients need to be sufficiently informed to be able to participate in reducing the risk of transmission of infectious agents.

Aim

By assisting healthcare workers to improve the quality of the care they deliver, these Guidelines aim to promote and facilitate the overall goal of infection prevention and control: the creation of safe healthcare environments through the implementation of evidence-based practices that minimise the risk of transmission of infectious agents.

Scope

The Guidelines provide a nationally accepted approach to infection prevention and control, focusing on core principles and priority areas for action. They provide a basis for healthcare workers and healthcare facilities to develop detailed protocols and processes for infection prevention and control specific to local settings.

This approach is underpinned by a risk-management framework to ensure the basic principles of infection prevention and control can be applied to a wide range of healthcare settings including hospitals, day procedure units, office-based practice, long-term care facilities, remote area health services, home and community nursing and emergency services. It is recognised that the level of risk may differ according to the different types of facility and therefore some recommendations should be justified by risk assessment. When implementing these recommendations all healthcare facilities need to consider the risk of transmission of infection and implement according to their specific setting and circumstances.

The evidence base for the Guidelines addresses the highest level of risk of infection transmission in the healthcare setting, and has predominantly been drawn from the acute-care setting. The recommendations should be read in the context of the evidence base and the advice on the practical application of the recommendations. Case studies giving examples of risk assessments have been included to help illustrate how these recommendations can be applied to other settings.

The Guidelines make reference to but do *not* include detailed information on:

- infectious diseases
- pandemic planning
- the reprocessing of reusable medical instruments or devices
- work health and safety
- hospital hotel services such as food services, laundry services or waste disposal
- engineering/health facility design.

Target Audience

The Guidelines are for use by all those working in healthcare—this includes healthcare workers, management and support staff.

Structure of the Guidelines

The Guidelines are based around the following core principles:

- an understanding of the modes of transmission of infectious agents and of risk management
- effective work practices that minimise the risk of transmission of infectious agents
- governance structures that support the implementation, monitoring and reporting of infection prevention and control work practices
- compliance with legislation, regulations and standards relevant to infection control.

The sections of the Guidelines are based on these core principles and are organised according to the likely readership:

Section 2 presents background information that should be read by everyone working in healthcare (for example as orientation or as part of annual review)—this includes important basics of infection prevention and control, such as the main modes of transmission of infectious agents and the application of risk-management principles. This part of the guidelines does not include recommendations.

Section 3 is specific to the practice of healthcare workers and support staff, and outlines effective work practices that minimise the risk of transmission of infectious agents.

Section 4 describes the responsibilities of management of healthcare facilities, including governance structures that support the implementation, monitoring and reporting of effective work practices. The chapters outline the main components of a systems approach to facility-wide infection prevention and control, giving guidance on management and staff responsibilities, protection of healthcare workers, requirements for education and training of all staff, considerations for facility design, and other important activities such as surveillance and antimicrobial stewardship.

Appendices 1-3 provide additional advice on putting the recommendations into practice, risk-management case studies and resources, and the guideline development process.

Evidence Base

The Guidelines are based on the best available evidence and knowledge of the practicalities of clinical procedures. They draw from other work in this area, including the previous national infection control guidelines, international infection control guidelines, systematic literature reviews, literature reviews and horizon scans conducted to inform the development of these Guidelines, work on HAI prevention from the Australian Commission on Safety and Quality in Health Care (ACSQHC), national discipline-based infection control guidelines, and Australian Standards relevant to infection prevention and control. Australian data are used wherever available. Further information is available in *Appendix 3: Process Report*.

Recommendations, Practice Statements and Statutory Requirements

All recommendations are based on systematic reviews, with the GRADE (Grading of Recommendations Assessment, Development and Evaluation) approach providing the evidence to decision framework which determined the structure and final wording of each recommendation. Each recommendation has an accompanying *strength* which reflects the

quality of the evidence underpinning the recommendation and additional factors relating to the harms and benefits of the intervention:

Strong Recommendation: Confident that the desirable effects of adherence to a recommendation outweigh the undesirable effects.

Overall the recommendation is based on high quality evidence and is *strongly* recommended for implementation.

Weak/Conditional Recommendation: Concludes that the desirable effects of adherence to a recommendation *probably* outweigh the undesirable effects. Overall the recommendation is based on supportive evidence and a strong theoretical rationale and is recommended for implementation.

The Guidelines also include Practice Statements and Statutory Requirements:

Practice Statement: Set for areas which are not covered by a systematic review of the evidence, but where the provision of clinical guidance is deemed important. The development of practice statements is primarily based on best practice as advised by expert consensus and aligned with the GRADE approach where available evidence and judgements are considered together however a *strength* is not assigned.

Statutory Requirement: This advice reflects a practice statement or recommendation. The terminology *'statutory requirement'* is used to further indicate where there is also a mandated requirement/s by the Commonwealth or the States/Territories, which must be considered when implementing the advice at the local level. It is important to note that statutory requirements vary across states and territories, and in their applicability to health service delivery sectors and settings.

The formatting of each recommendation and practice statement is as follows:

Research Evidence: Defines the research question underpinning the recommendation in the PICO (population, intervention, comparator, outcomes) format.

Key Information: Captures key information relating to the certainty of the evidence, harms and benefits of the intervention, values and preferences of the target population, resource and other considerations.

Rationale: Provides overarching justification for the stated advice.

Practical Information: Provides practical guidance on how each recommendation or practice statement can be put into practice. Adaptation: The GRADE approach allows for the adoption, adaptation or creation of de novo recommendations from existing quality guidelines. This section captures the adoption or adaption of guidance from the 2010 edition of NHMRC's *Australian Guidelines for the Prevention and Control of Infection in Healthcare*[9].

References: Provides the full citations for the interactive references cited within each recommendation or practice statement.

Supporting Resources

Supporting resources are available for healthcare workers, patients and health facility managers to assist with implementation of the Guidelines. These materials are available to download from the NHMRC website.

Australian Government
National Health and Medical Research Council
Australian Commission on Safety and Quality in Health Care

2. Basics of infection prevention and control

Summary

What are healthcare associated infections?

- Healthcare associated infections (HAIs) are infections acquired as a direct or indirect result of healthcare[1].
- HAIs can occur as a result of the provision of healthcare in any setting. While the specific risks may differ, the basic principles of infection prevention and control apply regardless of the setting.
- In order to prevent HAIs, it is important to understand how infections occur in healthcare settings and then institute ways to prevent them. If effectively implemented, the two-tiered approach of standard and transmission-based precautions recommend ed in these guidelines provides high-level protection to patients, healthcare workers and other people in healthcare settings.

This section covers:

- **2.1**—The basics of infection prevention and control including an overview of standard and transmission-based precautions
- **2.2** — The risk-management approach to infection prevention and control
- **2.3** — The importance of involving patients and their carers in infection prevention and control

The information presented in this part is relevant to everybody employed by a healthcare facility, including management, healthcare workers and support service staff.

2.1 Infection prevention and control in the healthcare setting

Summary

- Infectious agents (also called pathogens) are biological agents that cause disease or illness to their hosts .Many infectious agents are present in healthcare settings.
- Infection includes six elements - causative agent (pathogen) ,reservoir, portal of exit, means of transmission, portal of entry, and a susceptible host.
- Patients and healthcare workers are most likely to be sources of infectious agents and are also the most common susceptible hosts. Other people visiting and working in healthcare may also be at risk of both infection and transmission. In some cases, HAIs are serious or even life threatening.
- In healthcare settings, the main modes for transmission of infectious agents are contact (including bloodborne), droplet and airborne.

Contracting a healthcare associated infection

Most infectious agents are microorganisms. These exist naturally everywhere in the environment, and not all cause infection (e.g. 'good' bacteria present in the body's normal flora). Parasites, prions and several classes of microorganism—including bacteria, viruses, fungi and protozoa—can be involved in either colonisation or infection, depending on the susceptibility of the host:

- With **colonisation,** there is a sustained presence of replicating infectious agents on or in the body, without causing infection or disease.
- With **infection**,invasion of infectious agents in to the body results in an immune response, with or without symptomatic disease.

Transmission of infectious agents within a healthcare setting requires all of the following elements:

- causative agent(pathogen)
- reservoir
- portal of exit
- means of transmission
- portal of entry
- a susceptible host.

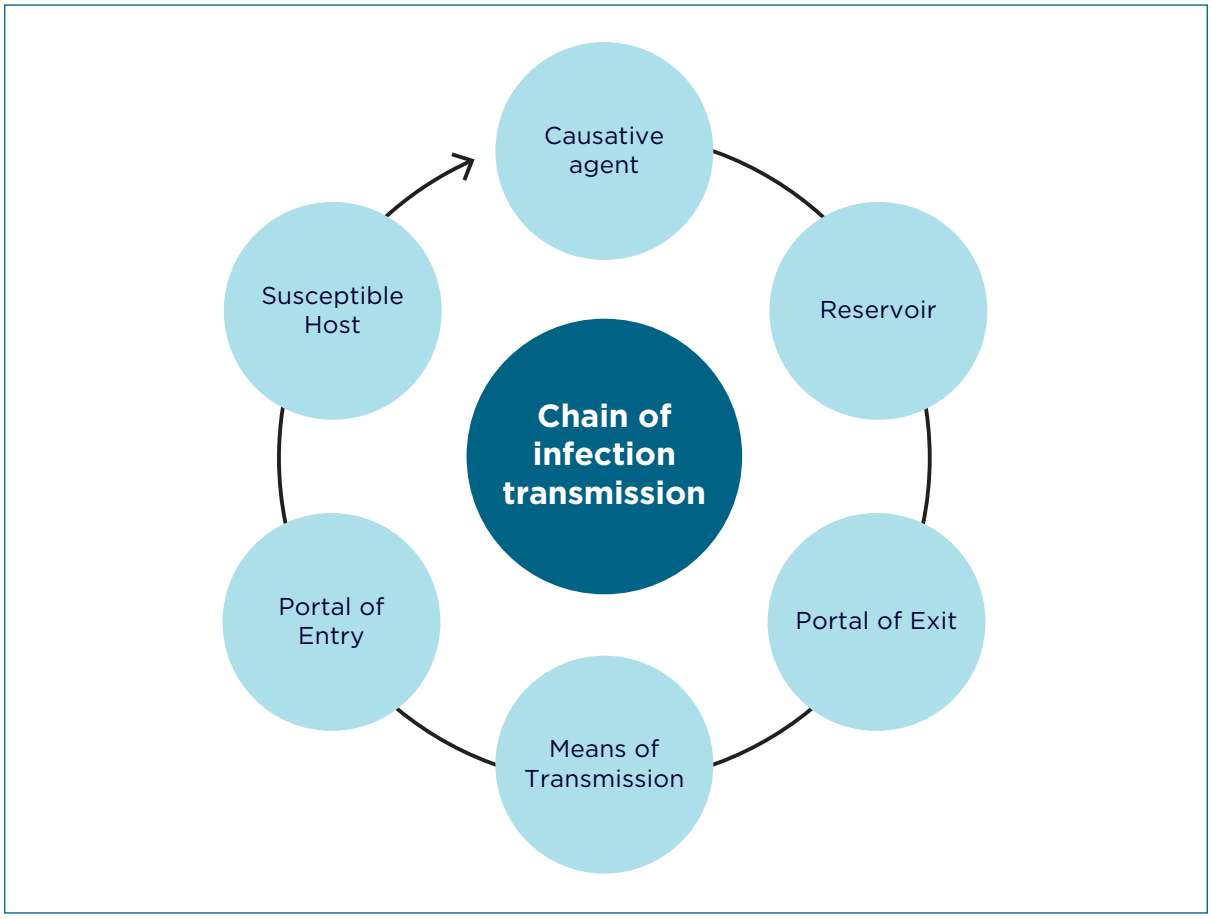

Figure 1. The chain of infection transmission

Infectious agents transmitted during healthcare come primarily from human sources, including patients, healthcare workers and visitors. Source individuals may be actively ill, may have no symptoms but be in the incubation period of a disease, or may be temporary or chronic carriers of an infectious agent with or without symptoms.

Infection is the result of a complex interrelationship between a host and an infectious agent and people vary in their response to exposure to an infectious agent:

- Some people exposed to infectious agents never develop symptomatic disease while others become severely ill and may die.
- Some individuals may become temporarily or permanently colonised but remain a symptomatic.
- Others progress from colonisation to symptomatic disease either soon after exposure, or following a period of a symptomatic colonisation.

Important predictors of an individual's outcome after exposure include:

- his or her immune status at the time of exposure (including whether immune status is compromised by medical treatment such as immunosuppressive agents or irradiation)
- the person's age (e.g. neonates and elderly patients are more susceptible)
- their health status (e.g. when a patient has other underlying disease such as diabetes or is a smoker)
- the virulence of the agent
- other factors that increase the risk of transmission of infection (e.g. undergoing surgery, requiring an indwelling device such as a catheter or remaining in hospital for lengthy periods).

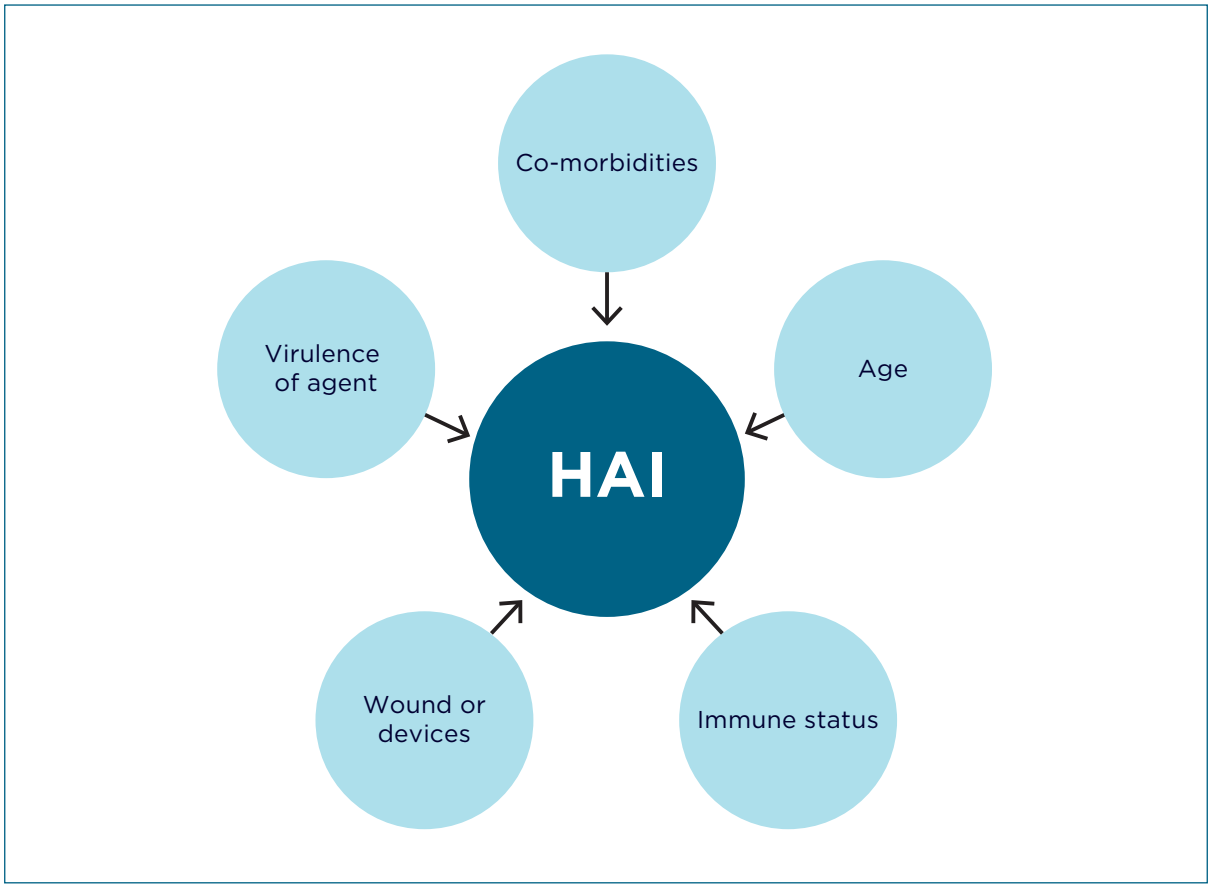

Figure 2. Factors influencing healthcare associated infection

In healthcare settings, the most common susceptible hosts are patients and healthcare workers.

- **Patients** may be exposed to infectious agents from themselves such as bacteria residing within the skin, in the respiratory or gastrointestinal tract (*endogenous infection*) or from other people, instruments and equipment, or the environment (*exogenous infection*). The level of risk relates to the healthcare setting (specifically, the presence or absence of infectious agents), the type of healthcare procedures performed, adherence to hand hygiene, immunisation status and the susceptibility of the patient.
- **Healthcare workers** may be exposed to infectious agents from infected or colonised patients, instruments and equipment, or the environment. The level of risk relates to the type of clinical contact healthcare workers have with potentially infected or colonised patient groups, instruments or environments, adherence with standard and transmission based precautions, and the health status of the healthcare worker (e.g. immunised or immunocompromised).

In healthcare settings, the main modes of transmission of infectious agents are contact (including blood borne), droplet and airborne. The modes of transmission vary by type of organism. In some cases the same organism may be transmitted by more than one route (e.g. norovirus, influenza and respiratory syncytial virus (RSV) can be transmitted by contact and droplet routes).

Routes of transmission

Contact transmission

Contact is the most common mode of transmission, and usually involves transmission by touch or via contact with blood or body substances. Contact may be direct or indirect:

- *Direct transmission* occurs when infectious agents are transferred from one person to another—for example, a patient's blood entering a healthcare worker's body through an unprotected cut in the skin.
- *Indirect transmission* involves the transfer of an infectious agent through a contaminated intermediate object or person—for example,a healthcare worker's hands transmitting infectious agents after touching an infected body site on one patient and not performing proper hand hygiene before touching another patient, or a healthcare worker coming into contact with fomites (e.g. bedding) or faeces and then with a patient.

Examples of infectious agents transmitted by contact include multi-resistant organisms (MROs), *Clostridium difficile* (also known as *Clostridioides difficile* or *C. difficile*), norovirus and pathogens which cause highly contagious skin infections/infestations (e.g. impetigo, scabies).

Droplet transmission

Droplet transmission can occur when an infected person coughs, sneezes or talks, and during certain procedures. Droplets are infectious particles larger than 5 microns in size. Respiratory droplets transmit infection when they travel directly from the respiratory tract of the infected person to susceptible mucosal surfaces (nasal, conjunctival or oral) of another person, generally over short distances. Droplet distribution is limited by the force of expulsion and gravity and is usually no more than 1 metre.

Examples of infectious agents that are transmitted via droplets include influenza virus and *Neisseria meningitidis* (meningococcal infection).

Airborne transmission

Airborne transmission may occur via particles containing infectious agents that remain infective over time and distance. Small-particle aerosols (often smaller than 5 microns) are created during breathing, talking, coughing or sneezing and secondarily by evaporation of larger droplets in conditions of low humidity. Aerosols containing infectious agents can be dispersed over long distances by air currents (e.g. ventilation or air conditioning systems) and inhaled by susceptible individuals who have not had any contact with the infectious person.

These small particles can transmit infection into small airways of the respiratory tract.

An example of infectious agents primarily transmitted via the airborne route are *M. tuberculosis* and rubeola virus (measles).

Standard and transmission-based precautions

Successful infection prevention and control involves implementing work practices that reduce the risk of the transmission of infectious agents through a two-tiered approach, including:

- Routinely applying basic infection prevention and control strategies to minimise risk to both patients and healthcare workers, such as hand hygiene, appropriate use of personal protective equipment, cleaning and safe handling and disposal of sharps (*standard precautions*).
- Effectively managing infectious agents where standard precautions may not be sufficient on their own—these specific interventions control infection by interrupting the mode of transmission *(transmission-based precautions*; formerly referred to as *additional precautions*).

Standard precautions

All people potentially harbour infectious agents. Standard precautions refer to those work practices that are applied to everyone, regardless of their perceived or confirmed infectious status and ensure a basic level of infection prevention and control. Implementing standard precautions as a first-line approach to infection prevention and control in the healthcare environment minimises the risk of transmission of infectious agents from person to person, even in high-risk situations.

Standard precautions are used by healthcare workers to prevent or reduce the likelihood of transmission of infectious agents from one person or place to another, and to render and maintain objects and areas as free as possible from infectious agents. Guidance on implementing standard precautions is given in Sections 3.1, 6.2 & 6.3.

How standard precautions are implemented:

- Personal hygiene practices, particularly **hand hygiene**, aim to reduce the risk of contact transmission of infectious agents (see Section 3.1.1).
- Appropriate use of **personal protective equipment**, which may include gloves, gowns, plastic aprons, masks/face-shields and eye protection, aims to prevent exposure of the healthcare worker and patients to infectious agents (see Section 3.3).
- Safe **handling and disposal of sharps** assists in preventing transmission of blood-borne diseases to healthcare workers (see Section3.1.2).
- **Environmental controls,** including cleaning and spills management, assist in preventing transmission of infectious agents from the environment to patients (see Sections 3.1.3 and 4.6.1).
- Appropriate **reprocessing of reusable equipment and instruments**, including appropriate use of disinfectants, aims to prevent patient-to-patient transmission of infectious agents (see Section 3.1.4).
- Practising **respiratory hygiene and cough etiquette** reduces risk of transmission of infection (see Section 3.1.5).
- **Aseptic technique** aims to prevent microorganisms on hands, surfaces or equipment from being introduced into a susceptible site (see Section 3.1.6).
- Appropriate handling of **waste and linen** assists in reducing transmission of infectious agents (see Sections 3.1.7 and 3.1.8).

Transmission-based precautions

Any infection prevention and control strategy should be based on the use of standard precautions as a minimum level of control. Transmission-based precautions are recommended as additional work practices in situations where standard precautions alone may be insufficient to prevent transmission. Transmission-based precautions are also used in the event of an outbreak (e.g. gastroenteritis), to assist in containing the outbreak and preventing further infection.

Transmission-based precautions should be tailored to the particular infectious agent involved and its mode of transmission. This may involve a combination of practices.

Guidance on when and how to implement transmission-based precautions is given in Sections 3.2, 3.5 and Appendix 2 (Section 6.3).

Types of transmission-based precautions:

- **Contact precautions** are used when there is known or suspected risk of direct or indirect contact transmission of infectious agents
- that are not effectively contained by standard precautions alone (see Section 3.2.2).
- **Droplet precautions** are used for patients known or suspected to be infected with agents transmitted over short distances by large
- respiratory droplets (see Section 3.2.3).
- **Airborne precautions** are used for patients known or suspected to be infected with agents transmitted person-to-person by the
- airborne route (see Section 3.2.4).

Strategies for implementing transmission-based precautions:

- dynamic risk assessment in the pre-hospital (emergency) setting to anticipate and communicate the potential need for transmission-based precautions on patient arrival
- allocating a single room inclusive of bathroom facilities and closing door to patient with a suspected or confirmed infection (isolation)
- placing patients colonised or infected with the same infectious agent and antibiogram in a room together (cohorting)
- wearing specific personal protective equipment
- providing patient-dedicated equipment
- using sodium hypochlorite or an appropriate Therapeutic Goods Administration-listed hospital-grade disinfectant with specific claims
- using specific air handling techniques
- restricting the movement of both patients and healthcare workers.

2.2 Overview of risk management in infection prevention and control

Summary

- Identifying and analysing risks associated with healthcare is an integral part of successful infection prevention and control.
- Adopting a risk-management approach at all levels of the facility is necessary. This task requires the full support of the facility's management as well as cooperation between management, healthcare workers and support staff.
- Differing types and levels of risk exist in different healthcare settings. In developing local policies and procedures each healthcare facility should conduct its own risk assessment (i.e. how to avoid,identify,analyse,evaluate and treat risks in that setting) and also refer to discipline-specific guidance where relevant.

Risk management basics

In the context of these guidelines, 'risk' is defined as the possibility of microorganism colonisation or infection in patients or healthcare workers arising from activities within a healthcare facility. Risk management is the basis for preventing and reducing harms arising from healthcare associated infection.

A successful approach to risk management occurs on many levels within a healthcare facility:

- *Facility wide*—for example, providing support for effective risk management through an organisational risk-management policy, staff training, follow-up of outcomes, monitoring and reporting.
- *Ward or department based*—for example, embedding risk management into all policies so that risks are considered in every situation.
- *Individual*—for example, considering the risks involved in carrying out a specific procedure and questioning the necessity of the procedure as part of clinical decision-making, attending education sessions (e.g. hand hygiene or respirator fit testing).

As healthcare settings differ greatly in their day-to-day function, it is not possible to provide a one size fits all approach to risk management. Even within a single setting (e.g. primary care), increasingly complex care is delivered by a range of health professionals with diverse qualifications and training. All healthcare facilities need to be able to determine the risks in their own context and select the appropriate course of action. Therefore it is necessary for facilities to regularly conduct infection prevention risk assessments within their facility and ensure that all staff understand their responsibility in managing these risks.

The Australian/New Zealand Standard on Risk Management AS/NZS ISO 31000: 2009 outlines a stepwise approach to risk management:

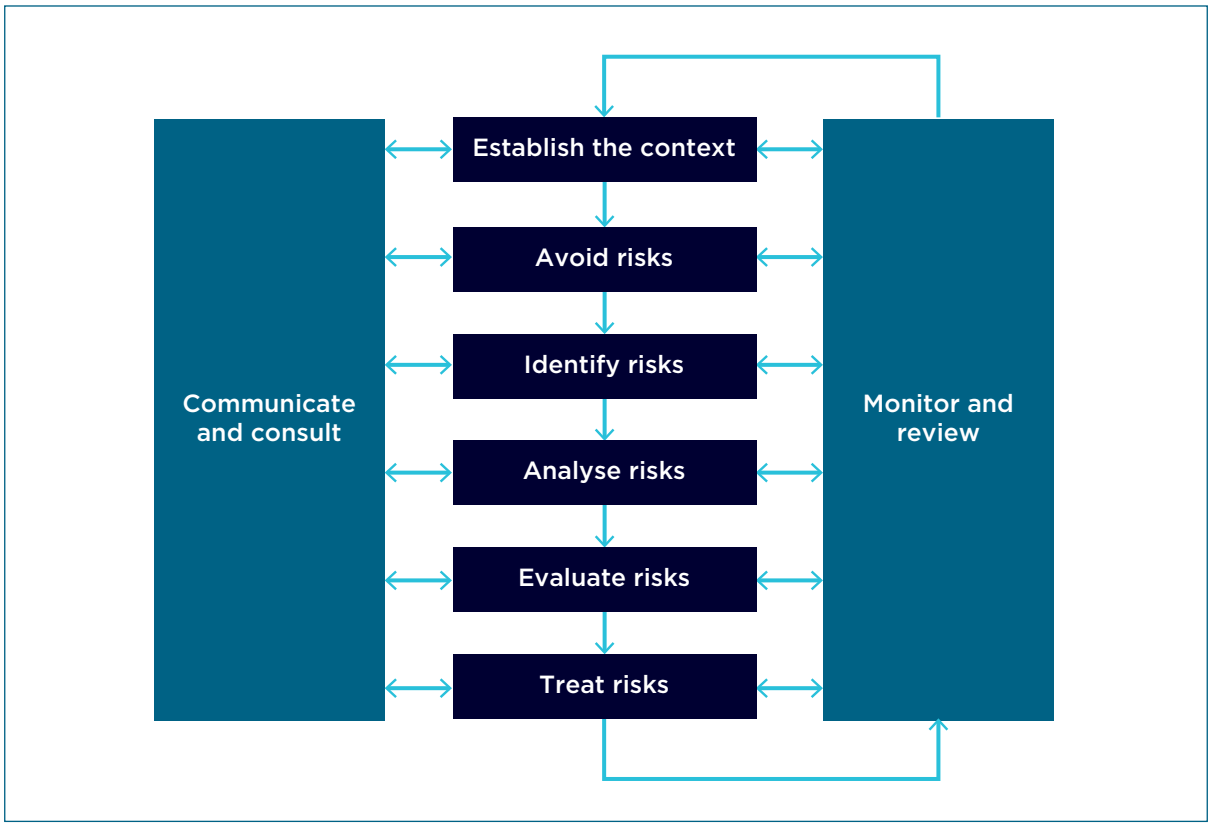

Figure 3. Risk management

- **Establishing context** —identifying the basic parameters in which risk must be managed e.g. type of health facility, extent of and support for the facility's infection prevention and control program.
- **Avoiding risk**—establishing whether there is a risk and whether the potential risk can be averted e.g. by questioning whether a procedure is necessary.
- **Identifying risks**—a systematic and comprehensive process that ensures that no potential risk is excluded from further analysis and treatment e.g. using root cause analysis.
- **Analysing risks**—considering the sources of risk, their consequences, the likelihood that those consequences may occur,and factors that affect consequences and likelihood e.g. existing controls (see *Figure 4. Risk analysis matrix* below).
- **Evaluating risks**—comparing the level of risk found during the analysis process with previously established risk criteria,and assessing available options for ease of implementation and impact resulting in a prioritised list of risks for further action.
- **Treating risks**—implementing appropriate management options for dealing with identified risk e.g. modifying procedures, protocols or work practices; providing education; and monitoring compliance with infection prevention and control procedures.

Monitoring and review is an essential component of the risk-management process. This ensures that:

- new risks are identified
- analysis of risk is verified against real data, if possible,and
- risk treatment is implemented effectively.

Communication and consultation are also key elements of clinical risk management. An interactive exchange of information between management, healthcare workers, patients and other stakeholders provides the basis for increased awareness of the importance of infection prevention and control, identification of risks before they arise and prompt management of risks as they occur.

Likelihood	Consequences				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost certain	Medium	High	High	Extreme	Extreme
Likely	Medium	Medium	High	High	Extreme
Possible	Low	Medium	Medium	High	High
Unlikely	Low	Low	Medium	Medium	High
Rare	Low	Low	Low	Medium	Medium

Low risk	Manage by routine procedures.
Medium risk	Manage by specific monitoring or audit procedures.
High risk	This is serious and must be addressed immediately.
Extreme risk	The magnitude of the consequences of an event, should it occur, and the likelihood of that event occurring, are assessed in the context of the effectiveness of existing strategies and controls.

Figure 4. Risk analysis matrix

Using a risk analysis matrix may assist with risk analysis and provide input into evaluation and decision making on whether the risks need action, and what the most appropriate risk mitigation strategies and methods may be.

Applying the risk management process

The following case study gives an example of applying the risk-management process in a primary care setting. Case studies giving examples of how to use this process in primary, acute and long-term care settings, including relevant considerations in specific situations, are included in Appendix 1. While the basic process of risk management applies regardless of setting, all healthcare facilities should develop risk-management policies and procedures that are appropriate to the setting.

Case study: measles (rubeola) virus outbreak

State health authorities notify a general practice of an outbreak of measles, and will assist the practice with advice about management of potential exposures. Information about the outbreak is communicated to clinicians and practice staff.

1. **Establish the context**
   - The context is a large general practice in the outer suburbs of Sydney which caters for a diverse group of patients with many young families.
2. **Avoid risks**
   - In this scenario, the risk cannot necessarily be avoided so it must be managed.
3. **Identify risks**
   - The infection risk will be dependent up on the volume of non-immune patients or staff in the general practice, and also the appropriateness of infection prevention practices in place.
4. **Analyse risk**
   - The risk has been identified as a possible airborne transmission of measles, primarily from infectious patients in the waiting room.
   - The infection can be transmitted to any susceptible person breathing the same air as the infectious patient for up to 30 minutes after the patient has left the area.

- The infection also has the potential for contact transmission if droplets are transmitted indirectly to surfaces.
- If appropriate infection prevention measures are already in place, then the risk may be manageable.

5. **Evaluate risk**
   - The balance of likelihood and consequences identify this as a 'very high risk' situation, requiring an immediate response.
6. **Treat the risk**
   - Suspected cases should be treated as though they are confirmed cases whilst awaiting laboratory results.

Immediate measures may include:

- placing signs at the entrance to the practice advising patients to phone if they suspect they have measles
- examine suspected cases in their own home where possible or arrange for the to be seen last on the list
- displaying patient information at reception warning about the suspected measles cases
- identify and manage any patient that presents at the practice with suspected measles or similar symptoms e.g. suspected cases should avoid the waiting room
- suspected cases should be fitted with a surgical mask and taken to a separate room where they can be assessed by staff using airborne precautions
- perform the consultation in a room which can be remain vacant for at least 30 minutes post consultation with suspected cases
- identify any known at-risk patients (e.g. immunocompromised) who may have an appointment at the general practice and consider potential for exposure
- respiratory etiquette and hand hygiene can be encouraged through posters and staff
- thorough surface and environmental cleaning and disinfection
- confirmed cases should be urgently reported to the local public health unit.

Longer-term measures may include:

- providing additional education to staff on measles identification and management including the process for reporting this nationally notifiable disease to appropriate health authorities and use of airborne precautions
- establish a staff vaccination policy
- at-risk staff who are not vaccinated can be identified and encouraged to be immunised.

Consider which risks need to be actively managed, why, how this will be achieved, and prioritise which actions to take based on the impacts. Use a risk evaluation matrix (Table 1 below) to determine the ease and impact of possible strategies when deciding which to implement. Note that priority must be given to activities that address risks that are high and which could have a potentially catastrophic outcome.

Table 1. Risk evaluation matrix

Example	Ease	Analysis	Impact
Clean and disinfect surfaces.	Easy	Potential for measles contact transmission if droplets are transmitted indirectly to surfaces.	High
Use of surgical mask and isolation of suspected cases.	Easy	Wearing of correctly-fitted surgical masks by coughing patients prevents dispersal of respiratory secretions into the air.	High
Provide ABHR in waiting, clinical rooms and consultation rooms.	Easy	Shown to improve compliance with hand hygiene, which has an impact on the spread of HAI.	High
Change linen between each patient in consultation rooms.	Hard	Linen not a high risk cause of measles transmission.	Low
Educate infectious patients to report their High infectious state prior to attending practice.	Hard	May reduce the incidence of iatrogenic infection.	

7. Monitor and review
    - The number of cases identified should be reported to the local public health unit as a notifiable disease.
    - Monitor and/or follow up with any known at-risk patients e.g. immunocompromised.
    - Provide feedback to staff.

Source: Adapted from RACGP (2014) *Infection Prevention and control standards (5th edition)*[376]; CDNA (2015) *National Guidelines for Public Health Units—Measles*[11]*, and;* SA Health (2014) *Measles: Management Guidelines for General Practice*[12]*.*

2.3 A patient-centred approach

Summary

- Healthcare facilities need to take an organisational approach to involving patients in their care.
- A patient-centred health system is known to be associated with safer and higher quality care.
- A two-way approach that encourages patient participation is essential to successful infection prevention and control.

Patient-centred healthcare

Patient-centred healthcare is respectful of, and responsive to, the preferences, needs and values of the patients and consumers[14]. People receiving healthcare increasingly expect to be given information about their condition and treatment options and this extends to their rights and responsibilities as users of healthcare services. Although patient satisfaction with health services in Australia is generally high, patients' experiences are not always valued and their expectations are not always met. While this does not necessarily lead to poor outcomes for the individuals concerned, the best possible outcomes are more likely where patient-centred health care is a priority of the healthcare facility and a strong and consistent effort is made to respect patients' rights and expectations.

The Australian Commission on Safety and Quality in Health Care developed the *Australian Charter of Healthcare Rights*[13], which recognises that people receiving care and people providing care all have important parts to play in achieving healthcare rights. The Charter allows patients, families, carers and services providing health care to share an understanding

of the rights of people receiving health care. The Charter stipulates that all Australians have the right to:

- access services that address their healthcare needs
- receive safe and high quality health services, provided with professional care, skill and competence.
- receive care that shows respect to them and their culture, beliefs, values and personal characteristics
- receive open, timely and appropriate communication about their health care in a way they can understand
- join in making decisions and choices about their care and about health service planning
- have their personal privacy, personal health and other information properly handled
- comment on or complain about their care and have their concerns dealt with properly and promptly.

Patient-centred care cannot just be 'added on' to usual care. The rights, experiences and views of patients should be at the centre of the care process and drive the way in which care is delivered. In most healthcare facilities, a significant culture change is necessary to embed patient-centred care principles into the philosophy and practices of the organisation. Healthcare workers and organisations need to acknowledge and understand the Charter of Healthcare Rights and work to ensure that patients' rights are integral to the care process.

How does patient-centred care relate to infection prevention and control?

Infection prevention and control is ultimately about people. Effective infection prevention and control is central to providing high quality patient-centred health care.

Putting patients at the centre of infection prevention and control and enabling them to participate in the care process is not just about explaining the risks of treatments, but involves considering patients' needs at every level. However, this has to be balanced with the requirement to maintain an environment where care can be delivered in a safe manner which minimises the spread of infection. This ranges from designing the facility to maximise patient comfort and safety to having a range of processes to engage patients in their care. Healthcare workers need to listen to and act on their patients' feedback as well as provide the patient with education and support so that they can be involved in looking after themselves.

To support a two-way approach to infection prevention and control and encourage the patient participation required to minimise cross- infection or transmission, it is important to:

- take patients' perspectives into account when developing policies and programs
- familiarise patients with the infection prevention and control strategies that are employed in healthcare facilities to protect them, the people caring for them and the health care environment
- discuss with patients the specific risks associated with their medical and/or surgical treatment
- encourage patients to disclose their health or risk status if there is a potential risk or source of infection to healthcare workers or others within the healthcare facility
- provide opportunities for patients to identify and communicate risks and encourage them to use feedback procedures for any concerns that they have about infection prevention and control procedures
- provide educational materials about infection prevention and control using a variety of media (e.g. posters in waiting rooms,printed material and educational videos)
- inform patients about the protocols for protecting their privacy and confidentiality.

For more information, see the NSQHS Standard 1: Clinical Governance[15] and Standard 2: Partnering with Consumers[16].

2.3.1 Involving patients in their care

Involving patients in their care

Patients and visitors should be informed on what they can do to prevent the spread of infection and keep themselves infection-free

in healthcare situations. Healthcare organisations should provide specific information to patients to assist them in becoming involved in identifying and reducing risks related to standard and transmission-based precautions.

Healthcare workers should, where possible:

- explain the processes of infection prevention and control (e.g. importance of hand hygiene,reasons for wearing personal protective equipment (PPE), importance of appropriate handling and disposing of sharps) to patients and their carers
- engage patients and their carers in the decision-making process regarding their care and how it is delivered
- ensure all patients and their carers are aware that they can to ask questions of healthcare professionals.

Written material (such as brochures and posters) can be used to reinforce verbal discussions with patients as part of their care. Patient information supporting this Guideline is available from the NHMRC Website which aims to inform patients, visitors, families and carers about healthcare associated infection, what activities healthcare facilities may have in place to make sure infections are prevented as much as possible, and what they can do to limit the spread of infections. There is also specific patient information available on Methicillin Resistant *Staphylococcus aureus*, Vancomycin Resistant Enterococci, *Clostridium difficile* and carbapenemase-producing *Enterobacterales*.

For further information, see the NSQHS Standard 2 on Partnering with Consumers[16]. Some examples of the types of information that should be provided to patients are below:

Use of personal protective equipment

- Wearing of appropriate PPE such as gowns, gloves and masks is a routine part of infection prevention and control in healthcare—it is used for everybody's safety.
- The use of PPE alone is not enough—healthcare workers should perform hand hygiene before putting on and after removing the protective items.
- PPE is used in the patient care area only—healthcare workers remove the equipment before they leave the area to reduce the risk of spreading infection.
- Gowns or aprons are used so that the healthcare worker's clothing or skin does not become contaminated.
- Healthcare workers wear an appropriate mask if there is risk of them inhaling an infectious agent.
- Appropriate masks, eye protection or face-shields are worn by a healthcare worker in situations where the patient's body substances may splash onto his or her face.
- Healthcare workers wear gloves when they will have direct hand contact with blood or body substances, mucous membranes or wounds or if there is a chance that touching the patient could transmit infection.
- Patients who are sensitive or allergic to latex should tell their healthcare workers so that an alternative glove type can be used.
- It is important to note that it is not unusual for infection prevention and control practices to change over the course of care based on risk assessments made by individual healthcare workers.
- It is okay to question a healthcare worker about whether they should be using protective personal equipment or whether they are using it properly.

Handling and disposing of sharps

- Healthcare workers are at risk of injury and infection when using sharp equipment such as needles and scalpels.
- Healthcare workers take measures to handle sharp devices in a way that prevents injury to the user and to others who may encounter the device during or after a procedure.
- Special containers are used for the disposal of sharp devices.
- It is okay to question a healthcare worker about the way in which they are handling or disposing of sharp devices.
- Patients will be educated before discharge from hospital about how to safely dispose of sharps used in the home so there is no risk of injury to community members.

Management of outbreak situations

Outbreak situations may require patients to be aware of changes to infection prevention and control activities within the healthcare facility.

- In hospitals, staff must respond quickly to an outbreak of an infection to contain the infection and stop it spreading further. Actions may include testing patients to see who may carry the infection, placing patients in single rooms or with other patients who have the infection, and limiting movements of people around the facility.
- Hand hygiene is the most important part of preventing transmission of an infection.
- If infected patients are transferred, they may be asked to wear a mask.
- Infected patients should avoid unnecessary movement around other parts of the healthcare facility.
- To minimise transmission of infection in hospitals, visitors should perform hand hygiene using an alcohol-based hand rub before entering or exiting the patient care area. They may also be asked to wear gloves and gowns while they are with the patient.

3. Standard and transmission-based precautions

Summary

- The use of standard precautions is the primary strategy for minimising the transmission of healthcare associated infections.
- Standard precautions must be used regardless of known or suspected pathogens being transmitted via the contact, droplet or airborne route.
- Transmission-based precautions are used in addition to standard precautions, where the suspected or confirmed presence of infectious agents represents an increased risk of transmission.
- The application of transmission-based precautions is particularly important in containing multi-resistant organisms and in outbreak management.
- Medical and dental procedures increase the risk of transmission of infectious agents. Effective work practices to minimise risk of transmission of infection related to procedures require consideration of the specific situation, as well as appropriate use of standard and transmission-based precautions.

This section covers:

- 3.1 — Standard precautions
- 3.2 — Transmission-based precautions
- 3.3 — Personal protective equipment (PPE)
- 3.4 — Management of multi-resistant organisms and outbreak situations
- 3.5 — Applying standard and transmission-based precautions during procedures

The information presented in this part is particularly relevant to healthcare workers and support staff. It outlines effective work practices that minimise the risk of transmission of infectious agents.

Patient-care tip

In applying standard and transmission-based infection prevention and control strategies as part of day-to-day practice, healthcare workers should ensure that their patients understand why certain practices are being undertaken, and that these practices are in place to protect everyone from infection. Patients and visitors should also be aware of their role in minimising risks by following basic hand hygiene and respiratory hygiene and cough etiquette and informing staff about aspects of their care or services if necessary.

3.1 Standard precautions

Summary

Section 3.1 describes standard precautions used at all times to minimise the risk of transmission of infectious agents.

A checklist of standard precautions for procedures is in **Appendix 2—Section 6.2.**

It is essential that standard precautions are applied at all times. This is because:

- people may be placed at risk of infection from others who carry infectious agents
- people may be infectious before signs or symptoms of disease are recognised or detected, or before laboratory tests are confirmed in time to contribute to care
- people may be at risk from infectious agents present in the surrounding environment including environmental surfaces or from equipment
- there may be an increased risk of transmission associated with specific procedures and practices.

Standard precautions consist of:

- hand hygiene, as consistent with the 5 moments for hand hygiene[56]
- the use of appropriate personal protective equipment
- the safe use and disposal of sharps
- routine environmental cleaning
- reprocessing of reusable medical equipment and instruments
- respiratory hygiene and cough etiquette
- aseptic technique
- waste management
- appropriate handling of linen.

Standard precautions should be used in the handling of: blood (including dried blood); all other body substances, secretions and excretions (excluding sweat), regardless of whether they contain visible blood; non-intact skin; and mucous membranes.

3.1.1 Hand hygiene

Effective hand hygiene is the single most important strategy in preventing healthcare associated infections (HAIs). Ease of access to hand washing facilities (soap and water) and alcohol-based hand rubs can influence the transmission of HAIs. Washing hands with soap and water is required if hands are visibly soiled while either product can be used if hands are visibly clean. Each hand hygiene method is discussed in further detail in Recommendations 1 - 6.

What are the risks?

Any infectious agent transmitted by the contact or droplet route can potentially be transmitted by touch.

Microorganisms are either present on the hands most of the time (resident flora) or acquired during activities such as healthcare (transient flora). Hands can become contaminated through contact with respiratory secretions when coughing or sneezing. Contaminated hands can lead to the cross-transmission of infectious agents in non-outbreak situations[18][33] and contribute to outbreaks involving organisms such as methicillin-resistant *Staphylococcus aureus* (MRSA), vancomycin-resistant enterococci (VRE) and multi-resistant Gram-negative (MRGN) microorganisms, such as Acinetobacter spp[33].

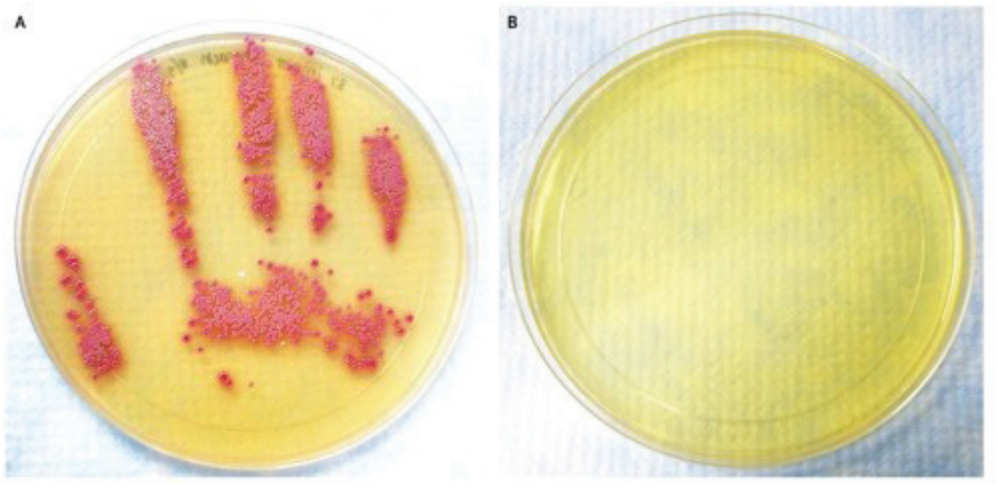

Figure 5. Importance of hand hygiene

Image source: Donskey CJ & Eckstein BC (2009)[65]

Figure 5 illustrates the critical importance of hand hygiene in caring for patients, including those not known to carry antimicrobial-resistant

organisms. An imprint of a healthcare worker's ungloved hand was obtained after routine abdominal examination of a patient with no history of MRSA infection but found on routine surveillance to have MRSA colonisation. The resultant culture shows MRSA colonies (image on left). Another hand print obtained after the worker's hand had been cleaned with alcohol-based hand rub was negative for MRSA (image on right).

Improved hand hygiene practices have been associated with:

- sustained decreases in the incidence of infections caused by MRSA and VRE[45][1][46]
- reductions in healthcare associated infections of up to 45% in a range of healthcare settings[21][46][50]
- greater than 50% reduction in the rates of nosocomial disease associated with MRSA and other multi-resistant organisms, after 1-2 years[56][26].

Hand hygiene practices alone are not sufficient to prevent and control infection and need to be used as part of a multifactorial approach to infection control.

Strong Recommendation

1. It is recommended that routine hand hygiene is performed:
   - before touching a patient
   - before a procedure
   - after a procedure or body substance exposure risk
   - after touching a patient
   - after touching a patient's surroundings.

Hand hygiene must also be performed before putting on gloves and after the removal of gloves.

Practical Info
When should hand hygiene be performed?

Hands can become contaminated with infectious agents through contact with a patient, patient surroundings, the environment, or other healthcare workers. Cross-contamination can occur from one site to another in the same patient, between healthcare worker and patient, between patient or healthcare worker and the environment, or between healthcare workers. Practising hand hygiene before every episode of patient contact (including between caring for different patients and between different care activities for the same patient) and after any activity or contact that potentially results in hands becoming contaminated (such as removal of gloves) reduces the risk of cross-contamination.

The '5 moments for hand hygiene'

The '5 moments for hand hygiene' developed by the World Health Organization and adopted by Hand Hygiene Australia[56]:

- protects patients against acquiring infectious agents from the hands of the healthcare worker
- helps to protect patients from infectious agents (including their own) entering their bodies during procedures
- protects healthcare workers and the healthcare surroundings from acquiring patients' infectious agents.

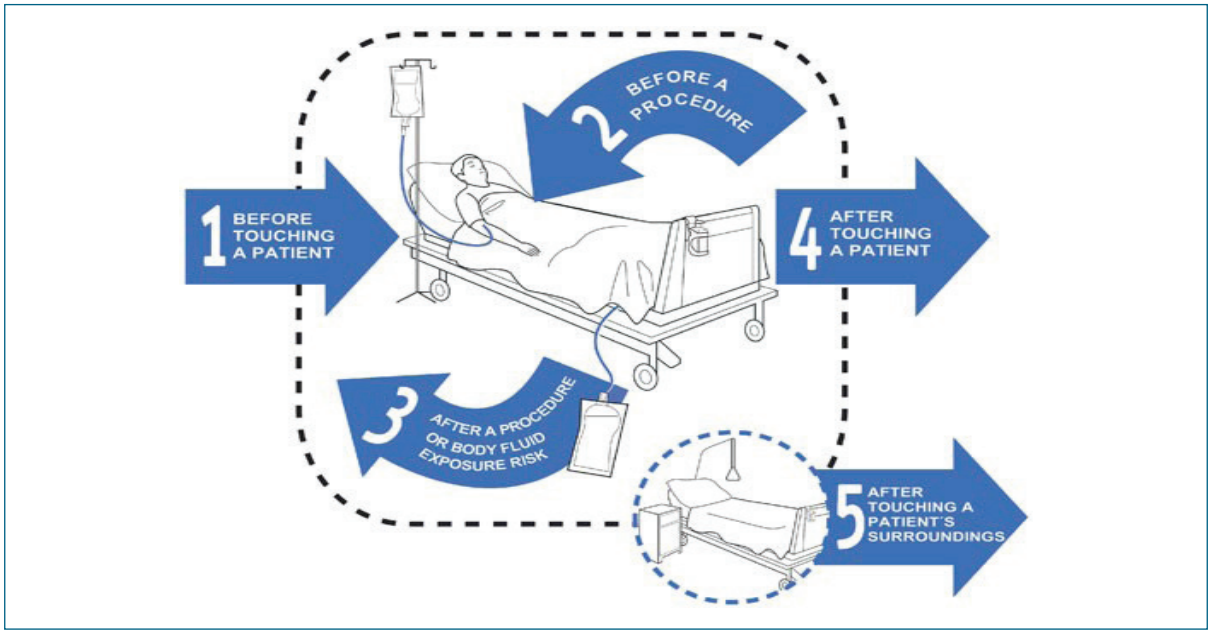

Figure 6. 5 moments for hand hygiene[56]

Note: Hand hygiene is also performed before donning and after the removal of gloves.

While Figure 6 illustrates application of the 5 moments in an acute-care setting, the 5 moments are still generally applicable to other healthcare settings including primary care. The key emphasis in any setting is to perform hand hygiene before and after any procedure, and after each consultation with a patient.

In addition to the 5 moments, hand hygiene should be performed in a range of other situations (see Table 2).

Table 2. Additional situations when hand hygiene should be performed

Before	After
• Starting/leaving work • Eating/handling of food/drinks • Using computer keyboard, tablet or mobile device in a clinical area • Putting on gloves	• Hands becoming visibly soiled • Eating/handling of food/drinks • Visiting the toilet • Using a computer keyboard, tablet or mobile device in a clinical area • Being in patient-care areas during outbreaks of infection • Removing gloves • Handling laundry/equipment/waste • Blowing/wiping/touching nose and mouth • Smoking
Before touching a patient	**After touching a patient**
• Contact with patients, particularly immuno-compromised patients	• After touching a patient, particularly patients being cared for in isolation or having transmission-based precautions applied due to the potential for spread of infection to others
	After touching a patient's surroundings
	• Entering/leaving clinical areas • Touching inanimate objects (e.g. equipment, items around the patient) and the patient environment, particularly if within an isolation room or where transmission-based precautions are applied • Blood/body substance contamination

Technique

Effective hand hygiene relies on appropriate technique as much as on selection of the correct product. Inappropriate technique can lead to failure of hand hygiene measures to appropriately remove or kill microorganisms on hands, despite the superficial appearance of having complied with hand hygiene requirements.

Key factors in effective hand hygiene and maintaining skin integrity include[18]:

- the duration of hand hygiene measures
- the exposure of all surfaces of hands and wrists to the preparation used[54]
- the use of rubbing to create friction
- ensuring that hands are completely dry.

Individual actions for reducing risk:

- Follow the 5 moments for hand hygiene, even when it seems that there is not enough time.
- Become familiar with your facility policy on hand hygiene and follow it.
- Use the appropriate product for the situation and use it as directed.
- Follow facility policy on cuts and abrasions, fingernails, nail polish and jewellery.
- Use hand-care products provided by your organisation; your own products may not be compatible with the hand hygiene products provided.
- Minimise physical contact with patient surroundings.
- Contact the person with designated responsibility for occupational health or infection prevention and control if you have a reaction to hand hygiene and hand-care products used in your setting.
- If alcohol-based hand rub is not readily accessible at key points of care in a patient-care area, consider approaching management.
- Lead by example and champion hand hygiene in your setting.
- Attend hand hygiene education sessions regularly to refresh your knowledge and skills.

Other aspects of hand hygiene

Each healthcare facility should develop policies on the wearing of jewellery, artificial fingernails or nail polish by healthcare workers. To enable optimal hand hygiene, the information below discusses several factors that should be considered.

As intact skin is a natural defence against infection, cuts and abrasions reduce the effectiveness of hand hygiene practices. Breaks or lesions of the skin are possible sources of entry for infectious agents[30] and may also be a source of them. Similarly, the presence of fingernail disease may reduce the efficacy of hand hygiene and result in the transmission of pathogens[18]. To reduce the risk of cross-transmission of infectious agents, cuts and abrasions should be covered with waterproof dressings.

The type and length of fingernails can have an impact on the effectiveness of hand hygiene[18][32]. Artificial or false nails have been associated with higher levels of infectious agents, especially Gram-negative bacilli and yeasts, than natural nails[40][22][25][36][39][18][24][17]. Fingernails should therefore be kept short (e.g. the length of the finger pad) and clean, and artificial fingernails should not be worn. Studies have also demonstrated that chipped nail polish may support the growth of organisms on the fingernails[56]. It is good practice to not wear nail polish, particularly as chipped nail polish may support the growth of organisms on the fingernail.

It is also encouraged that health care workers should wear short-sleeved clothing when delivering patient care, as this ensures their hands can be decontaminated effectively[33]. This concept is known as 'bare below the elbow.' When not engaged in patient care, some staff members may wish to cover their forearms due to religious, cultural or safety reasons. These staff must ensure they are wearing clothing with sleeves which can be pushed back securely when they are engaged in direct patient care activity[33].

Although there is less evidence concerning the impact of jewellery on the effectiveness of hand hygiene, rings can interfere with the technique used to perform hand hygiene resulting in higher total bacterial counts[18]. Hand contamination with infectious agents is increased with ring wearing[18][52], although no studies have related this practice to healthcare worker-to-patient transmission. The consensus recommendation is to strongly discourage the wearing of watches, rings or other jewellery during health care; however if jewellery must be worn in clinical areas it should be limited to a plain band (e.g. wedding ring) and this should be moved about on the finger during hand hygiene practices. In high-risk settings such as operating suites/rooms, any jewellery, even a plain band, should not be worn.

For further resources and services to support the education of healthcare workers in the importance of hand hygiene, see the 5th edition of the National Hand Hygiene Initiative Manual[56].

Hand care

The main type of skin irritation associated with hand hygiene, irritant contact dermatitis, includes symptoms such as dryness, irritation, itching and sometimes cracking and bleeding. Allergic contact dermatitis is rare and represents an allergy, which may be to some ingredient in a hand hygiene product.

Generally, alcohol-based hand rubs cause significantly less skin reaction or irritation than hand hygiene with plain or antiseptic soaps[45]. Expert advice concludes that[18][56]:

- common causes of irritant contact dermatitis include skin cleaners, antiseptic washes, repeated exposure to water, sweating and glove powder
- damaged skin can lead to easier penetration of allergens and an increased likelihood of infection transmission
- the irritant and drying effects of hand preparations are one reason why healthcare workers fail to adhere to hand hygiene guidelines
- appropriate use of hand lotion or moisturisers added to hand hygiene preparations is an important factor in maintaining skin integrity, encouraging adherence to hand hygiene practices and assuring the health and safety of healthcare workers
- healthcare workers should be educated about the risk of irritant contact dermatitis and other skin damage.

Use of hand cream

An emollient hand cream should be applied regularly, such as after performing hand hygiene before a break or going off duty, and when off duty. Hand hygiene technique should be reviewed if skin irritation occurs. If the irritation persists or if it caused by a particular soap, antiseptic agent or alcohol-based product, the person with designated responsibility for infection control or occupational health should be consulted.

For further information on hand care issues, see the 5th edition of the National Hand Hygiene Initiative Manual[56].

For practical information on applying appropriate hand hygiene, see Case study 5.1.

For an example of education in practice for hand hygiene, see Example 5.3.

Key Info

Benefits and harms Substantial net benefits of the recommended alternative

The benefits of hand hygiene clearly outweigh any undesirable effects. A major route for transmission of infection is through contaminated hands. A National Institute for Health and Clinical Excellence (2012) systematic review[215] confirmed the association between hand decontamination and reductions in infection, and this is supported by the consensus of experts. An Australian study[61] also showed that the implementation of the National Hand Hygiene Initiative was associated with sustained hand hygiene compliance and a decrease in the incidence of methicillin-resistant *Staphylococcus aureus bacteraemia*.

The benefits of following the World Health Organization (WHO) 5 moments for hand hygiene includes protections for patients and healthcare workers against cross infection of pathogenic organisms. The potential harms are an increase in cracked skin and skin allergies from continual hand washing. These harms can be mitigated and are clearly outweighed by the benefits.

Certainty of Evidence High

The evidence supporting this recommendation is from experimental, clinical, or epidemiological studies and these were judged as either being well designed and/or based on a strong theoretical rationale. The WHO 2009[56] guideline strongly recommends following the five moments for hand hygiene.

Preference and values No substantial variability expected

It is expected that all patients and staff of Australian healthcare facilities would highly value minimising infections during any episode of care.

There may be challenges around complying with the 'imposition' of increased vigilance regarding hand washing, but no one is expected to challenge the reason for this culture change.

No variations expected, nor impact on health equity.

Resources and other considerations No important issues with the recommended alternative

Sustained improvement in compliance with hand hygiene initiatives has been reported in parallel with reduced healthcare associated infection (HAI)[46]. Typically, these initiatives have involved the supply of alcohol based hand rubs, increased messaging and signage, and staff education[5]. Available evidence highlights the fact that multimodal intervention strategies lead to improved hand hygiene and a reduction in healthcare associated infection (HAI)[64].

HAIs are the most common complication affecting patients, and some of these add to costs of treatment, requiring expensive medicines, additional care and additional resources (e.g. laboratory testing and technology) to diagnose and manage HAIs[386].

Rationale

Routine hand hygiene is justified to reduce healthcare associated infection.

Routine hand hygiene is a relatively simple, low cost intervention that should be acceptable to all stakeholders. An already lengthy commitment to improving hand hygiene in Australia across public and private health care settings (beginning with the National Hand Hygiene Initiative in 2000) has resulted in improving compliance and falling infection rates. There is also an international strategy facilitated by the World Health Organization's 2005 Clean Care is Safer Care campaign, relaunched as Save Lives: Clean Your Hands in 2009.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 recommendation (developed using the FORM approach) to be reassigned a GRADE recommendation and accompanying strength. All considerations in adopting or adapting this recommendation are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report*.

Summary
Research question

- **Population:** Healthcare Workers
- **Intervention:** Hand hygiene
- **Comparator:** No hand hygiene
- **Outcome:** Reduced transmission and infection

Practice Statement

2. It is good practice for patients to perform hand hygiene and be educated about the benefits of hand hygiene for infection prevention and control.

Patients should be involved in hand hygiene and offered the opportunity to clean their hands when appropriate, including before meals and after using the toilet, commode or bedpan/urinal. Patient preferences for hand hygiene products may differ, and they should be provided with the option of alcohol-based hand rubs, hand wipes or access to hand wash basins, based on any specific needs.

Practical Info
Involving patients in hand hygiene

Healthcare facilities are encouraged to take a patient-centred approach to infection prevention and control, as outlined in Section 2.3. Appropriate hand hygiene is one of the most well-established and supported measures for reducing HAIs, so extending education on hand hygiene practices and involving patients in this aspect of their care is encouraged.

The following information may be provided to patients to assist them in becoming involved in identifying and reducing risks related to poor hand hygiene.

- Hand hygiene is the most important aspect of reducing the risk of infection—this applies to everyone including healthcare workers, patients and visitors.
- The '5 moments for hand hygiene' tell healthcare workers, patients and visitors when hand hygiene should be performed to reduce the risk of infection.
- Healthcare workers generally use alcohol-based hand rub as it is effective and easy to use but, if their hands are visibly dirty, they need to use soap and water first.
- Performing hand hygiene regularly reduces the risk of infection to you and others. If in hospital, remind your visitors to use alcohol-based hand rub when they come into the ward and before they leave.
- No matter what product you use to clean your hands, the solution should come into contact with all surfaces.
- After hand hygiene, the hands should be dry. If alcohol-based hand rub is used, the solution will dry on the hands. After hand hygiene with soap and water, hands should be patted dry.
- Healthcare workers should have short, clean fingernails and not wear artificial fingernails, nail polish or jewellery.
- It's okay to question healthcare workers about their hand hygiene practices.

Key Info

Benefits and harms

A multi-modal approach to increasing hand hygiene compliance that involves patient education and engagement is now recommended as the best approach for ensuring sustainable improvement in healthcare associated infection (HAI) rates[56]. The World Health Organization Guide to Implementation recommends that patients are aware and understand the importance of hand hygiene, as engaged patients are more likely to appropriately request that healthcare workers clean their hands[63].

Certainty of the Evidence

The epic3 guidelines[33] found three studies that described interventions to improve patient hand hygiene, however none met the quality criteria for inclusion in their systematic review.

The National Institute for Health and Clinical Excellence (NICE)[215] guidelines recommend that patients and carers should be educated about hand hygiene, including the benefits, correct techniques and their role in maintaining standards of healthcare workers' hand decontamination.

Resources and other considerations

There are no significant resource considerations for patient involvement in hand hygiene besides any costs incurred to provide extra hand hygiene supplies such as alcohol-based hand rubs or hand wipes to patients.

Preference and values

It is expected that patient preferences and values would align with this intervention to reduce HAIs. Hand hygiene is considered to have a high impact on outcomes that are important to patients[215].

Rationale

This advice is based on limited evidence, but on sound theoretical principles and supported by expert advice. Involving patients in their care is identified as a key component of infection prevention and control.

Summary

Research question

- **Population:** Healthcare Workers
- **Intervention:** Hand hygiene
- **Comparator:** No hand hygiene
- **Outcome:** Reduced transmission and infection

Strong Recommendation

3. It is recommended that alcohol-based hand rubs that contain between 60% and 80% v/v ethanol or equivalent should be used for all routine hand hygiene practices.

Practical Info
Alcohol-based hand rubs

One advantage of alcohol-based hand rubs is that they are easily accessible at point of care. They have[56]:

- excellent antimicrobial activity against Gram-positive and Gram-negative vegetative bacteria, *Mycobacterium tuberculosis* and a wide range of fungi
- generally good antimicrobial activity against enveloped viruses
- lesser and/or variable antimicrobial activity against non-enveloped viruses (such as norovirus)
- no activity against protozoan oocysts and bacterial spores (such as *C. difficile*) (see Section 3.2.2).

The range of antimicrobial activity in alcohol-based hand rubs varies with the alcohol compound (ethanol, isopropanol or n-propanol) used. Different alcohol species have different levels of activity (60% v/v n-propanol is approximately equivalent to 70% v/v isopropanol and to 80% v/v ethanol) and many commercial formulations consist of blends of different alcohol species. Most published clinical studies that have demonstrated reductions in healthcare associated infections with the use of alcohol-based hand rubs have been associated with products that contain at least 70% alcohol (isopropanol), 0.5% chlorhexidine and a skin emollient[56]. However the efficacy of alcohol-based hand hygiene products is affected by a number of factors including the type of alcohol used, concentration of alcohol, contact time, volume of product used, and whether the hands are wet when the product is applied. These factors are generally assessed through testing standards for skin disinfectants, for which the Therapeutic Goods Administration (TGA) is the regulatory body responsible for approving products for use in Australia.

Choosing an alcohol-based hand rub

It is necessary to choose products:

- that have excellent antimicrobial efficacy combined with good user acceptability and skin tolerability (dermal tolerance, fragrance, colour, texture and ease of use)
- that are TGA approved as a hand hygiene product
- meet the requirements of EN1500 testing standards for bactericidal effect (which are currently referred to by TGA).

Healthcare worker acceptance of alcohol-based hand rub is a crucial factor in the success of any program to improve hand hygiene practice. Several studies showed that user acceptability and skin tolerability tend to be determined by the overall hand rub composition (e.g. consistency as gel or rub, texture, fragrance) and by emollient additives, but both are largely independent of a formulation's antimicrobial activity[49][28][23][56]. Even where emollient agents are present in the product, ready access to a moisturising skin- care product is essential (see Section 3.1.1). The selected alcohol-based hand rubs, soaps and moisturising lotions should be chemically compatible, to minimise skin reactions and ensure that the decontaminating properties of the hand hygiene product are not deactivated. It is advisable to purchase hand hygiene and hand-care products from a range made by a single manufacturer, as this ensures compatibility between the products.

Different healthcare workers and healthcare settings have different preferences, and the choice between a gel or liquid needs to be evaluated on an individual basis[34][33]. In some healthcare facilities, it may be useful to offer both liquid and gel alongside each other, in order to provide a choice that suits a wide range of healthcare workers[33][51][23]. Some studies have noted that gel and foam formulations have generally significantly less antimicrobial activity than liquid alcohol-based hand rub formulations, even if the total alcohol content is similar[43][28][42]. However, if gel and foam formulations are more acceptable to healthcare workers and more frequently used than liquid formulations, it is important to ensure effectiveness by choosing an appropriate product (as per standards noted above), using a sufficient amount of product which allows complete coverage of the hands and allowing the hands to remain wet for the recommended amount of time, as per manufacturer instructions[56][69][70][71].

The Hand Hygiene Australia Manual[56] recommends having alcohol-based hand rub readily available in all work areas and near patients to increase accessibility. It also outlines the following alcohol-based hand rub features as important in influencing acceptability:

- fragrance and colour—these may increase the initial appeal but may cause allergenic reactions, and are therefore discouraged
- emollient agent(s) in the alcohol-based hand rub—these should prevent skin drying and irritant skin reactions, but not leave a sticky residue on hands
- drying characteristics—in general, solutions have lower viscosity than gels and therefore tend to dry more quickly
- risk of skin irritation and dryness—proactive and sympathetic management of this problem is vital

There is some evidence to suggest that gels are preferred to solutions[56], however it is important for staff to evaluate products themselves before implementation where possible. Even where emollient agents are present in the product, ready access to a moisturising skin-care product is essential. All hand hygiene products should be chemically compatible. It is advisable that hand hygiene and hand-care products are from a range made by a single manufacturer, as this ensures compatibility between the products.

Further information on acceptable dosage forms and strengths are available on the Therapeutic Goods Administration website.

Other issues associated with alcohol-based hand rubs

Other factors that should be considered when choosing products include cost issues, availability, convenience and functioning of dispenser, and ability to prevent contamination. Consideration should also be given to occupational health and safety issues associated with alcohol-based hand rubs. Alcohols are flammable, and healthcare workers handling alcohol-based preparations should respect safety standards. Accidental and intentional ingestion and dermal absorption of alcohol- based products used for hand hygiene have also been reported[48][19]. The risk of these issues can be mitigated by appropriate placement of dispensers within the facility (see Section 4; in addition, the Hand Hygiene Australia risk assessment form outlines the safety issues in more detail).

Technique

Effective hand hygiene relies on appropriate technique as much as on selection of the correct product. Inappropriate technique can lead to failure of hand hygiene measures to appropriately remove or kill microorganisms on hands, despite the superficial appearance of having complied with hand hygiene requirements.

Key factors in effective hand hygiene and maintaining skin integrity include[18]:

- the duration of hand hygiene measures
- the exposure of all surfaces of hands and wrists to the preparation used[54]
- the use of rubbing to create friction
- ensuring that hands are completely dry.

Use of alcohol-based hand rub:

- apply the amount of alcohol-based hand rub recommended by the manufacturer onto dry hands
- rub hands together so that the solution comes into contact with all surfaces of the hand, paying particular attention to the tips of the fingers, the thumbs and the areas between the fingers
- continue rubbing until the solution has evaporated and the hands are dry.

Key Info

Benefits and harms Substantial net benefits of the recommended alternative

The benefits of using alcohol-based hand rubs (ABHR) at 60-80% ethanol clearly outweigh any undesirable effects.

There are many level III and/or experimental studies that indicate that within the active range of about 60-90%, ABHRs with higher concentrations fare better than those with lower concentrations. There are multiple entries in the tables and references of the World Health Organization (WHO) and Centers for Disease Control and Prevention (CDC) Guidelines that document this.

The only undesirable effects of this recommendation are using ABHR with inadequate concentration of alcohol that would not pass antimicrobial testing. Specifying the 60-80% v/v ethanol or equivalent concentration accommodates that. This range was reached based on the Committee recommendation of 'at least 70% v/v ethanol' and the Council of the National Health and Medical Research Council considering and advising on the 60-80%v/v ethanol range.

Certainty of the Evidence Moderate

The evidence base and consistency are graded as moderate - one or two level II studies with a low risk of bias or a Systematic Review and/or several level III studies with a low risk of bias.

The Committee advised that the evidence base for this is probably much better than it appears from the small number of studies that were included in the formal analysis. Many studies of level III that are cited and listed in the tables of the guidelines (WHO, CDC), but were not included in the main Evidence Statement show essentially the same results.

Preference and values No substantial variability expected

It is expected that all patients and staff of Australian healthcare facilities would highly value minimising infections during any episode of care.

The provision of ABHR in health care facilities has facilitated better hand hygiene practices[5].

Resources and other considerations No important issues with the recommended alternative

Sustained improvement in compliance with hand hygiene initiatives has been reported in parallel with reduced healthcare associated infection (HAI)[46]. Typically, these initiatives have involved the supply of alcohol based hand rubs, increased messaging and signage, and staff education[5]. Available evidence highlights the fact that multimodal intervention strategies lead to improved hand hygiene and a reduction in HAI[64].

At least half of Australia's HAIs are preventable. HAIs are the most common complication affecting patients, and some of these add to costs of treatment, requiring expensive medicines, additional care and additional resources (e.g. laboratory testing and technology) to diagnose and manage HAIs[386].

Rationale

Routine use of alcohol-based hand rub (ABHR) at 60-80% v/v ethanol is justified to reduce healthcare associated infection. ABHR is the gold standard of care for hand hygiene practice in healthcare settings while hand washing is preferred for situations when the hands are visibly soiled, or when gloves have not been worn in the care of a patient with *C. difficile*[56].

This is a relatively simple, low cost intervention that should be acceptable to all stakeholders.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 recommendation (developed using the FORM approach) to be reassigned a GRADE recommendation and accompanying strength. All considerations in adopting or adapting this recommendation are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report*.

Summary

Research question

- **Population:** Healthcare Workers
- **Intervention:** ABHRs containing between 60% and 80% v/v ethanol or equivalent
- **Comparator:** ABHRs with lower concentration of ethanol or equivalent
- **Outcome:** Decontamination of hands

Statutory Requirement

4. It is good practice that alcohol-based hand rubs that meet the requirements of European Standard EN 1500 are used for all routine hand hygiene practices.

Note: This advice aligns with mandatory requirements as set by Australia's Therapeutic Goods Administration regarding testing standards for bactericidal effect (Therapeutic Goods Act 1989).

Practical Info

Choosing an alcohol-based hand rub

Healthcare facilities should choose products that meet the requirements of EN 1500 testing for bactericidal effect.

Mandatory requirements for an effective over-the-counter medicines applications, as set by Australia's Therapeutic Goods Administration (TGA) (*Therapeutic Goods Act 1989*), state that hygienic hand rubs must meet the requirements of European Standard EN 1500 testing standard for bactericidal effect.

The EN 1500 standard has two sub-categories:

- formulations that pass the standard in a contact time of 60 seconds (such as the reference alcohol)
- alcohol-based hand rubs that already achieve the sufficient level of microbial reduction in 30 seconds.

Products should also:

- have excellent antimicrobial efficacy combined with good user acceptability and skin tolerability (dermal tolerance, fragrance, colour, texture and ease of use)
- be TGA approved for skin antisepsis.

Key Info

Benefits and harms

The benefits of using alcohol-based hand rubs that meet the EN 1500 standards outweighs any harms.

Certainty of the Evidence

Mandatory requirements for an effective over-the-counter medicines applications, as set by the Australian Therapeutic Goods Administration (*Therapeutic Goods Act 1989*), state that hygienic hand rubs must meet the requirements of European Standard EN 1500 testing standard for bactericidal effect.

Preference and values

It is expected that all patients and staff of Australian healthcare facilities would highly value minimising infections during any episode of care.

The provision of alcohol-based hand rubs in health care facilities has facilitated better hand hygiene practices[6].

Resources and other considerations

Sustained improvement in compliance with hand hygiene initiatives has been reported in parallel with reduced heathcare associated infection (HAI)[37]. Typically, these initiatives have involved the supply of alcohol based hand rubs, increased messaging and signage, and staff education[6]. Available evidence highlights the fact that multimodal intervention strategies lead to improved hand hygiene and a reduction in HAI[56].

At least half of Australia's HAIs are preventable. HAIs are the most common complication affecting patients, and some of these add to costs of treatment, requiring expensive medicines, additional care and additional resources (e.g. laboratory testing and technology) to diagnose and manage HAIs[290].

Rationale

Routine use of alcohol-based hand rubs (ABHR) at 60-80% v/v ethanol is justified to reduce healthcare associated infection. ABHR is the gold standard of care for hand hygiene practice in healthcare settings while hand washing is preferred for situations when the hands are visibly soiled, or when gloves have not been worn in the care of a patient with *C. difficile*[56].

Mandatory requirements for an effective over-the-counter medicines applications, as set by Australia's Therapeutic Goods Administration (*Therapeutic Goods Act 1989*), state that hygienic hand rubs must meet the requirements of European Standard EN 1500 testing standard for bactericidal effect.

The passing of stringent antimicrobial testing standards is probably an even better criterion than the total alcohol content. This is derived from the fact that different alcohol species have different levels of activity (60% v/v n-propanol is approximately equivalent to 70% v/v isopropanol and to 80% v/v ethanol) and that many commercial ABHR formulations consist of blends of different alcohol species.

One caveat when judging alcohol content is that percent v/v, w/v and w/w are different, although v/v is most commonly used. A suitable standard to be adopted would be the European EN 1500 standard, which is more stringent (i.e. has a greater safety margin in healthcare) than its US counterpart. The EN 1500 standard has two sub-categories:

- formulations that pass the standard in a contact time of 60 seconds (such as the reference alcohol)
- ABHRs that already achieve the sufficient level of microbial reduction in 30 seconds.

Of the two, the 30 seconds category is more stringent and requires greater antimicrobial activity.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 good practice point to be reassigned as a statutory requirement. All considerations in adopting or adapting this statutory requirement are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report*.

Summary

Research question

- **Population:** Healthcare Workers
- **Intervention:** ABHRs containing between 60% and 80% v/v ethanol or equivalent
- **Comparator:** ABHRs with lower concentration of ethanol or equivalent
- **Outcome:** Decontamination of hands

Strong Recommendation

5. It is recommended that soap and water should be used for hand hygiene when hands are visibly soiled.

Practical Info

Plain soap and water

Hand washing refers to the appropriate use of a non-antimicrobial soap and water to the surface of the hands. Plain soaps act by mechanical removal of microorganisms and have no antimicrobial activity. They are sufficient for general social contact and for cleansing of visibly soiled hands. They are also used for mechanical removal of certain organisms such as *C. difficile* and norovirus.

Antimicrobial soaps are used to decontaminate hands however, when alcohol-based hand rub is available in the healthcare facility for hygienic hand antisepsis, the use of antimicrobial soap is not recommended[56]. Antimicrobial soap is associated with skin

care issues and it is not necessary for use in everyday clinical practice[18][57].

Neutral hand-wipe products may be considered in instances where hygienic access to soap and water is not readily available, such as in community care settings. Alcohol-based hand rubs are also suitable for use in resource-limited or remote areas with lack of accessibility to sinks or other facilities for hand hygiene (including clean water, towels etc.).

Technique

Effective hand hygiene relies on appropriate technique as much as on selection of the correct product. Inappropriate technique can lead to failure of hand hygiene measures to appropriately remove or kill microorganisms on hands, despite the superficial appearance of having complied with hand hygiene requirements.

Key factors in effective hand hygiene and maintaining skin integrity include[18]:

- the duration of hand hygiene measures
- the exposure of all surfaces of hands and wrists to the preparation used[54]
- the use of rubbing to create friction
- ensuring that hands are completely dry.

Using soap (including antimicrobial soap) and water:

- Wet hands under tepid running water and apply the recommended amount of liquid soap.
- Rub hands together for a minimum of 20 seconds[59] so that the solution comes into contact with all surfaces of the hand, paying particular attention to the tips of the fingers, the thumbs and the areas between the fingers.
- Rinse hands thoroughly under running water, then pat dry with single-use towels.

Key Info

Benefits and harms — Substantial net benefits of the recommended alternative

The benefits of using soap on visibly soiled hands clearly outweighs any undesirable effects.

Plain soap can loosen and remove transient flora. If visible soiling is not removed, the effect of any alcohol-based hand rub is minimised and effective hand hygiene is threatened.

Certainty of the Evidence — High

The evidence supporting the recommendation is from experimental, clinical or epidemiological studies and these were judged as either being well designed and/or based on a strong theoretical rationale[56][213].

Preference and values — No substantial variability expected

It is expected that all patients and staff of Australian healthcare facilities would highly value minimising infections during any episode of care. This would include maximising the potential effects of all types of hand hygiene.

Resources and other considerations — No important issues with the recommended alternative

Appropriate hand hygiene practices have an extremely high clinical impact across Australia's healthcare system. Practices are easy and feasible to implement. To maximise effectiveness, most healthcare facilities use a wide range of promotional and educational campaigns/signage.

Rationale

Washing visibly soiled hands with soap is justified to reduce healthcare associated infections.

This recommendation is based on high quality evidence, and has a profound clinical impact across healthcare settings. It is easy and feasible to implement.

The assessment is based on the fact that alcohol-based hand rubs are not effective against all microorganisms and do not remove dirt or soiling.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 recommendation (developed using the FORM approach) to be reassigned a GRADE recommendation and accompanying strength. All considerations in adopting or adapting this recommendation are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report.*

Summary
Research question

- **Population:** Healthcare Workers
- **Intervention:** Hand hygiene
- **Comparator:** Non-alcohol based products
- **Outcome:** Decontamination of hands

Weak Recommendation

6. It is suggested that hand hygiene is performed in the presence of known or suspected *Clostridium difficile* and non-enveloped viruses such as norovirus as follows:
    - If gloves have not been worn, if gloves have been breached or if there is visible contamination of the hands despite glove use, use soap and water to facilitate the mechanical removal of spores. After washing, hands should be dried thoroughly with a single-use towel.
    - If gloves have been worn, a lower density of contamination of the hands would be expected and alcohol- based hand rub remains the agent of choice for hand hygiene.

Practical Info

When *C. difficile* and non-enveloped viruses such as norovirus are suspected or known to be present and gloves have not been

worn, a combination of hand hygiene strategies may be required to reduce transmission of these organisms. This should include hand washing with soap and water for at least 20 seconds[59] to facilitate the mechanical removal of spores. Longer hand washing is likely to be required if visible soiling is present.

If gloves are worn during the care of patients in settings where *C. difficile* or non-enveloped viruses are suspected or known to be present, spore contamination of the hands will be minimal and alcohol-based hand rub remains the agent of choice for hand hygiene[51]. The use of alcohol-based hand sanitisers may also be useful in controlling nosocomial transmission of norovirus, in combination with other infection control strategies[62].

Key Info

Benefits and harms

The benefits of washing hands with soap and water when *C. difficile* or non-enveloped viruses are known or suspected clearly outweigh any undesirable effects.

Meticulous hand washing and drying facilitates the mechanical removal of *C. difficile* spores. Plain soaps act by mechanical removal of *C. difficile* and non-enveloped virus microorganisms, but have no antimicrobial activity.

Use of alcohol-based hand rubs (ABHR) alone may not be sufficient to reduce transmission of *C. difficile* as they can affect vegetative forms of *C. difficile*, but not the spores. ABHR may also not affect non-enveloped viruses.

Certainty of the Evidence

This recommendation is supported by some experimental, clinical, or epidemiological studies and a strong theoretical rationale.

Preference and values

It is expected that all patients and staff of Australian healthcare facilities would highly value minimising *C. difficile* infections and those caused by non-enveloped viruses such as norovirus.

Resources and other considerations

There are no significant resourcing considerations associated with this intervention.

Rationale

This advice is based on supportive evidence and strong theoretical principles. The use of alcohol based hand rubs alone may not be sufficient to reduce transmission of Clostridium difficile and non-enveloped viruses such as norovirus as they can affect vegetative forms of *C. difficile*, but not the spores.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 good practice point to be reassigned as a GRADE weak recommendation. All considerations in adopting or adapting this weak recommendation are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report.*

Summary

Research question

- **Population: Healthcare Workers**
- **Intervention:** Hand hygiene comparing different concentrations of alcohol, and of different alcohols e.g. ethyl, methyl, isopropyl, in reducing the risk of transmission of Clostridium difficile and non-enveloped viruses
- **Comparator:** Washing with water and soap/detergent/chlorhexidine, other concentrations of same alcohol, other alcohols on Clostridium difficile and non-enveloped viruses
- **Outcome:** Decontamination of hands

3.1.2 Use and management of sharps, safety engineered devices and medication vials

What are the risks?

The use of sharp devices exposes healthcare workers to the risk of injury and potential exposure to blood borne infectious agents, including hepatitis B virus, hepatitis C virus and human immunodeficiency virus (HIV)[74][75].

Sharps injuries can occur in any healthcare setting, including non-hospital settings such as in office-based practices, home health care and long-term care facilities. Injuries most often occur[74]:

- during use of a sharp device on a patient (41%)
- after use and before disposal of a sharp device (40%)
- during or after appropriate or inappropriate disposal of sharp devices (15%).

There are many possible mechanisms of injury during each of these periods.

Hollowbore needles are of particular concern, especially those used for blood collection or intravascular catheter insertion, as they are likely to contain residual blood and are associated with an increased risk for blood borne virus transmission. Non-hollowbore sharps such as glass vials and suture needles have also been involved in sharps incidents[220].

Table 3. Examples of sharps associated with sharps injuries in healthcare settings

Examples of hollowbore sharps	Non-hollowbore sharps
Disposable needles/syringes	Glass vials
Steel-winged (butterfly) needles	Dental probes
Intravenous catheter stylets	Scalpel blades
Multi-sample blood collection needles	Suture needles
Arterial blood collection syringe needles	Retractors
Aspiration needles	Skin or bone hooks
Injector pen needles	Sharp electrosurgical tips

Eliminating workplace hazard and risk is a fundamental principle of all work health and safety legislation in Australia. To limit the risk of sharps injuries, the hierarchy of controls method is a well-recognised approach to prevent sharps injuries[74].

The first priority is to eliminate and reduce the use of needles and other sharps where possible. Next is to isolate the hazard, thereby protecting an otherwise exposed sharp, through the use of an engineering control.

When these strategies are not available or will not provide total protection, the focus shifts to work-practice controls and personal protective equipment. An organisational approach to reducing sharps injuries is discussed in Section 4.1.5 and sharps injuries and post- exposure prophylaxis (PEP) in Section 4.2.3.

Safety-engineered devices

A broad range of devices have been designed with built-in safety features that reduce the risk of injury involving a sharp. Examples include devices such as needles with guards, sliding sheaths, shields, blunted tips or retracting needles, blunt suture needles and surgical blades with protective covers.

The use of devices with safety-engineered protective features (e.g. safety or retractable devices) has been mandated in the US, France, Spain, most Canadian provinces and all European Union member countries including the United Kingdom[76]. Their use has shown a reduction in the rate of incidence of needlestick injuries[77][91].

As technology advances, safety-engineered devices are going to become more readily available and safer to use.

Needleless devices

Needleless devices (e.g. connectors, vascular access devices, access ports) provide an easy access point for intravascular infusion connections. Needleless devices do not use needles for procedures such as the collection or withdrawal of body substances after initial venous or arterial access is established, or administering medication or fluids.

Since their adoption in healthcare facilities, needleless devices have contributed to a decrease in percutaneous injuries among healthcare workers[77]. While it is difficult to assess the overall effect of needleless devices because of the wide variety of devices and systems that are in use, some studies have shown an increased risk of bloodstream infections (BSI) among patients[83][84][92].

Unfamiliarity with the use of these complex devices, together with inadequate disinfection procedures, may contribute to increased BSI rates. The Centers for Disease Control and Prevention (CDC) recommends that[81]:

- the needleless components are changed at least as frequently as the administration set
- caps are changed no more frequently than every 3 days or according to manufacturer's recommendations
- all components of the system are compatible to minimise leaks and breaks
- contamination risk is minimised by wiping the access port with an appropriate antiseptic and accessing the port only with sterile devices.

Disinfection of needleless connectors with chlorhexidine/alcohol or povidone-iodine has been shown to significantly reduce external contamination[73]. See *Practice Statements 38 and 39* for further information on the appropriate use of chlorhexidine and potential for adverse reactions. Section 3.5.2.3 provides further information on caring for the patient's hub or insertion site.

Retractable devices

The use of retractable safety devices on sharps has been associated with a significant reduction in needlestick injury in healthcare settings[82][87], although their direct impact is difficult to determine because their introduction is often accompanied by other interventions (e.g. training and education, overarching hospital policies and other technologies) that in isolation could also cause a reduction in needlestick injuries[88].

Retractable technology is only one example of the broad range of safety-engineered medical devices that have been designed and produced to assist in reducing the risk of occupational exposure to blood borne pathogens in healthcare.

Implementation of safety-engineered devices must be accompanied by appropriate training and education for healthcare workers in the use of the new technology to achieve successful reduction in percutaneous injury rates[87].

For more information on the handling and disposal of sharps, see **Standard AS 4031: 1992 and Amendment 1: 1996** or relevant international standard e.g. **ISO 23907: 2019**.

Medication vials

Single-dose vials

Medications or solutions that come into contact with normally sterile tissue should be sterile. The most effective way to avoid cross- infection via injection of medication is through the use of single-dose vials or ampoules and single-use sterile injecting equipment. Single- dose vials or ampoules, or prefilled syringes, should be used wherever these are available. These include the use of a sterile, single-use needle and syringe for each injection given, and adherence to practices that prevent contamination of injection equipment and medication.

Multi-dose vials

A multi-dose vial is one that contains more than one dose of medication. Multi-dose vials are not commonly used in Australian healthcare facilities as most vaccines are now available as single dose preparations.

However, some injectable products (e.g. Bacillus Calmette-Guérin [BCG] and botulinum toxin) are only available in multi-dose vials. When single-dose vials or ampoules are not available, there is a high risk of cross-contamination if injectable products are used on multiple patients. Steps should be taken to ensure these become available in single dose vials, however the risk of infectious disease transmission may be mitigated by[259]:

- restricting the vial to single patient use wherever possible
- establishing a separate secure area designated for the placement of these medications away from any work area
- compliance with manufacturer's recommendations (adhere to instructions for refrigeration, storage, use within a specified time, expiry date)
- using a sterile needle and syringe to draw up the required dose from the vial or ampoule on every occasion
- using a sterile needle to draw up all the contents of the container into individual syringes before administering to patients
- having only the current patient's medication in the immediate working environment
- discarding any open ampoule(s) at the end of each procedure
- discarding product if sterility or product integrity is compromised or questionable.

The use of multi-dose vials has been associated with the transmission of infectious diseases including HIV[255], hepatitis B[251][254][260], hepatitis C[264][258][251][252][263][262][257], *Staphylococcus aureus*[256] and *Streptococcus pyogenes*[268][267]. International agencies such as the CDC and World Health Organization recommend that single-dose vials be used for parenteral additives or medications whenever possible, especially when medications will be administered to multiple patients[253][261].

There may be some exceptional circumstances where for short periods (e.g. a few months) multi-dose vials may be the only way to deliver vaccines or drugs to a large proportion of the population in a timely fashion. An example would be when a health emergency is declared because of an infection that has a high associated mortality and rapid spread (e.g. smallpox outbreak) and when there may be a delay in single-dose vaccines or drugs becoming available for a period of time.

Table 4. Summary of processes for appropriate use of devices

Device	Process
Injection equipment	• Avoid contamination of the needle.
Single-use items	• Do not use the same needle, cannula or syringe for more than one patient nor to access a medication or solution that might be used for a subsequent patient. • Do not administer medications from a single syringe to multiple patients, even if the needle or cannula on the syringe is changed.
Single-patient items	• Use single-patient items for one patient only and dispose of them appropriately.
Single-use medications	• Only use single-dose vials when administering drugs, therapeutic agents and vaccines to multiple patients. • Do not administer medications from single-dose vials or ampoules to multiple patients or combine leftover contents for later use.
Multi-dose vials	• Multi dose vials should not be used except where they are intended solely for the exclusive use of an individual patient (e.g. insulin).

Device	Process
Fluid infusion and administration sets (i.e. intravenous bags, tubing and connectors)	• Use for one patient only and dispose of appropriately after use. • Do not use bags or bottles of intravenous solution as a common source of supply for multiple patients. • Consider syringes or needles/cannulae as contaminated once they have been used to enter or connect to a patient's intravenous infusion bag or administration set. • Use closed intravenous delivery devices as standard practice. • Use premixed intravenous bags of medication wherever possible, in order to reduce the risk of contamination or infection during mixing, dilution or preparation. • Avoid disconnection of administration sets if possible to minimise the potential of contamination of IV lines. • Should be changed on a regular basis, depending on their use (see Section 3.5.2).

Statutory Requirement

7. It is good practice to follow safe sharp handling practices including:
   - not passing sharps directly from hand to hand
   - keep handling to a minimum
   - not recapping, bending or breaking needles after use.

Note: This advice reflects best practice as advised by expert consensus and available evidence. Healthcare workers must also consider relevant state or territory legislation that controls the management of clinical and related waste (including sharps) and Commonwealth workplace health and safety legislation (Work Health and Safety Act 2011).

Practical Info
Handling of sharps

All healthcare workers should take precautions to prevent injuries caused by needles, scalpels and other sharp instruments or devices: during procedures; when cleaning used instruments; during disposal of used needles; and when handling sharp instruments after procedures.

Safety devices should be considered where appropriate to minimise risk of injury to healthcare workers. Standard measures to avoid sharps injuries include handling sharp devices in a way that prevents injury to the user and to others who may encounter the device during or after a procedure.

Examples include[74]:

- using instruments, rather than fingers, to grasp needles, retract tissue, and load/unload needles and scalpels
- giving verbal announcements when passing sharps
- avoiding hand-to-hand passage of sharp instruments by using a basin or neutral zone
- using round-tipped scalpel blades instead of pointed sharp-tipped blades.

The extent to which gloves protect healthcare workers from transmission of blood borne infectious agents following a needlestick or other puncture that penetrates the glove has not been determined[86]. Although gloves may reduce the volume of blood on the external surface of a sharp[79], the residual blood in the lumen of a hollowbore needle would not be affected; therefore, the effect on reduction of transmission risk is not quantifiable[86].

In dentistry, recapping or disassembling sharps may be unavoidable. If so, a risk assessment must be undertaken and safety devices should be used where appropriate[89].

Healthcare facilities should have sharps safety programs which include consideration of notifiable incidents as defined in Section 38 of the *Work Health and Safety Act 2011*.

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Individual actions for reducing the risk:

- Explain to patients the risks to healthcare workers and others involved in the use and disposal of sharps and the measures taken to reduce these.
- Become familiar with facility protocols on handling and disposal of sharps, and legislated notifiable incidents.
- Use the appropriate product for the situation and use it as directed - safety devices should be considered where appropriate to minimise risk of injury.
- Avoid using needles where safe and effective alternatives are available.
- Before using any sharp medical device such as needles or scalpels, always plan for their safe handling and immediate disposal at the point-of-use.
- Make sure every used sharp medical device such as needles, scalpels etc. are disposed of properly in puncture-resistant sharps containers located at the point-of-use.
- Report any needlestick or sharps-related injuries promptly as relevant (e.g. to infection control or occupational health and safety professional, management, insurer) and ensure that you receive appropriate follow-up care.
- Ensure that you are vaccinated against blood-borne viruses such as hepatitis B.
- Participate in education sessions and professional development sessions on handling sharps, as well as those on new safety devices and how to use them.

For practical information on reducing sharp injuries, see Case Study 5.4

Key Info

Benefits and harms

The benefits of safe handling of sharps clearly outweigh any undesirable effects.

Eliminating workplace hazard and risk is a fundamental principle of all workplace health and safety legislation in Australia.

Certainty of the Evidence

This advice is based on limited evidence, but on sound theoretical principles and supported by expert advice. National and international guidelines are consistent in the advice regarding the importance of the safe use and disposal of sharps. The Epic Guidelines[78] recommend that sharps should not be passed directly from hand to hand, and that needles must not be bent, broken or recapped.

Healthcare workers must also consider relevant state or territory legislation that controls the management of clinical and related waste (including sharps) and Commonwealth workplace health and safety legislation (*Work Health and Safety Act 2011*).

Preference and values

It is expected that all patients and staff of Australian healthcare facilities would highly value minimising infections through the safe handling of sharps during any episode of care.

Resources and other considerations

Following appropriate sharps handling processes has minimal impact on resources – this is more about safe work practices and handling.

Rationale

This advice is based on limited empirical evidence, but on sound theoretical principles and supported by expert advice. Healthcare workers must also consider relevant state or territory legislation that controls the management of clinical and related waste (including sharps) and Commonwealth workplace health and safety legislation (*Work Health and Safety Act 2011*).

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 good practice points to be reassigned as a GRADE practice statement. All considerations in adopting or adapting this practice statement are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report*.

Summary

Research question

- **Population:** Healthcare Workers
- **Intervention:** Safety Devices
- **Comparator:** Non-retractable devices
- **Outcome:** Sharps injuries

Practice Statement

8. It is good practice to dispose of single-use sharps immediately into an approved sharps container at the point-of-use.

The person who has used the single-use sharp must be responsible for its immediate safe disposal. Sharps containers must not be filled above the mark that indicates the maximum fill level.

Practical Info

Disposal of single-use sharps

Any person who has used a disposable sharp instrument or equipment must be responsible for its safe management and immediate disposal after use. Patients who use sharps, such as diabetics, should have access to suitable sharps container at the point of use.

After they are used, single-use syringes and needles, scalpel blades and other sharp items such as capillary tubes, glass and dental wires, should be placed in an appropriate container. These containers should be clearly labelled, puncture and leak proof, and conform to Standards AS 4031: 1992 and Amendment 1: 1996, AS/NZS 4261: 1994 and Amendment 1: 1997 or relevant international standard e.g. ISO 23907: 2019. The containers should be located at the point of use or, if this is not possible, as close as practical to the use area. Reusable sharps requiring transport to a reprocessing area must be placed in a puncture-resistant lidded container.

Sharps containers must be appropriately placed so that they are at an accessible height for the healthcare worker but out of reach of children and others to prevent hands and fingers entering the disposal unit. They should also be placed in a secure position or mounted on the wall to prevent tipping (approx. 1300 mm minimum off the ground)[90]. Placement of wall-mounted units should be away from general waste bins to minimise the risk of incorrect disposal.

There are numerous safety devices available that assist with safe removal and disposal of sharps (e.g. scalpel blade removers). Local protocol and procedures need to be developed to outline their appropriate use.

Reducing risks if a sharps injury is sustained:

- Seek care immediately if you sustain a sharps injury.
- If skin is penetrated, wash the affected area immediately with soap and water. Alcohol-based hand rub can be used to clean the area if soap and water are not available.
- Do not squeeze the affected area.
- Report the incident immediately to your supervisor.
- Ask about follow-up care, including post-exposure prophylaxis, which is most effective if implemented soon after the incident.
- Complete an accident / incident report form, including the date and time of the exposure, how it happened, and name of the source individual (if known).
- If a sharps injury happens to you, you can be reassured that only a small proportion of accidental exposures result in infection. Taking immediate action will lower the risk even further.

Key Info

Benefits and harms

The benefits of safely disposing of sharps clearly outweigh any undesirable effects. Eliminating workplace hazard and risk is a fundamental principle of all work, health and safety legislation in Australia.

The immediate disposal of sharps will greatly reduce the likelihood of needlestick injury [78].

Certainty of the Evidence

This advice is based on limited evidence, but on sound theoretical principles and supported by expert advice.

Preference and values

It is expected that all patients and staff of Australian healthcare facilities would highly value minimising infections through the safe handling and disposal of sharps during any episode of care.

Resources and other considerations

This practice would entail the provision of approved sharps containers that conform to Australian Standards or relevant international standard e.g. ISO or EN.

Rationale

This advice is based on limited empirical evidence, but on sound theoretical principles and supported by expert advice. Safe disposal of single-use sharps is justified to reduce healthcare associated infection.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 good practice points to be reassigned as a GRADE practice statement. All considerations in adopting or adapting this practice statement are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report*.

Summary

Research question

- **Population:** Healthcare Workers
- **Intervention:** Immediate disposal of sharps
- **Comparator:** Non-immediate disposal of sharps
- **Outcome:** Sharps injuries

3.1.3 Routine management of the physical environment

What are the risks?

Infectious agents can be widely found in healthcare settings and there is a body of clinical evidence, derived from case reports and outbreak investigations, suggesting an association between poor environmental hygiene and the transmission of infectious agents in healthcare settings[99][184]. Transmission of infectious agents from the environment to patients may occur through direct contact with contaminated equipment, or indirectly, for example, in the acute-care setting, via hands that are in contact with contaminated equipment or the environment and then touch a patient[97].

Environmental surfaces can be safely decontaminated using less rigorous methods than those used on medical instruments and devices. The level of cleaning required depends on the objects involved and the risk of contamination—for example, surfaces that are likely to be contaminated with infectious agents (e.g. shared clinical equipment) require cleaning between patient uses, which is more often than general surfaces and fittings. However, all surfaces require regular cleaning. Thorough cleaning of all surfaces is necessary after spills and between patient uses of a room or patient-care area, especially in acute-care settings.

Managing the physical environment across healthcare settings

The cleaning practices discussed in these Guidelines are applicable to all healthcare settings. In certain circumstances, such as the setting in which paramedics work, care may be provided outside of a controlled environment and this should be considered when providing patient care e.g. surface barriers such as blue sheets may be used in uncontrolled environments where environmental cleaning is difficult to perform prior to patient contact.

Intensive care units and isolation areas require additional levels of cleaning, especially where there is a risk of multi-resistant organism transmission (see Section 3.4).

Practice Statement

9. It is good practice to routinely clean surfaces as follows:
   - Clean frequently touched surfaces with detergent solution at least daily, when visibly soiled and after every known contamination.
   - Clean general surfaces and fittings when visibly soiled and immediately after spillage.

Practical Info
Routine environmental cleaning

General surfaces and the cleaning requirements for each can be divided into two groups:

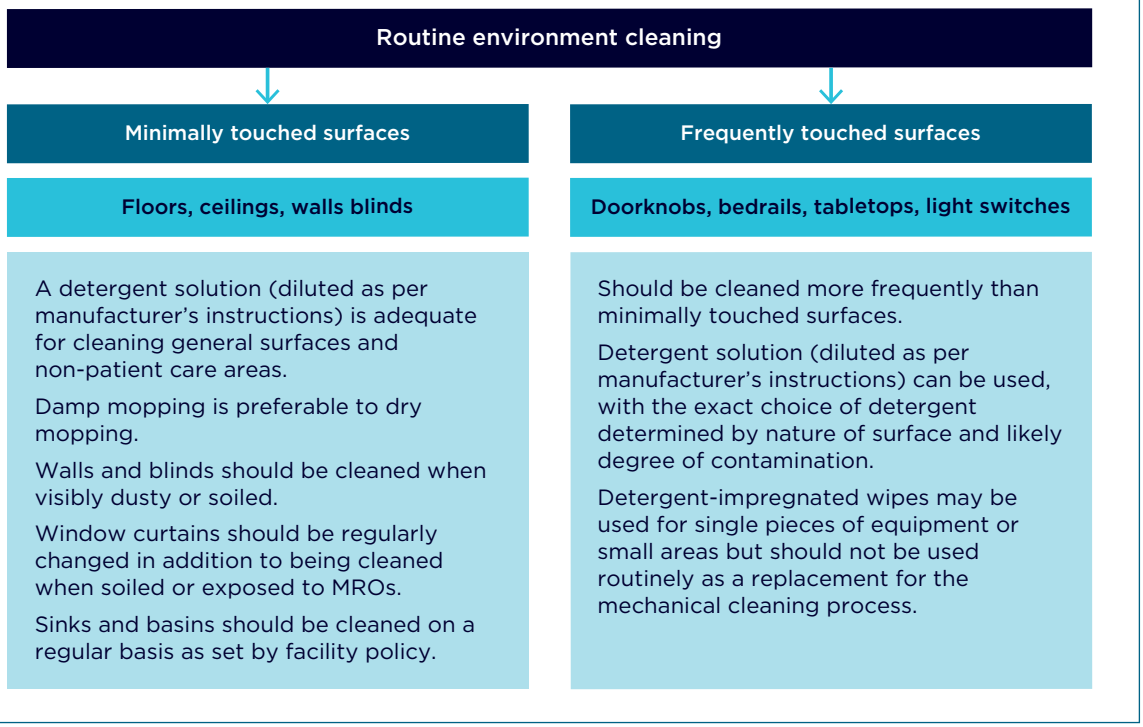

Figure 7. Cleaning requirements for routine environmental cleaning

Risk assessment

The methods, thoroughness and frequency of cleaning and the products used for different surfaces are determined by risk analysis and reflected in healthcare facility policy. Infection control professionals typically use a risk-assessment approach to identify frequently touched surfaces and then coordinate an appropriately thorough cleaning strategy and schedule with the housekeeping staff.

A detergent solution is recommended for routine cleaning. When multi-resistant organisms (MROs) are suspected or known to be present, routine cleaning is intensified and the use of a detergent solution is followed by the use of a disinfectant so that surfaces are cleaned and disinfected (see Section 3.4.1, *Recommendation 32*).

Cleaning method and product choice

Routine cleaning with detergent and water, followed by rinsing and drying, is the most useful method for removing germs from surfaces. Detergents help to loosen the germs so that they can be rinsed away with clean water. Mechanical cleaning (scrubbing the surface) physically reduces the number of germs on the surface. Rinsing with clean water removes the loosened germs and any detergent residues from the surface, and drying the surface makes it harder for germs to survive or grow.

Disinfectants are usually only necessary if a surface that has already been cleaned with detergent and water is suspected or known to have been contaminated by MROs and/or other potentially infectious material including blood and other bodily fluids. Most germs do not survive for long on clean surfaces when exposed to air and light, and routine cleaning with detergent and water should be enough to reduce germ numbers. Disinfectants might be used after routine cleaning during an outbreak of, for example, a gastrointestinal disease.

When choosing an appropriate product/s the following factors should be considered:

- cleaning products used on different surfaces should be determined by risk assessment
- initial mechanical cleaning with a suitable detergent followed by disinfection with Therapeutic Goods Administration (TGA)- listed hospital-grade disinfectant with specific claims or a chlorine-based product such as sodium hypochlorite, where indicated for use
- the intended purpose of the product as per manufacturer's instructions
- that manufacturer's instructions are able to be complied with in the facility
- the suitability of the product to the surface or setting
- the practical application of using the product or technology with available resources including trained staff
- the effectiveness of the product against particular organisms including microbiological activity and contact time to kill microorganisms.

Cleaning schedules

The recommendations outlined for cleaning should be justified by the risk of transmission of infection within a particular healthcare facility. All organisations should have a documented cleaning schedule that outlines clear responsibilities of staff, a roster of duties and the frequency of cleaning required and the products that should be used to clean specific areas. Organisations should also facilitate job or task-specific education and training by accredited bodies for general and special cleaning of the physical environment. More detailed information about recommended cleaning schedules for different healthcare settings is in Appendix 2—Section 6.1.

If cleaning is outsourced to cleaning service providers, all cleaning service delivery procedures should be documented, including details of how the cleaning service will be undertaken. The procedures must include the following[114].

- *Minimum cleaning frequencies and methods*: cleaning service providers are required to provide cleaning services at whatever frequencies are deemed necessary in order to meet required standards. Appendix 2—Section 6.1 provides a guide for minimum frequencies for cleaning within a healthcare facility providing acute care. It can be used as a guide for other settings.
- *Staffing*: including rosters for full-time, part-time and relief staffing members, as well as for management and supervisory positions.

- *Equipment:* including provision of consumable items (such as cleaning fluids and toilet paper) and facilities to be used to deliver each cleaning service.
- *Management of the cleaning service*: how the cleaning services will be managed and controlled at the service level, including specific details of the on-site management functions.

The risk of transmission of particular infections should be assessed and the cleaning schedule should be adjusted if a known infectious agent is present (e.g. an outbreak of *C. difficile* requires surfaces to be disinfected with sodium hypochlorite after cleaning with detergent).

Usual environmental cleaning of frequently touched surfaces, such as handles, toilets, curtains and bedsheets, should be used to control and reduce the spread of non-enveloped viruses such as norovirus[94].

Housekeeping Rooms/Closets

It is important that staff who perform housekeeping duties in healthcare facilities have access to dedicated housekeeping rooms or closets. All housekeeping rooms/closets should be maintained in accordance with good hygiene practices, and should not be used for the storage of personal clothing or grooming supplies[104]. All housekeeping rooms/closets also should:

- have appropriate personal protective equipment available
- have an appropriate water supply and sink/floor drain
- be appropriately sized and well ventilated, with suitable lighting and locks fitted to all doors
- have chemical storage facilities.

All cleaning equipment must be well maintained, clean and in good repair. Cleaning equipment should be cleaned and dried between uses, and mop heads should be laundered daily.

Cleaning carts should[104]*:*

- have a separation between clean and soiled items
- never contain personal clothing or grooming supplies, food or beverages
- be thoroughly cleaned at the end of the day.

In long-term care homes, cleaning carts should be equipped with a locked compartment for storage of hazardous substances and each cart should be locked at all times when not attended.

Cleaning implements and solutions

Part of the cleaning strategy is to minimise contamination of cleaning solutions and cleaning tools. Proper procedures for effective use of mops, cloths, and solutions should be followed:

- prepare cleaning solutions daily or as needed, and replace with fresh solution frequently according to facility policy
- clean mops and cloths after use and allow to dry before reuse, or use single-use mop heads and cloths.

Carpet

The use of carpet in patient care areas is not suggested[392]. However, if used, carpets in public areas and in general patient-care areas should be vacuumed daily with well-maintained equipment fitted with high efficiency particulate air (HEPA) filters to minimise dust dispersion (see also Section 4.6.1). After a spill has been removed as much as possible (see practical info for *Recommendation 12*), the carpet should be cleaned using the hot water extraction method, which is recognised by Standard AS/NZS 3733: 2018 to minimise chemical and soil residue.

Carpets should undergo thorough cleaning on a regular basis as set by facility policy, using a method that minimises the production of aerosols, leaves little or no residue and is recommended by Australian Standards and manufacturer 's recommendations.

For more information about carpets, see Section 4.6.1—Mechanisms for influencing healthcare associated infection through environmental design.

Use of disinfectants

In acute-care settings where there is uncertainty about the nature of soiling on the surface (e.g. blood or body substance contamination versus routine dust or dirt) or the presence of MROs (including *C. difficile*) or other infectious agents requiring transmission-based precautions (e.g. pulmonary tuberculosis) is known or suspected, surfaces should be physically cleaned with a detergent solution, followed or combined with a hospital-grade disinfectant with specific claims listed on the Australian Register of Therapeutic Goods (ARTG) or a chlorine-based product such as sodium hypochlorite, where indicated for use (as per *Recommendation 14*). This process must involve either:

- **2-step clean—**a physical clean using a detergent followed by disinfection with a TGA-listed hospital-grade disinfectant with specific claims or a chlorine-based product such as sodium hypochlorite, where indicated for use i.e. physically clean with detergent, then physically disinfect.
- **2-in-1 clean—**a physical clean using a combined detergent and TGA-listed hospital-grade disinfectant with specific claims or a chlorine-based product such as sodium hypochlorite, where indicated for use i.e. a combined detergent/disinfectant wipe or solution could be used if this process also involves physical cleaning.

Physical (mechanical or manual) cleaning is the most important step in cleaning. Sole reliance on a disinfectant without physical cleaning is therefore not recommended. Given this, the routine use of a combined detergent and TGA-listed hospital-grade disinfectant with specific claims or a chlorine-based product such as sodium hypochlorite (2-in-1 clean) should include a risk analysis.

To kill germs, any disinfectant must:

- have enough time in contact with the surface to kill the germs (as per the manufacturer's instructions)
- be used at the right concentration
- be applied to a clean, dry surface
- be effective against those particular germs.

Hard surface disinfectants

Hard surface disinfectants include hospital, household and commercial grade disinfectants. Hard surface disinfectants are regulated by the TGA and form part of the group of products referred to as "other therapeutic goods" (OTGs). OTGs are subject to the requirements under **TGA Order 104 (Standard for Disinfectants and Sanitary Products)** of the *Therapeutic Goods Act 1989.*

Hospital-grade disinfectants with specific claims must comply with TGA Order 104 and must be 'listed' on the ARTG before they can be supplied in Australia. The term 'specific claims' covers virucidal, sporicidal, tuberculocidal, fungicidal or other biocidal activity.

Except where claims of activity against fungi (yeast and mould) for excluded products are concerned, these claims mean a product is regulated as a listed OTG.

Healthcare facilities should refer to **TGA Order 104 (Standard for Disinfectants and Sanitary Products)** for more information about disinfectants and sterilants. It is best practice to refer to product safety data sheets prior to purchase for work health and safety information.

New evidence also demonstrates that a chlorine-based disinfectant products such as sodium hypochlorite can be used in addition to a detergent solution for terminal cleans of rooms of patients known to have *C. difficile* associated disease, or MROs, or to terminate outbreaks of *C. difficile.* More information is available at Section 3.1.3.1 Emerging disinfection methods, and *Recommendations 14 to 18*.

In office-based practice and less acute patient-care areas (e.g. long-term care facilities), the risk of contamination, mode of transmission and risk to others should be used to determine whether disinfectants are required.

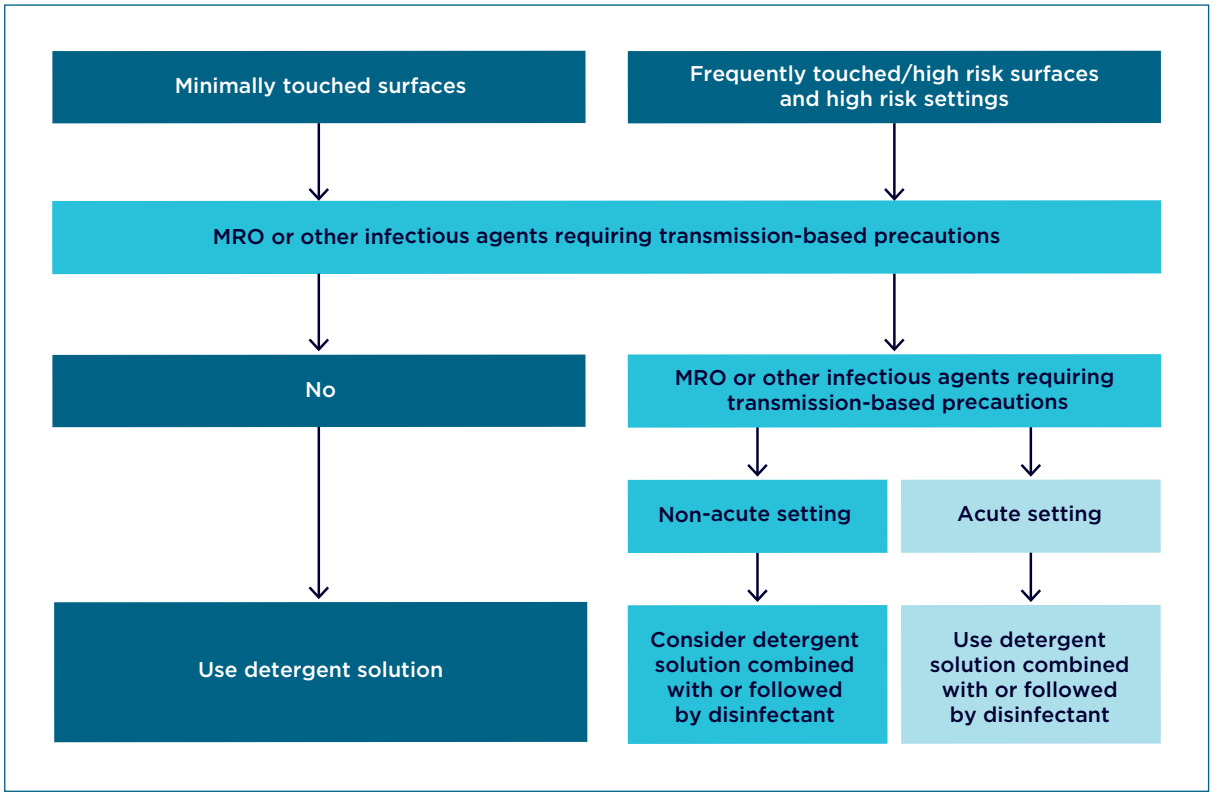

Figure 8. Processes for routine cleaning and product choice

High-level disinfectants or liquid chemical sterilants are not appropriate for general cleaning; such use is counter to manufacturers' instructions for these hazardous chemicals. Alcohol should not be used to disinfect large environmental surfaces, given the risk of additional hazards such as flammability.

Technologies in this area are evolving and new technologies for cleaning and decontaminating the healthcare environment have become available over the past ten years. More information is available in Section 3.1.3.1 Emerging disinfection methods.

Checking, auditing and environmental sampling

Healthcare facilities use a variety of systems to ensure that cleaning standards are met. These include checklists, colour coding to reduce the chance of cross infection, cleaning manuals, model cleaning contracts, infection control guidance, and monitoring strategies. Some states and territories have cleaning standards that are applied to healthcare facilities regardless of whether cleaning services are contracted or performed in-house. Users should adopt the cleaning policies appropriate to their state or territory.

Auditing of cleaning can be performed through a variety of different methods, including Process Testing and Outcome Testing. Audits of environmental cleanliness can also facilitate education programs and motivate staff to strive for improvements in routine cleaning practices[122].

Table 5. Methods for evaluating environmental cleanliness in healthcare facilities[101]

Type	Method	Definition	Advantages	Disadvantages
Process Testing	Visual Inspection	An individual trained in the auditing of cleaning inspects an area to assess the level of cleanliness. Primary method used in healthcare facilities.	Can detect obvious soiling of the environment. Most cost-effective method and most rapid for detecting major cleaning issues.	Cannot detect microorganisms that are invisible to the naked eye.
	Fluorescent gel marker	An invisible gel that can only be detected with UV light is applied to surfaces. The effectiveness of cleaning processes can be determined by shining UV light to determine if the gel has been adequately	Can allow for an efficient and timely cleaning evaluation on a large scale.	Does not assess environmental contamination or biodburden.
Outcome testing	ATP bioluminescence	A swab of a surface is taken which is placed into a detection device that will catalyse a reaction with ATP. Testing the surface for ATP measures the amount of organic residue on a surface.	ATP testing provides rapid results and requires no specific laboratory training to be	The test can produce false positives, and cannot identify the source of the ATP. The residue of some cleaning products may alter the results.
	Microbiological testing	Involves swabbing, dipslides, air sampling or settle plates to detect the presence of a specific microbiological organism on a surface or object.	Can provide an accurate indication of infection risk from the environment.	Expensive, labour intensive, requires specific expertise and access to a microbiology laboratory. Only recommended in the management of specific situations such as an outbreak or an unidentified cause of infections.

Audit tools

Some organisations have developed tools and templates to assist with an environmental cleaning audit. Some examples include:

- NSW Clinical Excellence Commission Environmental Cleaning Audit Tool - http://www.cec.health.nsw.gov.au/patient-safety-programs/ assurance-governance/healthcare-associated-infections/environment-cleaning
- CDC Environmental Cleaning Evaluation Worksheet - https://www.cdc.gov/hai/toolkits/evaluating-environmental-cleaning.html
- Department of Health and Human Services, Tasmania Environmental Assessment Cleaning Protocol - http://www.dhhs.tas.gov.au/ publichealth/tasmanian_infection_prevention_and_control_unit/evaluating_environmental_cleanliness

Key Info

Benefits and harms

The benefits of routine cleaning of surfaces clearly outweigh any undesirable effects. The cleaning of environmental surfaces is fundamental in reducing the potential contribution to the incidence of healthcare associated infections[109].

Certainty of the Evidence

The research evidence for routine cleaning is largely limited to ecological studies and weak quasi-experimental and observational study designs.

Resources and other considerations

This practice would entail the provision of approved cleaning agents, which has been part of standard precautions for many years.

Staff training and/or tools such as checklists in wards, may be necessary to ensure uptake of advice.

Preference and values

It is expected that all patients and staff of Australian healthcare facilities would highly value minimising infections through safe and effective cleaning of general surfaces as well as those more frequently touched or handled.

Rationale

This advice is based on limited empirical evidence, but on sound theoretical principles and supported by expert advice. Routine cleaning of surfaces is justified to reduce healthcare associated infection.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 good practice points to be reassigned as a GRADE practice statement. All considerations in adopting or adapting this practice statement are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report*.

Summary

Research question

- **Population:** Bacteria, non-enveloped and enveloped viruses
- **Intervention:** Cleaning agent
- **Comparator:** Frequency of agent use considering survival rates of the organisms
- **Outcome:** Reduced levels of surface agents

Summary
Research question

- **Population:** Bacteria, non-enveloped and enveloped viruses
- **Intervention:** Environmental leaning agent
- **Comparator:** Alternative environmental cleaning agents and mode of transmission of organisms
- **Outcome:** Reduced levels of surface agents

Practice Statement

10. It is good practice for shared clinical equipment to be cleaned with a detergent solution between patient uses, and disinfected where indicated.

Exceptions to this should be justified by risk assessment.

Practical Info
Shared clinical equipment

While shared clinical equipment comes into contact with intact skin only and is therefore unlikely to introduce infection, it can act as a vehicle by which infectious agents are transferred between patients[205]. Examples of possible contaminated surfaces on shared medical equipment include knobs or handles on haemodialysis machines, x-ray machines, instrument trolleys, stethoscopes, axillary temperature monitoring probes, blood pressure cuffs, commodes and dental units[109]. Cleaning frequencies for specific shared clinical equipment is outlined in Appendix 2—Section 6.1.

Shared equipment should be cleaned with a detergent solution after each use with cleaning agents compatible with the piece of equipment being cleaned, as per manufacturer instructions. Where indicted, disinfection may also be required following routine cleaning. It is best practice to refer to the manufacturer instructions and product safety data sheet prior to using disinfectants. Choosing a disinfectant that is compatible with the surface material is integral in order to avoid damage to the equipment. All exceptions to this should be justified by risk assessment[57].

Adequate cleaning supplies should be available at or close to the point of care to enable routine management of the physical environment. The same standard procedures for the cleaning of shared equipment should apply across all healthcare settings including home health care, community settings and outpatient settings.

To reduce the risk of environmental contamination and the need to clean items between patients, disposable equipment, including thermometers and blood pressure cuffs, should be used when caring for patients requiring contact precautions (e.g. those with *C. difficile*).

Key Info

Benefits and harms

The benefits of cleaning shared clinical equipment between patient uses clearly outweigh any undesirable effects.

Healthcare associated infections are a major threat to patient safety and the appropriate cleaning of shared clinical equipment can help to reduce the risk of infection.

Certainty of the Evidence

There is little high quality evidence to support the cleaning of shared clinical equipment, however expert advice and work health and safety principles support this intervention.

Preference and values

It is expected that all patients and staff of Australian healthcare facilities would highly value minimising infections through safe and effective cleaning of general surfaces as well as those more frequently touched or handled.

Resources and other considerations

This practice would entail the provision of approved cleaning agents, which has been part of standard precautions for many years.

Staff training and/or tools such as checklists in wards may be necessary to ensure uptake of advice.

Rationale

This advice is based on limited empirical evidence, but on sound theoretical principles and supported by expert advice. Cleaning shared clinical equipment between uses is justified to reduce healthcare associated infections.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 good practice points to be reassigned as a GRADE practice statement. All considerations in adopting or adapting this practice statement are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report*.

Summary

Research question

- **Population:** Bacteria, non-enveloped and enveloped viruses
- **Intervention:** Cleaning agent
- **Comparator:** Frequency of agent use considering survival rates of the organisms
- **Outcome:** Reduced levels of surface agents

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Summary
Research question

- **Population:** Bacteria, non-enveloped and enveloped viruses
- **Intervention:** Environmental leaning agent
- **Comparator:** Alternative environmental cleaning agents and mode of transmission of organisms
- **Outcome:** Reduced levels of surface agents

Practice Statement

11. It is good practice that surface barriers are used to protect clinical surfaces (including equipment) that are:
    - touched frequently with gloved hands during the delivery of patient care
    - likely to become contaminated with blood or body substances
    - difficult to clean.

Exceptions to this should be justified by risk assessment. Equipment should be appropriately cleaned between patients or uses, regardless of whether a surface barrier has been used.

Practical Info

Surface barriers (e.g. clear plastic wrap, bags, sheets, tubing or other materials impervious to moisture) help prevent contamination of surfaces and equipment. Surface barriers on equipment (e.g. air water syringes, bedboards, computer keyboards) need to be placed carefully to ensure that they protect the surfaces underneath and should be changed and cleaned between patients. Cleaning clinical surfaces including equipment should always occur between patients or uses, regardless of whether a surface barrier has been used or not.

For specialised equipment which is difficult to clean and the application of detergent directly onto the device is not recommended by the manufacturer, a custom surface barrier should be used e.g. intraoral camera. Any custom surface barrier used on such equipment should be disposed of after each patient treatment and replaced with a new custom surface barrier.

Key Info

Benefits and harms

The benefits of cleaning shared clinical equipment clearly outweigh any undesirable effects. The use of surface barriers can help to reduce the spread of infection.

Healthcare associated infections are a major threat to patient safety and the appropriate use of surface barriers to protect clinical surfaces can help to reduce the transmission of infection.

Certainty of the Evidence

The evidence for this practice statement is limited or inconsistent. This practice statement is based on the advice of experts and trends in clinical practice.

Preference and values

It is expected that all patients and staff of Australian healthcare facilities would highly value minimising infections through the use of surface barriers to protect clinical contact surfaces.

Resources and other considerations

The net benefits of this intervention are worth the cost.

This practice would entail the provision of appropriate barriers, at a cost to the healthcare facility.

Rationale

This advice is based on limited empirical evidence, but on sound theoretical principles and supported by expert advice. The use of surface barriers is justified to reduce healthcare associated infections.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 good practice points to be reassigned as a GRADE practice statement. All considerations in adopting or adapting this practice statement are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report*.

Summary

Research question

- **Population:** Healthcare workers
- **Intervention:** Surface barriers
- **Comparator:** No surface barriers
- **Outcome:** Reduced levels of surface agents

Weak Recommendation

12. It is suggested that site decontamination should occur after spills of blood or other potentially infectious materials.

Spills of blood or other potentially infectious materials should be promptly cleaned as follows:

- wear gloves and other personal protective equipment appropriate to the task
- confine and contain spill, clean visible matter with disposable absorbent material and discard the used cleaning materials in the appropriate waste container
- clean the spill area with a cloth or paper towels using detergent solution.

Use of Therapeutic Goods Administration-listed hospital-grade disinfectants with specific claims or a chlorine-based product such as sodium hypochlorite should be based on assessment of risk of transmission of infectious agents from that spill (see Section 3.1.3). The decision to use disinfectants should be dependent upon the compatibility of the disinfectant with the materials where the spill occurred.

Practical Info
Management of blood and body substance spills

Prompt removal of spots and spills of blood and body substance followed by cleaning and disinfection of the area contaminated is a sound infection control practice and meets occupational health and safety requirements[109].

In circumstances where emergency procedures or urgent transport are under way, spills should be attended to as soon as it is safe to do so. Further advice should be sought from discipline specific guidelines.

Process of spills management

Strategies for decontaminating spills of blood and other body substances (e.g. vomit, urine) differ based on the setting in which they occur and the volume of the spill:

- healthcare workers can manage small spills by cleaning with detergent solution
- for spills containing large amounts of blood or other body substances, workers should contain and confine the spill by:
- removing visible organic matter with absorbent material (e.g. disposable paper towels)
- removing any broken glass or sharp material with forceps
- soaking up excess liquid using an absorbent clumping agent (e.g. absorbent granules).

If spillage has occurred on soft furnishings, a detergent solution can be used to clean the area thoroughly. Do not clean soft furnishings with a disinfectant such as sodium hypochlorite.

Soft furnishings can also be wet vacuumed. Following cleaning of soft furnishings, they must be allowed to dry before reuse.

Alcohol solutions should not be used to clean spillages.

Table 6. Appropriate processes for managing spills

Volume of spill	Process
Spot cleaning	• Select appropriate personal protective equipment (PPE) • Wipe up spot immediately with a damp cloth, tissue or paper towel • Discard contaminated materials • Perform hand hygiene
Small spills (up to 10cm diameter)	• Select appropriate PPE • Wipe up spill immediately with absorbent material • Place contaminated absorbent material into impervious container or plastic bag for disposal • Clean the area with warm detergent solution, using disposable cloth or sponge • Wipe the area with sodium hypochlorite and allow to dry • Perform hand hygiene
Large spills (greater than 10cm diameter)	• Select appropriate PPE • Cover area of the spill with an absorbent clumping agent and allow to absorb • Use disposable scraper and pan to scoop up absorbent material and any unabsorbed blood or body substances • Place all contaminated items into impervious container or plastic bag for disposal • Discard contaminated materials • Mop the area with detergent solution • Wipe the area with sodium hypochlorite and allow to dry • Perform hand hygiene

Choosing a disinfectant (when required)

The use of sodium hypochlorite is not necessary for routinely managing spills but it may be used in specific circumstances. There is evidence supporting the use of sodium hypochlorite to inactivate various blood borne and gastrointestinal viruses[108], and to clean rooms of patients known or suspected to be infected with bacteria such as *C. difficile* or multi-resistant organisms. The consideration to use sodium hypochlorite should be based on risk assessment of the environment, the spill, risk of transmission of disease, and the surface area and potential hazards with using the product.

If a disinfectant is required, particularly during the implementation of transmission-based precautions, a Therapeutic Goods Administration (TGA)-listed hospital grade disinfectant with specific claims or sodium hypochlorite (where indicated for use as per *Recommendations 13 and 14*) must be used. The disinfectant chosen must have label claims against the organism of concern.

Choosing a disinfectant that is compatible with the surface material where the spill has occurred is integral in order to avoid damage to the surface.

Spill kit

A spill kit should be readily available in each clinical area and should include a scoop and scraper, single-use gloves, protective apron, surgical mask and eye protection, absorbent agent, clinical waste bags and ties, and detergent. All parts should be disposable to ensure that cross-contamination does not occur.

For practical information on spills management, see Case Study 5.5.

Key Info

Benefits and harms — Substantial net benefits of the recommended alternative

The benefits of decontaminating after a spill clearly outweigh any undesirable effects.

Healthcare associated infections are a major threat to patient safety and appropriate site decontamination after spills of blood or other potentially infectious materials can help to reduce the spread of infection.

Certainty of the Evidence — Low

There is supportive evidence and a strong theoretical rationale for this intervention. The Centers for Disease Control and Prevention guidelines[113] give Category 1B and 1C evidence in support of this recommendation.

Preference and values — No substantial variability expected

It is expected that all patients and staff of Australian healthcare facilities would highly value minimising infections by decontaminating after a spill.

Resources and other considerations — No important issues with the recommended alternative

This practice would entail the provision of approved cleaning agents, which has been part of standard care for many years.

Staff training and/or tools such as checklists in wards, may be necessary to ensure uptake of advice.

Rationale

The prompt decontamination of an area contaminated by either blood or body substances is a sound infection control practice and a work health and safety requirement.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 recommendation (developed using the FORM approach) to be reassigned a GRADE recommendation and accompanying strength. All considerations in adopting or adapting this recommendation are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report.*

Summary

Research question

- **Population:** Bacteria, non-enveloped and enveloped viruses
- **Intervention:** Site decontamination after spills of blood or other potentially infectious materials
- **Comparator:** No site decontamination
- **Outcome:** Reduced levels of surface agents

Practice Statement

13. It is good practice to use a chlorine-based product such as sodium hypochlorite or a Therapeutic Goods Administration-listed hospital-grade disinfectant with specific claims in addition to standard cleaning practices to effectively manage norovirus specific outbreaks.

Practical Info

Norovirus epidemiology

Norovirus is the most frequently occurring cause of community-acquired acute gastroenteritis in people of all ages. It is one of the most common causes of outbreaks in healthcare settings, affecting both long-term care facilities and acute care hospitals[94]

Norovirus belongs to the family Caliciviridae and are a single-stranded RNA, non-enveloped virus that can cause gastroenteritis in humans[116]. Noroviruses are divided into at least six genogroups (GI-GVI) and further subdivided into more than 38 genotypes based on phylogenetic analysis of the major capside protein[116][120]. Currently, human noroviruses belong to one of three norovirus genogroups which are further divided into more than 25 genetic clusters[117].

Human noroviruses cannot be grown in cell culture[121], therefore, diagnostic methods focus on detecting viral RNA or antigen. 17 studies (81%) identified that NoV genotype GII.4 have caused the majority of clinical outbreaks in healthcare settings during the past decade.

Norovirus infections generally have a shorter incubation period and are characterised by acute onset of nausea, vomiting, abdominal pain and diarrhoea[62]. The mean duration of symptoms is 2-3 days.

Transmission pathways

Transmission for norovirus infections in healthcare settings mainly occur by the faecal–oral route, either through person to person contact or through exposure to contaminated food.

Whilst some observational studies have suggested there is a possibility of viral transmission via aerosols, there is no data or determination criteria to support this assumption.

It appears that Genotype GII.4 is more often associated with transmission mediated by person-to-person contact than with other types of transmission.

Individuals may shed norovirus more than 21 days after the resolution of symptoms, possibly acting as a possible source for nosocomial transmission. However no data has been reported on ongoing transmission or secondary cases.

Environmental cleaning

During a norovirus outbreak, routine cleaning should be intensified with the use of a detergent solution followed by the use of a Therapeutic Goods Administration-listed hospital-grade disinfectant with specific claims so that surfaces are cleaned and disinfected. When using sodium hypochlorite (i.e. bleach) as a disinfectant in addition to standard cleaning practice to manage norovirus outbreaks, a minimum dilution factor of 1:10 should be used, equivalent to 0.1% active chlorine.

When using sodium hypochlorite to disinfect hard surfaces, the following should be considered:

- environmental surfaces should be clean and free of matter
- allow sufficient time to kill the virus – at least 10 minutes surface contact time
- dilution of sodium hypochlorite (10% bleach solution) should be made up fresh, just before use (1:10 solution = 1 part bleach for every 9 parts water).

This concentration and advice is aligned with the advice provided in the *Infection control guidelines for the public health management of gastroenteritis outbreaks due to norovirus or suspected viral agents in Australia*[358].

Key Info

Benefits and harms

Whilst the benefits of sodium hypochlorite use outweighs the harms, there are potential adverse effects involved in using such products. However, these can be minimised by safe handling in accordance with the Safety Data Sheets.

Certainty of the Evidence

The evidence for this practice statement is limited or inconsistent. This practice statement is based on the advice of experts and trends in clinical practice.

Preference and values

There are no acceptability considerations which directly impact the patient for the use of sodium hypochlorite.

The routine use of sodium hypochlorite should not impact on patient health equity.

Resources and other considerations

Sodium hypochlorite is inexpensive and its feasibility has been demonstrated by widespread existing use.

Rationale

This advice is based on limited empirical evidence, but on sound theoretical principles and supported by expert advice. The use of sodium hypochlorite to manage norovirus-specific outbreaks is justified to reduce healthcare associated infection.

Summary

Research question

- **Population:** Patients
- **Intervention:** Disinfection/bleach, hand washing/soap/water, PPE etc.
- **Comparator:** Other, alcohol based
- **Outcome:** Severity of infection, number of people infected, duration of outbreak

3.1.3.1 Emerging disinfection methods

Emerging modes of disinfection

Some modes of disinfection have emerged and undergone further development for use in healthcare facilities in recent years. These include:

- sodium hypochlorite (considered emerging as it is not part of routine cleaning procedures)
- ultra-violet light
- hydrogen peroxide vapour
- electrolysed water.

With the exception of using sodium hypochlorite during terminal cleans of rooms contaminated with known or suspected *C. difficile* and multi-resistant organisms, the evidence of the effects of these emerging disinfection methods on clinical outcomes remains sparse. If emerging disinfectants are used in healthcare facilities, this should always be used in addition to standard cleaning practices.

There is also an emerging trend towards using steam and microfiber clothes for environmental cleaning as an alternative to other disinfection methods. The evidence on the use of steam and microfiber cloths on patient-centred outcomes including patient colonisation and healthcare associated infection were not systematically reviewed and therefore no recommendation on use is made in this Guideline. However, concerns that steam technology may only be practical to use on specific surfaces, and may spread infectious organisms to the nearby environment leading to further contamination, are documented in the literature[124]. Healthcare facilities using microfiber cloths and steam should ensure they have appropriate monitoring systems in place.

Healthcare facilities that choose to use steam and microfibre cloths for environmental cleaning need to ensure staff are well educated and trained in its use, and that infection prevention staff and other healthcare professionals understand the methodology and how to implement it.

Antimicrobial surfaces

Other disinfectant modalities have emerged or undergone further development for use in healthcare facilities subsequent to the review of the evidence for the 2010 Guidelines. This includes the effects of self-disinfecting materials used to coat or impregnate surfaces in patient care areas. These materials include heavy metal alloys (copper and silver), light activated antimicrobial coatings, and surfaces with altered topography designed to inhibit bacterial growth.

Currently, there is only sufficient evidence to examine the effectiveness of copper-based surfaces compared to standard surfaces on hospital acquired infection. However, the quality of the evidence is very low; as a result, copper-coated surfaces are currently not recommended for use, nor are other antimicrobial surfaces or fittings.

Future research

The inclusion of infection and colonisation outcomes in future studies is key to determining whether these interventions have a clinically important impact; this is an important gap in existing research which has largely focused on whether emerging disinfectants reduce bacterial contamination. Studies among high-risk populations are also needed (e.g. oncology, burns), as investment in emerging disinfectant modalities is expensive and their use is therefore likely to be prioritised in areas of highest risk.

The optimal design to assess the causal effects of an intervention is one which involves random allocation of individuals or clusters of individuals to treatment groups. Individually randomised trials are unlikely to be possible in this setting because of the risk of contamination between treatment groups. For example, patients allocated to control rooms may be moved to intervention rooms during the course of their admission. Cluster randomisation by ward may reduce contamination between treatment groups, but will not resolve the issue completely because of movement of patients between wards. Therefore, the optimal design would be a cluster randomised trial where clusters are hospitals.

For further information on choosing an appropriate disinfectant, see *Recommendations 9 and 12.*

Weak Recommendation

14. It is suggested that sodium hypochlorite disinfection be used as an adjunct to standard cleaning in healthcare facilities.

The use of sodium hypochlorite disinfection in addition to a detergent solution is suggested for terminal cleans of rooms of patients known or suspected to have *C. difficile* associated disease or multi-drug resistant organisms.

The use of sodium hypochlorite disinfection in addition to detergent solution is suggested to terminate outbreaks of *C. difficile.*

Practical Info

Sodium hypochlorite

Despite the emergence of new disinfection products and technologies, sodium hypochlorite remains a commonly used and accessible chlorine-based disinfectant with broad spectrum antimicrobial properties. The evidence suggests that when the dilution factor is sufficient for sporicidal activity (≥ 5000ppm free chlorine), sodium hypochlorite is effective against *C. difficile*. There is also evidence to suggest that sodium hypochlorite disinfection is effective for managing norovirus outbreaks[126] —see Section 3.1.3 *Practice Statement 13*.

From a work health and safety perspective, sodium hypochlorite should be used as per manufacturer instructions as it may cause irritation to the skin, eyes and other mucous membranes. It can also corrode metals and discolour or stain fabrics.

Key Info

Benefits and harms — Substantial net benefits of the recommended alternative

Whilst the benefits of sodium hypochlorite use outweighs the harms, there are potential adverse effects involved in using such products. However, these can be minimised by safe handling in accordance with the Safety Data Sheets.

Certainty of the Evidence — Very Low

The dilution of sodium hypochlorite in the studies suitable for inclusion in the systematic review may not be what is being used in practice and the variation of concentrations used in the studies may affect the outcome. The overall quality of evidence was rated as very low[126].Three very low quality studies reviewed infection acquisition rates. One randomised trial examined the effects of sodium hypochlorite for terminal room disinfection on infection and colonisation incidence rates together, however there was serious imprecision and consistency cannot be assessed[126].

Preference and values — No substantial variability expected

There are no acceptability considerations which directly impact the patient for the use of sodium hypochlorite.

The routine use of sodium hypochlorite should not impact on patient health equity.

Resources and other considerations — No important issues with the recommended alternative

Sodium hypochlorite is inexpensive and its feasibility has been demonstrated by widespread existing use.

Rationale

The evidence on the effects of sodium hypochlorite disinfection (daily and terminal disinfection) on clinical outcomes is sparse. Three

very low quality studies reviewing infection acquisition rates and one moderate quality study reviewing infection and colonisation incidence rates suggest the effect on *C. difficile* and multi-resistant organisms (MROs) of more frequent cleaning with sodium hypochlorite compared to terminal cleaning is not known, however sodium hypochlorite may be used in terminal cleans due to its effectiveness on *C. difficile* and MROs[126].

Low quality evidence supports the use of routine sodium hypochlorite cleaning, compared to standard cleaning with detergents, in terminating outbreaks of *C. difficile*[126].

The body of evidence informing this recommendation used a minimum of 1:10 dilution, equivalent to 0.1% active chlorine, preceded by a detergent solution. This concentration and advice is aligned with the advice provided in the Infection control guidelines for the public health management of gastroenteritis outbreaks due to norovirus or suspected viral agents in Australia[313].

Clinical Question/ PICO

Population: Patients

Intervention: Sodium hypochlorite

Comparator: Standard cleaning practice

Outcome Timeframe	**Study results and measurements**	**Absolute effect estimates** Standard cleaning Sodium hypochlorite practice	**Certainty of the Evidence** (Quality of evidence)	**Plain text summary**
Incidence rate of healthcare associated infections 9 Critical	(Observational (non-randomized))		**Very Low** Due to serious risk of bias, due to serious indirectness, due to serious imprecision[1]	Three studies of very low methodological quality investigated the effects of sodium hypochlorite disinfection on the incidence rate of hospital-acquired infection, compared to standard cleaning/disinfection. Whilst one study showed that sodium hypochlorite disinfection led to a clinically important reduction in the rate of hospital-acquired CDAD, it had a serious risk of bias due to concerns that the intervention was not independent of other changes. Another study also demonstrated a clinically important reduction in the rate of hospital-acquired CDAD, however it had a very serious risk of bias due to concerns that the intervention was not independent of other changes. In addition, the pre-intervention period and the first intervention period had few data points, so the observed effects may be biased due to regression to the mean or overfitting. The third study demonstrated an immediate reduction in the rate of hospital- acquired CDAD, however this effect was not statistically significant. There was serious imprecision due to wide confidence intervals, and a very serious risk of bias due to concerns that the intervention was not independent of other changes, and due to industry ties.

1. **Risk of bias: Serious.** Inadequate sequence generation/ generation of comparable groups, resulting in potential for selection bias, Incomplete data ; **Indirectness: Serious .** Due to outcome being hospital acquired infection, arising from any pathogen, so the outcome is not specific to MROs ; **Imprecision: Serious.** Wide confidence intervals, Only data from one study ; **Publication bias: No serious.**

Weak Recommendation AGAINST

15. The effectiveness of hydrogen peroxide vapour disinfection as an adjunct to routine cleaning in healthcare facilities is yet to be established. Therefore routine use is not suggested in healthcare facilities.

Hydrogen peroxide vapour may be considered in high-risk settings and during outbreaks when other disinfection options have been exhausted.

Practical Info

Current use of emerging disinfectants

Overall, the evidence of the effects of these emerging disinfection methods on clinical outcomes remains sparse. If emerging disinfectants are used in healthcare facilities, this should always be used in addition to standard cleaning practices[126][128].

Hydrogen peroxide vapour

Hydrogen peroxide has microbiocidal properties against multiple pathogens, including *C. difficile*. Automated (no touch) systems for producing hydrogen peroxide vapour and hydrogen peroxide mist are designed to disinfect by dispersing vapour or mist evenly across a room. As with ultra-violet light, the systems can only be used when rooms are vacated[123]. Rooms and ventilation systems must be sealed to prevent exposure, and hydrogen peroxide must be monitored to ensure safe levels outside the room during disinfection, and within the room before re-entering.

There is not yet enough high quality evidence to determine whether the benefits of using hydrogen peroxide vapour for infection prevention and control outweigh the harms.

Key Info

Benefits and harms — Small net benefit, or little difference between alternatives

As there is limited evidence on the effects of hydrogen peroxide vapour, the benefits of its use for infection prevention and control in addition to standard cleaning procedures cannot be evaluated. There are potential risks of using hydrogen peroxide vapour, however these can be minimised by safe handling in accordance with Safety Data Sheets and manufacturer's instructions for use. If hydrogen peroxide vapour disinfection is used, risk mitigation strategies should be implemented to ensure risks to staff and patients are reduced.

Certainty of the Evidence — Very Low

The overall quality of evidence for the use of hydrogen peroxide vapour in healthcare facilities is very low[126]. None of the three included studies in the review were randomised trials, and one study was at high risk of bias due to industry and financial ties and reported no safeguards to protect against bias[126].

Preference and values — No substantial variability expected

There are no acceptability considerations for hydrogen peroxide vapour which directly impact patients.

Routine use of hydrogen peroxide vapour should not impact on patient health equity.

Resources and other considerations Important issues, or potential issues not investigated

There are significant costs associated with hydrogen peroxide vapour, and the cost-effectiveness of this practice is yet to be conclusively established. These factors in addition to implementation issues affect its feasibility.

Rationale

The evidence on the effects of hydrogen peroxide vapour disinfection on clinical outcomes is sparse. There is very low quality evidence (n=1) reviewing infection acquisition rates and high cost associated with the use of hydrogen peroxide vapour, therefore routine use is not recommended[126].

Overall, the evidence on infection and colonisation incidence rates contributing to this review was of very low quality, due to the small number of studies (n=3) and serious risk of bias. However, the limited evidence does suggest that hydrogen peroxide vapour may be considered in high risk settings in outbreaks[126][128].

Clinical Question/ PICO

Population: Patients

Intervention: Hydrogen peroxide vapour disinfection and standard cleaning/disinfection

Comparator: Standard cleaning practice

Outcome Timeframe	Study results and measurements	Absolute effect estimates		Certainty of the Evidence (Quality of evidence)	Plain text summary
		Standard cleaning practice	Hydrogen peroxide vapour disinfection and standard cleaning		
Incidence rate of healthcare associated infections (CDAD) 9 Critical	(CI 95% -0.75 - 0.41) (Observational (non-randomized))	**0.92** per 1000	**0.74** per 1000 Difference: **0.52 fewer** per 1000 CI 95%	**Very Low** Due to very serious risk of bias and serious imprecision. Single study, so consistency cannot be assessed.[1]	The effect of HPV disinfection on the rate of hospital acquired CDAD are uncertain due to very low quality evidence. HPV disinfection led to a small immediate reduction in the rate of hospital-acquired CDAD of -0.17/1000 patient days (equivalently, a decrease of 19%) but the confidence interval included no reduction, and an increase in CDAD rate as plausible estimates (95%CI -0.75, 0.41). During the intervention period, the trend in the rate of CDAD was stable.

1. **Risk of bias: Very Serious**. Due to concerns that the intervention was not independent of other changes, possible changes to screening during the outbreak period (concurrent with the intervention), and industry ties. In addition, the pre-intervention period had few data points, so the observed effects may be biased due to regression to the mean or overfitting.; **Indirectness: No serious.** Imprecision: Serious. Wide confidence intervals;

Weak Recommendation AGAINST

16. The effectiveness of ultra-violet light disinfection as an adjunct to routine terminal cleaning in healthcare facilities is yet to be established. Therefore routine use is not suggested in healthcare facilities.

Ultra-violet light disinfection may be considered in high-risk settings and during outbreaks when other disinfection options have been exhausted.

Practical Info

Current use of emerging disinfectants

Overall, the evidence of the effects of these emerging disinfection methods on clinical outcomes remains sparse. If emerging disinfectants are used in healthcare facilities, this should always be used in addition to standard cleaning practices[126][128].

Ultra-violet light

Ultra-violet light in the UV-C wavelength range (200 to 270 nanometers) has microbiocidal properties against multiple pathogens, including *C. difficile* and other healthcare associated pathogens.

Technologies have been developed for automated (no-touch) disinfection of hospital rooms using ultra-violet light. The technologies only disinfect areas directly in the ultra-violet light and can only be used when rooms are vacated, partly because of the potentially harmful effects of ultra-violet exposure[123].

Whilst there is some evidence to demonstrate the ultra-violet light disinfection can be effective for infection prevention and control, the magnitude of the benefits is yet to be established and it is unknown whether these outweigh the harms[126][128].

Key Info

Benefits and harms — Substantial net benefits of the recommended alternative

There is evidence of the benefit of ultra-violet light, however there are known risks involved when using ultra-violet light as a disinfection method. Ultra-violet light can be harmful to healthcare workers if they enter the room during operation as toxic levels can be reached within three seconds of exposure.

Certainty of the Evidence — Low

The evidence for the effectiveness of ultra-violet light for terminal cleaning in healthcare facilities is low[126].

One study[125] was high quality and suggested that ultraviolet light can be effective in reducing infection rates in hospitalised populations. However, the study was graded down due to imprecision from large confidence intervals. These findings require replication in other contexts, and data for high risk groups are needed.

Preference and values No substantial variability expected

There are no acceptability considerations related to ultra-violet light which would directly impact a patient.

The routine use of ultra-violet light should not impact on patient health equity.

Resources and other considerations Important issues, or potential issues not investigated

The magnitude of benefit of ultra-violet light is yet to be established, so the cost effectiveness of these interventions is likely to vary according to the baseline risks of healthcare associated infections due to multi-resistant organisms. These factors in addition to the upfront costs and implementation issues affect the feasibility of using ultra-violet light. The feasibility of its use also depends on the design of the healthcare facility.

Rationale

The evidence on the effects of ultra-violet light disinfection on clinical outcomes is sparse despite the recent publication of a low quality, large cluster randomised trial[125] reviewing infection acquisition rates. This single study suggests that ultra-violet light may be effective for multi-resistant organisms (MRO) disinfection but its implementation has significant workplace health and safety considerations and feasibility issues relating to facility design and upfront costs.

Overall the evidence on infection and colonisation incidence rates contributing to this review was of low quality, due to the small number of studies (n=2) and serious imprecision[126], however the limited evidence does suggest that ultra-violet light may be considered in high risk settings in MRO outbreaks for terminal cleaning when other disinfection options have not been effective[126][128]. Ultra-violet light is not shown to be effective for *C. difficile* by comparison to the more inexpensive disinfectant, sodium hypochlorite.

Clinical Question/ PICO

Population: Patients

Intervention: Ultra-violet light disinfection and standard cleaning/disinfection

Comparator: Standard terminal room disinfection (sodium hypochlorite)

Outcome Timeframe	Study results and measurements	Absolute effect estimates Standard terminal room disinfection (sodium hypochlorite)	Absolute effect estimates Ultra-violet light disinfection and standard cleaning	Certainty of the Evidence (Quality of evidence)	Plain text summary
Incidence rate of healthcare associated infections (CDAD) 9 Critical	Relative risk 1 (CI 95% 0.57 - 1.75) Based on data from 5,177 patients in 1 studies. (Randomized controlled)	**36** per 1000	**38** per 1000	**Low** Due to very serious imprecision. Single study, so consistency cannot be assessed.[1]	Terminal room disinfection with UV light may have little or no effect on the incidence of hospital-acquired CDAD compared to using sodium hypochlorite alone. However, further research is likely to have an important impact on our confidence in the effect estimate and may change the estimate. Addition of UV light for terminal room disinfection did not reduce the rate of hospital-acquired CDAD compared to sodium hypochlorite disinfection alone (RR 1.0, equivalently a decrease of 0% (95%CI: 0.57, 1.75; p=0.997)).

1. **Indirectness: No serious . Imprecision: Very Serious .** Wide confidence intervals includes the possibility of a large reduction or a small increase, leading to conflicting interpretation of effects. ; **Publication bias: No serious .**

Weak Recommendation AGAINST

17. The effectiveness of ultra-violet light disinfection in combination with sodium hypochlorite for terminal cleaning in healthcare facilities is yet to be established. Therefore routine use is not suggested in healthcare facilities.

Ultra-violet light disinfection in combination with sodium hypochlorite may be considered in high-risk settings and during outbreaks when other disinfection options have been exhausted.

Practical Info

Current use of emerging disinfectants

Overall, the evidence of the effects of these emerging disinfection methods on clinical outcomes remains sparse. If emerging disinfectants are used in healthcare facilities, this should always be used in addition to standard cleaning practices[126].

Ultra-violet light with sodium hypochlorite

Ultra-violet light in the UV-C wavelength range (200 to 270 nanometers) has microbiocidal properties against multiple pathogens, including *C. difficile* and other healthcare associated pathogens.

Technologies have been developed for automated (no-touch) disinfection of hospital rooms using ultra-violet light. The technologies only disinfect areas directly in the ultra-violet light and can only be used when rooms are vacated, partly because of the potentially harmful effects of ultra-violet exposure[157].

Sodium hypochlorite is a commonly used chlorine-based disinfectant with broad spectrum antimicrobial properties. Sodium hypochlorite may cause irritation to the skin, eyes and other mucous membranes. It can also corrode metals and discolour or stain fabrics.

Key Info

Benefits and harms — Small net benefit, or little difference between alternatives

There is evidence of the benefit for the combined use of ultra-violet disinfection and sodium hypochlorite. However, there are known risks involved in the use of both ultra-violet disinfection and sodium hypochlorite individually, so risk management strategies addressing their concurrent use need to be but in place.

Certainty of the Evidence — Moderate

One study in the systematic review[126] investigated the effectiveness of using ultra-violet light disinfection and sodium hypochlorite. However, this study reviewed the composite outcome of infection and colonisation (rated as an important outcome), unlike the other interventions in the review which provided evidence for the critical outcome of infection only.

Preference and values — No substantial variability expected

There are no acceptability considerations which directly impact the patient.

The combined use of ultra-violet light disinfection and sodium hypochlorite should not impact on patient health equity.

Resources and other considerations — Important issues, or potential issues not investigated

The effectiveness of the combined use of ultra-violet light disinfection and sodium hypochlorite is yet to be conclusively established. Sodium hypochlorite is inexpensive, so if it is effective it is likely to be a cost saving intervention. However, ultra-violet light is expensive and its effectiveness is likely to vary according to the baseline risks of healthcare associated infections due to multi-resistant organisms. Upfront costs, implementation issues and facilities design also affect the feasibility of using ultra-violet light disinfection in combination with sodium hypochlorite.

Rationale

The evidence on the effects of ultra-violet light disinfection in combination with sodium hypochlorite disinfection on clinical outcomes is sparse despite the recent publication of a moderate quality large cluster randomised trial[125] reviewing infection and colonisation incidence rates. This single study suggests the combination of ultra violet light disinfection and sodium hypochlorite may be effective for multi-resistant organism (MRO) disinfection but its implementation has significant work health and safety considerations and feasibility issues relating to facility design and upfront costs.

Overall the evidence on infection and colonisation incidence rates contributing to this review[126] was of moderate quality, with the limited evidence (n=1) suggesting that ultra-violet light disinfection in combination with sodium hypochlorite disinfection may be considered

in high risk settings in MRO outbreaks for terminal cleaning when other disinfection options have been exhausted. It is important to note that in isolation, ultra-violet light disinfection is not shown to be effective for *C. difficile* by comparison to the less expensive disinfectant, sodium hypochlorite.

Clinical Question/ PICO

Population: Patients

Intervention: Ultra-violet light disinfection and sodium hypochlorite

Comparator: Standard cleaning practices

Outcome Timeframe	Study results and measurements	Absolute effect estimates: Standard cleaning practices	Absolute effect estimates: Ultra-violet light disinfection and sodium hypochlorite	Certainty of the Evidence (Quality of evidence)	Plain text summary
Incidence rate of infection or colonisation (Multi-Resistant Organisms - MROs) 6 Important	Relative risk 0.82 (CI 95% 0.67 - 1) Based on data from 8,403 patients in 1 studies. (Randomized controlled)	**5.64** per 1000	**4.62** per 1000	**Moderate** Due to serious imprecision. Single study, so consistency cannot be assessed.[1]	The effect of terminal room disinfection with UV light plus sodium hypochlorite on the incidence of hospital- acquired MROs is uncertain. Addition of UV light plus sodium hypochlorite for terminal room disinfection reduced the rate of hospital-acquired MROs by 18% compared to quaternary ammonium disinfection alone (RR 0.82, 95% CI 0.67, 1.00, p=0.048)). However, the confidence interval includes the possibility of a clinically important reduction of 33% reduction, or no reduction.

1. **Indirectness: No serious . Imprecision: Serious .** The 95% confidence interval includes the possibility of a clinically important reduction, or no reduction. ; **Publication bias: No serious .**

Weak Recommendation AGAINST

18. The effectiveness of surfaces, fittings or furnishing containing materials with antimicrobial properties in healthcare facilities is yet to be established. Therefore routine use is not suggested in healthcare facilities.

Practical Info

Current use of antimicrobial surfaces

Overall, the evidence of the effects of antimicrobial surfaces on clinical outcomes remains sparse. If antimicrobial surfaces are used in healthcare facilities, this should always be used in addition to standard cleaning practices[127].

Antimicrobial surfaces

The use of surfaces, fittings or furnishing containing materials with antimicrobial properties has been suggested to reduce the concentration of bacteria on surfaces, in turn reducing environmental exposure to pathogens. Self-disinfecting materials that are considered for use in healthcare facilities include the use of heavy metal alloy coatings on fittings (e.g. copper or silver coatings for bed rails, tray tables or IV stands). There is currently limited evidence to support the use of environmental fittings with antimicrobial properties to prevent infection [127].

Key Info

Benefits and harms — Small net benefit, or little difference between alternatives

The limited evidence on the use of copper-surfaced objects in health care facilities means that the potential harms and benefits cannot be assessed.

Certainty of the Evidence — Very Low

The evidence for the effectiveness of copper-surfaced fittings is of very low quality[127]. Only two studies were identified for inclusion, both of which were non-randomised and had high risks of bias and serious imprecision[127]. One study reviewed infection acquisition rates while the other considered infection and colonisation incidence rates together.

There were no eligible studies identified of any other antimicrobial surfaces.

Preference and values — No substantial variability expected

No important uncertainty or variability was identified, and no acceptability considerations that directly impact the patient were identified.

Resources and other considerations — Important issues, or potential issues not investigated

The effectiveness of antimicrobial surfaces is yet to be established, so the cost effectiveness of these interventions is unknown. The actual cost and feasibility may vary depending on the context - i.e. new buildings versus retrofitting hospitals and wards.

Rationale

The evidence on the effects of copper surfaces on healthcare associated infection is sparse. With only one non-randomised trial reviewing infection acquisition rates with uncertain results, it is not possible to draw conclusions from this evidence[127].

Overall the evidence on infection and colonisation incidence rates contributing to this review was of very low quality[127], due to the small number of studies (n=2) and imprecise estimates of effect observed in both included studies. Both were non-randomised studies and were at risk of biases that further reduced certainty about the effects observed.

There were no eligible studies identified of any other antimicrobial surfaces[127].

Clinical Question/ PICO

Population: Patients

Intervention: Environmental surfaces coated or impregnated with antimicrobial (self-disinfecting) materials

Comparator: Standard-surfaced objects

Outcome Timeframe	Study results and measurements	Absolute effect estimates Standard-surfaced objects		Certainty of the Evidence (Quality of evidence)	Plain text summary
Incidence rate of healthcare associated infections (any pathogen) 9 Critical	Relative risk 0.82 (CI 95% 0.49 - 1.37) Based on data from 515 patients in 1 studies. (Observational (non-randomized))	**13** per 1000	**10.6** per 1000	**Very Low** Due to serious risk of bias, serious indirectness and serious imprecision.[1]	The effect of copper-surfaced objects on the rate of hospital acquired infection is uncertain due to very low quality evidence. A small (18%) reduction in the rate of hospital-acquired infection was found in rooms with copper- surfaced objects compared to rooms with standard objects (IRR 0.82 (95% CI: 0.49, 1.37), p=0.41). However, this does not exclude the possibility that the true intervention effect could be a 37% increase in colonisation with copper surfaces.

1. **Risk of bias: Serious .** Inadequate sequence generation/ generation of comparable groups, resulting in potential for selection bias, Incomplete data ; **Indirectness: Serious .** Differences between the outcomes of interest and those reported (infection from any pathogen, not specific to MROs) ; **Imprecision: Serious .** Wide confidence intervals ; **Publication bias: No serious .**

3.1.4 Reprocessing of reusable medical devices

This section gives core principles for reprocessing of reusable medical devices (RMDs - instruments and equipment) in any healthcare setting. Unless exempt, reusable medical devices must be 'included' onto the Australian Register of Therapeutic Goods (ARTG) before they may be supplied in or exported from Australia. Healthcare facilities should develop local policies and procedures relevant to their setting and may also need to consult relevant Australian Standards and discipline-specific guidelines for further advice on reprocessing requirements. Further information is contained in Standard AS/NZS 4815: 2006 which is relevant to office-based healthcare facilities, Standard AS/NZS 4187: 2014 which is relevant to larger healthcare facilities, or equivalent international standards e.g. International Organization for Standardization (ISO) or European Standard (EN).

What are the risks?

Any infectious agents introduced into the body can establish infection. In all healthcare settings, reusable medical devices should be handled in a manner that will prevent patient, healthcare worker and environmental contact with potentially infectious material.

Principles of reprocessing reusable medical devices include[131]:

- Only Therapeutic Goods Administration (TGA)-included reusable medical devices should be used; before purchase, healthcare facilities should ensure that manufacturer's reprocessing instructions are provided and are able to be followed by the healthcare facility.

- All reusable medical devices and patient-care equipment used in the clinical environment must be reprocessed according to their intended use and manufacturer's advice.
- Single-use medical devices must not be reprocessed.
- If a healthcare facility makes a decision to reprocess single-use devices, the facility must be licensed by the TGA and:
  - will be considered a manufacturer under section 41BG(2) of the *Therapeutic Goods Act 1989*
  - will be subject to audit for conformance.

Assessing the degree of risk

Any medical device (instruments and equipment) that is to be reused and requires reprocessing—cleaning, disinfection and/or sterilisation. The minimum level of reprocessing required for reusable instruments and equipment depends on the individual situation and manufacturer instructions (i.e. the body site and the nature by which the instrument will be used).

The approach to disinfection and sterilisation of patient-care items and equipment devised by Spaulding over 45 years ago has been retained and refined and is still successfully used by infection control professionals and others when planning methods for disinfection or sterilisation[130]. The system is based on instruments and items for patient care being categorised into critical, semi-critical and non- critical, according to the degree of risk for infection involved in use of the items.

Table 7. Categories of items for patient care

Category	Description
Critical	These items confer a high risk for infection if they are contaminated with any microorganism and must be sterile at the time of use. This includes any objects that enter sterile tissue or the vascular system, because any microbial contamination could transmit disease.
Semi-critical	These items come into contact with mucous membranes or non-intact skin, and should be single use or sterilised after each use. If this is not possible, high-level disinfection is the minimum level of reprocessing that is acceptable.
Non-critical	These items come into contact with intact skin but not mucous membranes. Thorough cleaning is sufficient for most non-critical items after each individual use, although either intermediate or low-level disinfection may be appropriate in specific circumstances.

Computers, portable mobile devices and personal digital assistants used in patient care are classified as non-critical patient care items[130]. It is important that these items are included in policies for cleaning non-critical items.

Surfaces barriers such as keyboard covers and washable keyboards that can be easily cleaned may help prevent contamination of surfaces and equipment. These should be correctly used, as per the manufacturer instructions and changed or cleaned between patients. Further information on surface barriers is available in Section 3.1.3 *Practice Statement 11*.

Cleaning

Cleaning is the removal of foreign material (e.g. soil and organic material) from objects and is normally carried out using detergent, water and physical action.

Cleaning to remove organic material must always precede high-level disinfection and sterilisation of critical and semi-critical instruments and devices as residual proteinaceous material reduces the effectiveness of the disinfection and sterilisation processes. If an item cannot be cleaned, it cannot be disinfected or sterilised.

Instruments should be cleaned as soon as practical after use (e.g. preferably at the point of use) before soiled materials become dried onto the instruments. Dried or baked materials on the instrument make the removal process more difficult, the disinfection or sterilisation process less effective or ineffective and can damage the RMD.

Instruments that can be disassembled must be disassembled before the cleaning and the disinfection/sterilisation process.

Methods of cleaning

Automated

Automated cleaners (ultrasonic cleaners and washer-disinfectors) reduce the handling of instruments and are recommended for cleaning basic instruments that can withstand the process.

- Ultrasonic cleaners work by subjecting instruments to high frequency, high-energy sound waves, thereby loosening and dislodging dirt.
- Washer-disinfectors use detergent solutions at predetermined high temperatures and time periods to clean reusable medical devices. When a washer-disinfector is used, care should be taken in loading instruments: hinged instruments should be opened fully to allow adequate contact with the detergent solution; over loading of reusable medical devices in washer disinfectors should be avoided; and instruments should be disassembled.

Manual

Cleaning is done manually for fragile or difficult-to-clean reusable medical devices and in settings without automatic units. Where manual cleaning methods are used, these should comply with Standard AS/NZS 4815: 2006, Standard AS/NZS 4187: 2014, or equivalent international standards, whichever is relevant to the type of healthcare facility.

The two essential components of manual cleaning are:

- friction—rubbing/scrubbing the soiled area with an appropriately sized soft brush
- fluidics—use of fluids to remove soil and debris from internal channels after brushing with an appropriately sized brush and when the design does not allow passage of a brush through a channel.

Healthcare workers should wear appropriate PPE for the task—plastic apron, utility gloves and face protection (protective eyewear and mask or face shield). Care should be taken to prevent to prevent aerosols, splashes to mucous membranes or penetration of the skin by sharp instruments.

Cleaning agents

The cleaning solution and style must be appropriate for each instrument and piece of equipment. The manufacturer's instructions will guide the type of cleaning agent required. This is usually neutral pH or mildly alkaline as such solutions generally provide the best material compatibility profile and good soil removal; mildly acidic solutions may damage instruments. Where multiple chemicals are used, they should be compatible with each other.

Enzymes, usually proteases (enzymes active on proteins), are sometimes added to neutral pH solutions to assist in removing organic material such as blood and pus. Cleaning solutions can also contain lipases (enzymes active on fats) and amylases (enzymes active on starches). Enzymatic cleaners are not disinfectants, and proteinaceous enzymes can be inactivated by germicides.

As with all chemicals, enzymes must be rinsed from the equipment or adverse reactions could result.

Checking effectiveness of cleaning

The most common means of monitoring the efficacy of the cleaning process for reusable medical devices is by thorough visual inspection following cleaning. However, for complex reusable medical devices, visual inspection may be difficult and not sufficient to monitor cleaning efficacy. Commercially available soil tests or surrogate devices (e.g. protein, endotoxin, x-ray contrast medium, or blood) may be used to monitor cleaning process efficacy provided they have undergone validation studies.

International Standard ISO 15883-5: 2005 (Washer-Disinfectors, Part 5), outlines specific test methods to check the effectiveness of cleaning to verify manual and automated processes.

At a minimum, all instruments should be individually inspected (with magnification where possible) and be visibly clean. More information on checking the effectiveness of cleaning is available in 3.1.3 - Routine management of the physical environment.

Disinfection

Disinfection is a process that inactivates non-sporing infectious agents, using either thermal (moist or dry heat) or chemical means. Items need to be cleaned before being disinfected.

Instruments should be removed from the disinfectant after reprocessing and stored dry. To preserve the surfaces of the instruments, dissimilar metals should be separated before cleaning.

- *Thermal disinfection* uses heat and water, at temperatures that destroy infectious agents and is appropriate for items that are heat and moisture resistant and do not require sterilisation. Thermal disinfection, is the simplest, most efficient and cost-effective method of disinfection. It can be achieved in an automated thermal washer-disinfector by choosing the appropriate cycle.
- *Chemical disinfection* can be achieved with a compatible TGA-included sterilant or medical device disinfectant, used alone or together with an automated washer-disinfector. Chemical disinfectants include alcohols, chlorine and chlorine compounds, formaldehyde, hydrogen peroxide, phenolics and quaternary ammonium compounds. Commercial formulations based on these chemicals are considered unique products and must be 'included' onto the Australian Register of Therapeutic Goods (ARTG). In most instances, each product is designed for a specific purpose; therefore, users should read labels carefully to ensure the correct product is selected for the intended use and applied efficiently.

There are three levels of disinfection, depending on the intended use of the instruments:

- **High level disinfection**—a disinfectant that kills all microbial pathogens, except large numbers of bacterial endospores when used as recommended by manufacturer.
- **Intermediate level disinfection**—a disinfectant that kills all microbial pathogens except bacterial endospores, when used as recommended by the manufacturer. It is bactericidal, tuberculocidal, fungicidal (against asexual spores but not necessarily dried chlamydospores or sexual spores) and virucidal.
- **Low level disinfection**—a disinfectant that rapidly kills most vegetative bacteria as well as medium sized lipid containing viruses, when used according to labelling. It cannot be relied upon to destroy, within a practical period, bacterial endospores, mycobacteria, fungi or all small nonlipid viruses.

Disinfection is not a sterilising process. Wherever possible, sterilise items to be used in semi-critical sites, or employ single-use items.

Sterilisation

Sterilisation destroys all microorganisms on the surface of an instrument or device, to prevent disease transmission associated with the use of that item. While the use of inadequately sterilised critical items represents a high risk of transmitting infectious agents, documented transmission associated with an inadequately sterilised critical item is rare. This is probably due to the wide safety margin associated with the sterilisation processes used in healthcare facilities.

- Reprocessing of heat resistant items is recommended by steam sterilisation due to the safety margin, reliability, validity and lethality.
- Reprocessing heat and moisture-sensitive items requires use of a low-temperature sterilisation technology (e.g. ethylene oxide, hydrogen peroxide plasma, peracetic acid and aldehyde).

Sterilisation methods are designed to give a sterility assurance level (SAL) of at least 10-6, provided the sterilisation process is validated by the user. Records of sterilisation must also be kept to verify that an appropriate reprocessing system is in place according to state and federal legislation. Details of the documentation required can be found in Standard AS/NZS 4815: 2006 and Standard AS/NZS 4187: 2014.

In this rapidly changing area, reprocessing standards evolve to accommodate changes in equipment design and emerging technologies in sterilisation.

Medical device sterilants and disinfectants

Only TGA-included sterilant or medical device disinfectants should be used on medical devices. Low level, intermediate level and high level TGA-included sterilant or medical device disinfectants are defined in the Therapeutic Goods Order Number 104 (Standard for Disinfectants - TGO 104)[131]. To be considered as 'TGA-included', sterilants and disinfectants must comply with the essential principles for quality, safety and performance through using appropriate testing regimes for performance.

Storage and maintenance

All items must be stored in a way that maintains their level of reprocessing (e.g. sterile, high level disinfected). Dry, sterile, packaged instruments and equipment should be stored in a clean, dry environment and be protected from sharp objects that may damage the packaging. Further information on handling, transport and storage of reprocessed medical devices is available in Standard AS/NZS 4815: 2006, Standard AS/NZS 4187: 2014, or equivalent international standards.

Equipment and instrument surfaces should be regularly examined for breaks in integrity that would impair either cleaning or disinfection/ sterilisation (this should be a documented process). Equipment that no longer functions as intended or cannot be adequately cleaned and disinfected or sterilised should be repaired or discarded.

Table 8. General criteria for reprocessing and storage of equipment and instruments in healthcare settings

Level of risk	Process	Examples	Storage
***Critical** Entry or penetration into sterile tissue, cavity or blood stream	• Clean thoroughly as soon as possible after using. • Sterilise after cleaning by steam under pressure. • If heat or moisture sensitive, sterilise through an automated low temperature chemical sterilant system, other liquid chemical sterilants or ethylene oxide sterilisation. • Ensure critical items are sterilised between each patient use.	• Invasive surgical and dental equipment e.g. surgical oral instruments, arthroscopes, laparoscopes, rigid and flexible bronchoscopes, heat stable scopes. • Implants and ultrasound probes used in sterile body cavities.	Sterility must be maintained: • Packaged items must go through a drying cycle and then be checked to ensure drying has taken place before use or storage. • The integrity of the wrap must be maintained. • Wraps act as an effective biobarrier during storage. • Unpackaged sterile items must be used immediately (without contamination in transfer from steriliser to site of use) or resterilised. • All endoscopic instruments (except those in sterile packaging) should be stored in a TGA-approved forced-air drying cabinet.
Semi-critical Contact with intact mucous membranes or non-intact skin	• Clean thoroughly as soon as possible after using. • Steam sterilisation is preferable. • If the equipment will not tolerate steam use a high level TGA-included chemical or thermal sterilant or medical device disinfectant.	• Respiratory therapy and anaesthesia equipment, some endoscopes, vaginal speculae, laryngoscope blades, cystoscopes, anorectal manometry catheters, diaphragm fitting rings. • Probes including transoesophagal echocardiogram, transrectal ultrasound and transvaginal probes.	• Store to prevent environmental contamination. • All endoscopic instruments (except those in sterile packaging) should be stored in a TGA-approved forced-air drying cabinet or reprocessed within set timeframes prior to use.
Non-critical Contact with intact skin	• Clean as necessary with detergent solution. • If decontamination is necessary, disinfect with compatible low or intermediate level TGA- included sterilant or medical device disinfectant after cleaning.	• Stethoscopes, sphygmomanometers, blood pressure cuffs, mercury thermometers, non-invasive ultrasound probes. • Intravenous pumps and ventilators. • Noninvasive ultrasound probes *(not used in contact with non-intact skin or mucous membranes)*. • Commodes, bedpans, blood pressure cuffs, and crutches.	• Store in a clean, dry place to prevent environmental contamination.

Source: Rutala & Weber (2008)[106]

Reprocessing of flexible endoscopes

Outbreaks associated with flexible endoscopy most commonly occur due to errors in reprocessing. Reprocessing of endoscopes should be according to the manufacturer's instructions. Staff should be aware of the number of channels and valves within the endoscope.

Table 9. Class of device and associated reprocessing method

Class	Use	Device	Reprocessing method (minimum requirement)
Semi-critical	Touches mucous membranes and non-intact skin.	Gastrointestinal endoscope (e.g. colonoscope and duodenoscope) Cystoscope	Cleaning, followed by high level disinfection.
Critical	Enters sterile tissue, vascular system or body space.	Snares/loops Arthroscopes Laparoscopes Bronchoscopes	Cleaning followed by sterilisation.

Source: Public Health Agency of Canada (2010)[235]

For more information on the reprocessing of endoscopes, see the GESA's *Infection Control in Endoscopy (2010)* Guidelines and the accompanying 2017 Consensus statements—https://www.gesa.org.au/resources/infection-control-in-endoscopy/[132].

Reprocessing of loan sets and privately owned sets

Loan sets and private sets need to be processed prior to use by the healthcare facility as there are no ways to verify claims that the device has been previously reprocessed. Healthcare facilities may not always have the facilities or capacity to reprocess loan sets immediately, so the reprocessing unit should be contacted prior to confirming the ability to reprocess and organising scheduling requirements[341].

This process should be informed by risk assessment.

Loan sets should undergo routine cleaning and sterilisation before being returned to the loaner, as per manufacturer instructions. Loan sets should be transported in fit-for-purpose containers to minimise the risk of damage, contamination and injury to handlers.

For more information, see **Standard AS/NZS 4187: 2014, Section 5.**

Routine testing of disinfectant

Concentration of a disinfectant or sterilising agent is critical to its effectiveness in infection prevention. The concentration and temperature of the disinfectant and the contact time with the instrument must adhere with the disinfectant's stated inclusion on the Australian Register of Therapeutic Goods (ARTG). This information should be reflected in the manufacturer's instructions on the disinfectant's label.

Reusable disinfectants will gradually reduce in their effectiveness over time, and the appropriate number of reuses must be determined by testing that the solution is at or above its minimum effective concentration. This should be checked daily or more frequently according to the number of instruments being reprocessed[100].

Further considerations

Steam sterilisation and the other methods listed above are not sufficient for reprocessing items potentially contaminated with certain types of infectious agents. This includes prions, such as Creutzfeldt-Jakob disease (CJD), for which single-use items should be used wherever possible and subsequently destroyed by incineration.

For further information on infection control issues relating to CJD and the reprocessing of reusable medical devices, refer to the Department of Health *Infection Control Guidelines* at http://www.health.gov.au/internet/main/publishing.nsf/Content/icg-guidelines- index.htm[133].

For further information on reprocessing ultrasound probes, refer to the Australasian Society for Ultrasound in Medicine *Guidelines for Reprocessing Ultrasound Transducers at* http://onlinelibrary.wiley.com/doi/10.1002/ajum.12042/full[134].

Individual actions for reducing risk:

- Become familiar with AS, ISO and EN standards and facility protocols on cleaning, disinfecting and sterilising.
- Use the appropriate product for the situation and use it as directed.
- Participate in education sessions and professional development sessions on reprocessing instruments and equipment, particularly when new sterilising or disinfecting equipment is introduced.

For practical information on the reprocessing of equipment, see Case Study 5.6.

3.1.5 Respiratory hygiene and cough etiquette

Respiratory hygiene and cough etiquette must be applied as a standard infection control precaution at all times. Covering sneezes and coughs prevents infected persons from dispersing respiratory secretions into the air. Hands must be washed with soap and water after coughing, sneezing, using tissues, or after contact with respiratory secretions or objects contaminated by these secretions.

Table 10. Steps in respiratory hygiene and cough etiquette

Anyone with signs and symptoms of a respiratory infection, regardless of the cause, should follow or be instructed to follow respiratory hygiene and cough etiquette as follows:

- Cover the nose/mouth with disposable single-use tissues when coughing, sneezing, wiping and blowing noses.
- Use tissues to contain respiratory secretions.
- Dispose of tissues in the nearest waste receptacle or bin after use.
- If no tissues are available, cough or sneeze into the inner elbow rather than the hand.
- Practice hand hygiene after contact with respiratory secretions and contaminated objects/materials.
- Keep contaminated hands away from the mucous membranes of the mouth, eyes and nose.
- In healthcare facilities, patients with symptoms of respiratory infections should sit as far away from others as possible. If available, healthcare facilities may place these patients in a separate area while waiting for care.

Healthcare workers should also assist patients (e.g. elderly, children) who need assistance with containment of respiratory secretions. Those who are immobile will need a receptacle (e.g. plastic bag) readily at hand for the immediate disposal of used tissues and will need to be offered hand hygiene facilities.

Healthcare workers with viral respiratory tract infections should remain at home until their symptoms have resolved.

Respiratory hygiene and cough etiquette are particularly important for patients on droplet precautions (see Section 3.2.3).

3.1.6 Aseptic technique

Aseptic technique is a set of practices aimed at minimising contamination and is particularly used to protect the patient from infection during procedures [138]. Many of the other work practices that form standard precautions are required for aseptic technique, however, adherence to these practices alone does not constitute aseptic technique. Sterile single-use equipment or instruments must be used according to manufacturer's instructions and in such a way that the sterility of the item is maintained.

Commercial frameworks to assist with the implementation of aseptic technique are available and may be practiced in some healthcare facilities.

The five essential principles of aseptic technique are:

1. Sequencing:
   - Performing a risk assessment
   - Pre-procedure preparation
   - Performing the procedure
   - Post procedure practices, handover and documentation
2. Environmental control:
   - Prior to aseptic procedures, healthcare workers must ensure there are no avoidable nearby environmental risk factors, such as bed making or patients using commodes
3. Hand hygiene:
   - Perform hand hygiene before a procedure and after a procedure or body fluid exposure
4. Maintenance of aseptic fields:
   - Cleaning and/or disinfection of equipment and patient prior to procedure(s)
   - Establishing an aseptic field
   - Use of sterile equipment
   - Maintenance of the aseptic field, including protecting the key sites and key parts
   - Use of a non-touch technique
5. PPE:
   - Correct selection and use of sterile and non-sterile PPE

3.1.6.1 Example of an Aseptic Technique: Aseptic Non-Touch Technique (ANTT®)

The NHMRC and the Australian Commission on Safety and Quality in Health Care does not specifically endorse ANTT, but recognises ANTT as a best practice example of a clinical practice and education framework for aseptic technique.

ANTT is defined as, 'A specific type of aseptic technique with a unique theory and practice framework.' [139] ANTT principles are intended for use in all clinical specialities and care settings - from the operating theatre to the community [140]. Since the late 1990's, The Association for Safe Aseptic Practice (ASAP) [141] originated and has subsequently overseen the development and dissemination of ANTT internationally, and supported hospitals and community health organisations to implement ANTT and help maintain safe standards of aseptic technique. There are two types of ANTT: Standard-ANTT and Surgical-ANTT and the ANTT Clinical Practice Framework is summarised below [142]:

Terminology

Historically, the practice of protecting patients from contamination and infection during clinical procedures has generated an inaccurate and confusing paradigm based on the terminology of undefined sterile, aseptic and clean techniques.

The use of accurate terminology is important in order to promote clarity in practice.

Sterile 'Free from microorganisms'[143]

Due to the natural multitude of organisms in the atmosphere it is not possible to achieve a sterile technique in a typical healthcare setting. Near sterile techniques can only be achieved in controlled environments such as a laminar air flow cabinet or a specially equipped theatre. The commonly used term 'sterile technique', i.e. the instruction to maintain sterility of equipment exposed to air, is obviously not possible and is often applied inaccurately.

Asepsis 'Freedom from infection or infectious (pathogenic) material'[143]

An aseptic technique aims to prevent pathogenic organisms, in sufficient quantity to cause infection, from being introduced to susceptible sites by hands, surfaces and equipment. Therefore, unlike sterile techniques, aseptic techniques are possible and can be achieved in typical hospital and community settings.

Clean 'Free from dirt, marks or stains'[145]

Although cleaning followed by drying of equipment and surfaces can be very effective, it does not necessarily meet the quality standard of asepsis[136]. However, the action of cleaning is an important component in helping render equipment and skin aseptic, especially when there are high levels of contaminants that require removal or reduction. As such, to be confident of achieving asepsis, an application of a skin or hard surface disinfectant is required either during cleaning or afterwards.

Consequently, the aim of ANTT is asepsis.

ANTT in practice

ANTT is based upon an original concept of Key-Part and Key-Site Protection to protect the procedure Key-Parts and patient Key-Sites from contamination by microorganisms that could cause infection. In ANTT, asepsis is ensured by identifying and then protecting all Key-Parts and Key-Sites by hand hygiene, non-touch technique, using new sterilised equipment and/or cleaning existing Key-Parts to a standard that renders them aseptic prior to use.

Core infection control components of ANTT

Both types of ANTT first demand standard precautions such as hand hygiene and personal protective equipment (PPE). Thereafter, Key-Parts and Key-Sites are protected using a combination of non touch technique and aseptic fields – depending on the type of ANTT utilised.

Risk assessment

While the principles of ANTT remain constant for all clinical procedures, the level of aseptic practice will differ depending upon ANTT risk assessment. The health care worker will consider the technical difficulty of achieving asepsis by appraising a range of procedure variables including user competence. The healthcare worker assesses whether the procedure can be performed easily without touching Key-Parts and Key-Sites directly. If no, Surgical-ANTT is utilised. If yes, Standard -ANTT is utilised. See below.

Aseptic technique or ANTT cannot always be applied due to emergency and/or uncontrolled environmental conditions. Where this occurs, healthcare workers should aim to utilise the principles of ANTT where practical and safe to do so. Where there has been a breach, this should be documented and included in handover and the infection risks mitigated as soon as possible.

Key-Part and Key Site Protection

The health care worker will always apply the Key-Part and Key-Site rule: 'Aseptic Key Parts must only come into contact with other aseptic Key-Parts and/or Key-Sites'.

Hand hygiene

Effective hand hygiene is an essential component of aseptic technique. In Standard-ANTT, hand hygiene should be performed as outlined in Section 3.1.1. In Surgical-ANTT, a surgical hand scrub is required[146] (see Section 3.5.3).

Glove use

It is known that hand hygiene is not always correctly performed and that even correctly performed hand hygiene cannot always remove all pathogenic organisms. Therefore, identifying Key-Parts and Key-Sites and not touching them directly or indirectly using a non touch method - is a vital component of achieving asepsis. In Standard-ANTT, non-sterile gloves are typically worn. In some instances the additional rationale is to protect the user from body fluids or exposure to chemicals. For Surgical-ANTT, sterile gloves are always worn.

Aseptic fields

Even well cleaned hospitals can be said to be 'dirty'—as they are busy and dynamic environments that typically harbour unusual antibiotic-resistant organisms. Consequently, aseptic fields are important in providing a controlled aseptic working space to help promote or ensure the integrity of asepsis during clinical procedures. It is also important that aseptic fields are fit for purpose. In aseptic technique, aseptic fields are increased in size and sterilised drapes are added on the basis of procedure complexity; for example, in IV therapy, 'mobile' aseptic fields such as plastic trays should be large enough and with high sides to provide an adequate working space to contain equipment, sharps and spillages.

ANTT employs three types of aseptic field that require different management depending on whether the primary purpose is to promote or ensure asepsis.

Critical Aseptic Fields; ensuring asepsis

Critical Aseptic Fields are used when Key-Parts and/or Key-Sites, usually due to their size or number, cannot easily be protected individually at all times with sterilized covers and caps, or handled at all times using non-touch technique (such as in peripherally inserted central venous catheters (PICC lines, urinary catheter insertion, complex wound care etc.), or when particularly open and invasive procedures demand large aseptic working areas for long durations, as in the operating room. In such cases, the Critical Aseptic Field demands to be managed as a Key-Part (i.e. only equipment that has been sterilised can come into contact with it). Such a Critical Aseptic Field demands the use of sterilised gloves and, often, full barrier precautions[57]. Large main Critical Aseptic Fields are used in Surgical-ANTT, generally reflecting more complex and longer duration aseptic procedures.

A sub-type of a Critical Aseptic Field is the Micro Critical Aseptic field. Traditional aseptic/ clean techniques have protected Key-Parts by syringe caps, sheathed clean needles, covers or packaging etc. This often-understated approach is given particular emphasis in ANTT, because the inside of such caps and covers have been sterilised and thus can provide an optimum all-encompassing aseptic field for Key-Parts.

General Aseptic Fields; promoting asepsis

General Aseptic Fields are used in Standard-ANTT when Key-Parts can easily and optimally be protected by Micro Critical Aseptic Fields and a non touch method. The main General Aseptic Field isn't managed as a Key-Part and is essentially promoting, rather than ensuring, asepsis. Subsequently, the procedure is considerably simplified and typically involves non-sterile gloves.

Environmental control

Prior to aseptic procedures, healthcare workers must ensure that there are no avoidable nearby environmental risk factors, such as bed making or patients using commodes.

Sequencing

ANTT practice is sequenced to ensure an efficient, logical and safe order of procedure events. Section 5.11 provides examples of how to perform ANTT for peripheral and central access intravenous therapy, and for wound care.

Surgical-ANTT or Standard-ANTT?

Differentiation between Standard-ANTT and Surgical-ANTT is intended to provide clarity and structure to aid understanding, but not polarise practice. Sequenced procedure guidelines help standardise practice, technique and equipment levels.

- **Standard-ANTT**—Clinical procedures managed with Standard-ANTT will characteristically be technically simple to achieve asepsis, short in duration (approximately less than 20 minutes), and involve a relatively small Key-Site and few, small Key-Parts. Standard-ANTT requires a main General Aseptic Field and typically non-sterile gloves. The use of Micro Critical Aseptic Fields and a non touch method is essential to protect Key-Parts and Key-Sites individually.
- **Surgical-ANTT—** is demanded when procedures are technically complex to achieve asepsis. Procedures involve extended periods of time, a large open Key-Site and large or numerous Key-Parts. To counter these risks, a main Critical Aseptic Field and sterile gloves are required and often full barrier precautions [57]. Surgical-ANTT should still utilise Micro Critical Aseptic Fields where practical to do so.

Table 11. Selection of Standard-ANTT or Surgical-ANTT for specific procedures

Procedure	Type of ANTT	Rationale/Typical Procedure
IV therapy	Standard-ANTT	Asepsis is typically straight forward to achieve: Key-Parts can typically be protected by optimal Micro Critical Fields and non-touch technique. Key-Sites are small. Procedures are technically simple and <20 mins duration.
Simple wound dressings	Standard-ANTT	Key-Parts and Key-Sites can be protected by Micro Critical Fields and non-touch technique. Procedures are technically simple and <20 mins duration.
Complex or large wound dressings	Surgical-ANTT	The complexity, duration or number of Key-Parts generally demands a Critical Aseptic Field.
Urinary catheterisation	Surgical-ANTT / Standard-ANTT	An experienced healthcare worker can perform catheterisation achieving asepsis, by managing Key-Parts individually, with the use of a main General Aseptic Field, Micro Critical Aseptic Fields and non touch technique. However, less experienced healthcare workers may require a Critical Aseptic Field.
Cannulation	Surgical-ANTT / Standard-ANTT	Although technically quite simple, the close proximity of healthcare worker hands to the puncture site and Key-Parts may demand sterile gloves – dependent upon the healthcare worker's competency and the difficulty of vein access.
PICC/CVC insertion	Surgical-ANTT	The size of the CVC or PICC line, invasiveness, numerous Key-Parts and equipment and duration will demand a Critical Aseptic Field and full barrier precautions.
Surgery	Surgical-ANTT	Surgical access involves deep or large exposed wounds, numerous Key-Parts and equipment and long duration procedures. Standard operating room precautions required.

Weak Recommendation

6. It is suggested that sterile gloves are used for aseptic procedures and contact with sterile sites.

Practical Info

Sterile gloves are indicated for any surgical procedure, vaginal delivery, invasive radiological procedures, performing vascular access and procedures (central lines), preparing total parental nutrition and chemotherapeutic agents. For further information on selection of glove type, Section 3.3 *Recommendation 31*.

Key Info

Benefits and harms

The benefits of wearing sterile gloves clearly outweigh any undesirable effects.

Certainty of the Evidence

This advice is based on limited empirical evidence, but on sound theoretical principles and is supported by expert advice.

Preference and values

It is expected that all patients and staff of Australian healthcare facilities would highly value minimising infections during any episode of care through the use of sterile gloves.

Resources and other considerations

The provision of sterile gloves presents costs to healthcare facilities, additional to that of normal gloves.

In some areas of primary care, it may be difficult to implement the use of sterile gloves.

Rationale

This advice is based on limited empirical evidence, but on sound theoretical principles and supported by expert advice. The use of sterile gloves for aseptic procedures and contact with sterile sites is justified to reduce healthcare associated infection.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 good practice points to be reassigned as a GRADE practice statement. All considerations in adopting or adapting this practice statement are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report*.

Summary

Research question

- **Population:** Healthcare workers
- **Intervention:** Sterile gloves
- **Comparator:** Non-sterile gloves
- **Outcome:** Incidence rate of healthcare associated infections

3.1.7 Waste management

As there is currently no national definition of clinical waste in Australia, healthcare facilities, including community healthcare settings, need to conform to relevant state or territory legislation and regulations on the management of clinical and related wastes. Healthcare facilities should also refer to Standard AS/NZS 3816: 2018 and the Waste Management Association of Australia's industry code of practice[147]. Waste management resources for each state and territory are provided below in Table 12.

When handling waste:

- apply standard precautions to protect against exposure to blood and body substances during handling of waste; wash hands following procedure
- segregation should occur at the point of generation
- waste should be contained in the appropriate receptacle (identified by colour and label) and disposed of according to the facility waste management plan
- healthcare workers should be trained in the correct procedures for waste handling.

Regardless of where waste is generated (e.g. from isolation rooms/patients versus routine patient-care areas), the principles of determining whether it is to be treated as clinical or general waste remain the same.

Table 12. State and territory resources for waste management

Australian Capital Territory	http://www.legislation.act.gov.au/a/1990-5/
New South Wales	http://www.health.nsw.gov.au/environment/clinicalwaste/Pages/default.aspx
Northern Territory	https://ntepa.nt.gov.au/waste-pollution/guidelines/guidelines
Queensland	https://www.ehp.qld.gov.au/assets/documents/regulation/pr-gl-clinical-and-related-waste.pdf
South Australia	http://www.epa.sa.gov.au/community/waste_and_recycling/medical_waste
Tasmania	https://epa.tas.gov.au/regulation/waste-management/controlled-waste/handling-controlled-waste-in-tasmania/ handling-transport-requirements-for-particular-controlled-wastes/clinical-and-related-waste
Victoria	http://www.epa.vic.gov.au/business-and-industry/guidelines/waste-guidance/clinical-waste-guidance
Western Australia	https://ww2.health.wa.gov.au/About-us/Policy-frameworks/Public-Health/Mandatory-requirements/Environmental- Health-Management/Clinical-and-Related-Waste-Management-Policy

3.1.8 Handling of linen

Healthcare facilities must have documented polices on the collection, transport and storage of linen. Healthcare facilities that process or launder linen must have documented operating policies consistent with Standard AS/NZS 4146: 2000.

All used linen should be handled with care to avoid dispersal of microorganisms into the environment and to avoid contact with staff clothing. The following principles apply for linen used for all patients (i.e. whether or not transmission-based precautions are required):

- Appropriate personal protective equipment is worn during handling of soiled linen to prevent exposure of skin and mucous membrane to blood and body substances.
- Used linen is 'bagged' at the location of use into an appropriate laundry receptacle.
- Used linen must not be rinsed or sorted in patient-care areas or washed in domestic washing machines.
- Linen soiled with body substances should be placed into leak-proof laundry bags for safe transport.
- Hand hygiene is performed following the handling of used linen.

Clean linen must be stored in a clean and dry place that prevents contamination by aerosols, dust, moisture and vermin, and is separate from used linen.

Patient items

Domestic-type washing machines must only be used for a patient's personal items (not other linen). Washing must involve the use of an appropriate detergent and hot water. If hot water is not available, only individual patient loads can be washed at one time. Clothes dryers should be used for drying.

3.2 Transmission-based precautions

Summary

Section 3.2 outlines transmission-based precautions to guide staff in the presence of suspected or known infectious agents that represent an increased risk of transmission.

A summary of recommended precautions for specific infectious agents can be found in **Appendix 2 — Section 6.4**.

- Transmission-based precautions are applied in addition to standard precautions.
- The aim of instituting transmission-based precautions early, is to reduce further transmission opportunities that may arise due to the specific route of transmission of a particular pathogen.
- While it is not possible to prospectively identify all patients needing transmission-based precautions, in certain settings recognising an increased risk warrants their use while confirmatory tests are pending.

Patient-care tip

When transmission-based precautions are applied during the care of an individual patient, there is potential for adverse effects such as anxiety, mood disturbances, perceptions of stigma and reduced contact with clinical staff. Clearly explaining to patients why these precautions are necessary may help to alleviate these effects.

3.2.1 Application of transmission-based precautions

What are the risks?

- Indirect or direct ***contact transmission****:* when a healthcare workers' hands or clothing become contaminated, patient-care devices are shared between patients, infectious patients have contact with other patients, or environmental surfaces are not regularly decontaminated.
- ***Droplet transmission****:* when healthcare workers' hands become contaminated with respiratory droplets and are transferred to susceptible mucosal surfaces such as the eyes; when infectious respiratory droplets are expelled by coughing, sneezing or talking, and come into contact with another's mucosa (eyes, nose or mouth), either directly or via contaminated hands.
- ***Airborne transmission****:* when attending healthcare workers or patients inhale small particles that contain infectious agents.

When are transmission-based precautions applied?

Transmission-based precautions are applied to patients suspected or confirmed to be infected with agents transmitted by the contact, droplet or airborne routes.

The combination of measures used in transmission-based precautions depends on the route(s) of transmission of the infectious agent involved, as outlined in Sections 3.2.2, 3.2.3 and 3.2.4 below. In the acute-care setting, this will involve a combination of the following measures:

- continued implementation of standard precautions
- appropriate use of personal protective equipment (PPE) (including gloves, apron or gowns, surgical masks or P2 respirators, and protective eyewear)
- patient-dedicated equipment
- allocation of single rooms or cohorting of patients
- appropriate air handling requirements
- enhanced cleaning and disinfecting of the patient environment
- restricted transfer of patients within and between facilities.

For diseases that have multiple routes of transmission, more than one transmission-based precaution category is applied. Whether used singly or in combination, transmission-based precautions are always applied in addition to standard precautions. Transmission-based precautions remain in effect for limited periods of time until signs and symptoms of the infection have resolved, or according to recommendations from infection control professionals specific to the infectious agent (see Appendix 2—Section 6.4).

The mode of transmission of infectious agents is the same in primary care or office-based practice as it is in the acute-care setting. However, the risk of transmission may differ due to the population groups and the nature of care provided.

Considering the following will help to establish the risk of infection in primary care and office-based practice:

- **Patient population**—this will influence the nature of care required and the type of potential infectious agents (i.e. some populations have a higher incidence of tuberculosis).
- **The profile of care**—this includes the level of training of staff, what forms of invasive procedures are performed and whether equipment is reprocessed or single use.
- **Local infrastructure**—this influences water quality, food availability and access to other health services (i.e. rural vs urban).

In developing policies and procedures for a healthcare facility it is useful to refer to discipline-specific guidelines to inform practice on specialised areas.

An overview of risk-management principles and processes is given in Section 2.2.

Individual actions for reducing risk:

- Consult with infection control professionals to ensure that appropriate transmission-based precautions are applied and that they remain in place until the risk of transmission of the infectious agent has passed.
- Remember that transmission-based precautions are applied AS WELL as standard precautions.
- Advise patients why particular measures are needed to control infection.
- Become familiar with local policy on appropriate PPE, and when it should be put on and taken off, when attending patients on transmission-based precautions.
- Make sure you know which type of mask is needed in different situations and how to check that they are properly fitted.
- Always contain or cover the infected or colonised areas of a patient subject to contact precautions before moving them from one patient-care area to another.
- Explain the purpose and process of respiratory hygiene and cough etiquette to patients on droplet precautions.
- Ask patients on droplet or airborne precautions to wear a surgical mask if they are being moved from one patient-care area to another.
- If patients are moved to a single-patient room (contact or droplet precautions) or negative pressure room (airborne precautions) explain why this is necessary to prevent transmission of infection.
- Make sure you are fully immunised against vaccine-preventable diseases as recommended in the *Australian Immunisation Handbook*[350].

Environmental cleaning

In acute-care areas where the presence of infectious agents requiring transmission-based precautions is suspected or known, surfaces should be physically cleaned with a detergent solution. A Therapeutic Goods Administration (TGA)-listed hospital-grade disinfectant with specific claims (or sodium hypochlorite if indicated for use as per *Recommendation 14*) should then be used (e.g. physical 2-step clean or 2-in-1 clean) as outlined in Section 3.1.4. In office-based practices and non-acute-care areas (e.g. long-term care facilities), the risk of contamination, mode of transmission and risk to others should be used to determine whether disinfectants are required.

Crockery and utensils used by patients on transmission-based precautions do not require containment and should be treated in the same manner as those used for non-infectious patients (i.e. washed in a dishwasher). Disposable crockery and utensils are not necessary.

This section does not provide specific guidance on cleaning. Appendix 2 (Section 6.1) provides guidance on frequency of cleaning of specific items in low, medium and high-risk settings. Further information on the considerations required when developing cleaning schedules is provided in Section 3.1.3 Practice Statement 9 practical information.

3.2.2 Contact precautions

What are the risks?

There is clear evidence that certain infectious agents are transmitted by direct or indirect contact during patient care.

Direct transmission occurs when infectious agents are transferred from one person to another person without a contaminated intermediate object or person. For example, blood or other body substances from an infectious person may come into contact with a mucous membrane or breaks in the skin of another person[160][149].

Indirect transmission involves the transfer of an infectious agent through a contaminated intermediate object (fomite) or person.

Contaminated hands of healthcare workers have been shown to be important contributors to indirect contact transmission[151][150][156]. Other opportunities for indirect contact transmission include:

- when clothing becomes contaminated while caring for a patient colonised or infected with an infectious agent, which can then be transmitted to subsequent patients[159][164]
- when contaminated patient-care devices are shared between patients without cleaning and disinfection between patients[152][154][162]
- when environmental surfaces become contaminated (see Section 3.1.3 *Practice Statement 9* practical information on routine environmental cleaning and Appendix 2 (Section 6.1) on frequency of cleaning of specific items).

Direct or indirect contact transmission of microorganisms during patient care is responsible for the majority of healthcare associated infections in patients and healthcare staff.

Weak Recommendation

7. It is suggested that contact precautions, in addition to standard precautions, are implemented in the presence of known or suspected infectious agents that are spread by direct or indirect contact with the patient or the patient's environment.

Practical Info

When should contact precautions be implemented?

Contact precautions are used when there is a risk of direct or indirect contact transmission of infectious agents (e.g. *C. difficile,* or highly contagious skin infections/infestations such as methicillin-resistant Staphylococcus aureus (MRSA) that are not effectively contained by standard precautions alone (see Section 3.1).

Information about which precautions to apply for specific conditions is given in Appendix 2—Section 6.4.

Patient placement

Single-patient rooms

A single-patient room is recommended for patients who require contact precautions. Note that single-patient rooms are also

an effective precaution to prevent droplet and airborne transmission of infection, and can also protect immunocompromised patients. Rooms with ensuites and anterooms are preferred. Anterooms increase the effectiveness of single-patient rooms by reducing the potential escape of airborne infectious particles in the corridor.

The rationale for single-patient rooms include:

- it can facilitate greater frequency of cleaning and decontamination, as there is limited impact on neighbouring patients

- access to an ensuite bathroom can reduce the spread of *C. difficile* and other infectious agents
- it can reduce the spread of multi-resistant organisms
- the greater prominence of sinks or hand hygiene dispenser is likely to improve hand hygiene compliance.

Other points relevant to patient placement include the following:

- keep patient notes outside the room
- keep patient bedside charts outside the room
- disinfect hands upon leaving room and after writing in the chart
- keep doors closed where safe to do so (this may not be possible for patients requiring high visualisation)
- make sure rooms are clearly signed.

When determining the number and type of single rooms in a healthcare facility, project planning teams should consider[392]

- trends in disease in the general population and the particular population serviced
- demographic trends in the population served
- specialities of the healthcare facility
- project changes in future clinical activities.

When a single-patient room is not available, consultation with infection control professionals is recommended to assess the various risks associated with other patient placement options (e.g. cohorting).

Cohorting

If cohorting takes place, it is recommended that patient beds are separated by approximately one metre or more to reduce opportunities for the inadvertent sharing of items between patients[162].

If it is necessary to place a patient who requires contact precautions in a room with a patient who is not infected or colonised:

- avoid placing these patients with patients who are at increased risk of an adverse outcome from infection (e.g. patients who are immunocompromised, have open wounds or have anticipated prolonged lengths of stay)
- change protective attire and perform hand hygiene between contact with patients in the same room, regardless of whether one or both patients are on contact precautions.

Transfer of patients

Limiting transfer of a patient on contact precautions reduces the risk of environmental contamination. If transfer within or between facilities is necessary, it is important to ensure that infected or colonised areas of the patient's body are contained and covered. Contaminated personal protective equipment (PPE) should be removed and disposed of and hand hygiene performed before the patient is moved. Clean personal protective equipment should be put on before assisting the patient at the destination.

Key Info

Benefits and harms — Substantial net benefits of the recommended alternative

The benefits of using contact precautions clearly outweigh any undesirable effects.

Certainty of the Evidence — Low

There is supportive evidence and a strong theoretical rationale to support this intervention[162]. This intervention is also supported by work, health and safety principles.

Preference and values — No substantial variability expected

It is expected that all patients and staff of Australian healthcare facilities would highly value use of contact precautions to minimise infections when there is a known infectious agent spread by direct or indirect contact.

Resources and other considerations — No important issues with the recommended alternative

The net benefits of implementing contact precautions are worth the cost.

This practice would entail standard hand hygiene practices, as well as additional steps such as personal protective equipement, and consideration of patient placement and patient transport.

Staff training and/or tools such as checklists in wards, may be necessary to ensure uptake of advice.

Rationale

There is supportive evidence and a strong theoretical rationale to support the use of contact precautions for patients known or suspected to be infected with an infectious agent spread via the contact route. This intervention is also supported by work, health and safety principles.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 recommendation (developed using the FORM approach) to be reassigned a GRADE recommendation and accompanying strength. All considerations in adopting or adapting this recommendation are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report.*

Summary

Research question

- **Population:** Patients
- **Intervention:** Contact Precautions
- **Comparator:** Non-Contact Precautions
- **Outcome:** Incidence rate of healthcare associated infections

Weak Recommendation

8. It is suggested that appropriate hand hygiene be undertaken and personal protective equipment worn to prevent contact transmission.

It is suggested that when working with patients who require contact precautions, healthcare workers should:

- perform hand hygiene
- put on gloves and gown upon entry to the patient-care area
- if performing multiple tasks whilst in the patient-care area, apply the principles of standard precautions and remove gloves, perform hand hygiene and apply clean gloves between tasks when required to minimise risk of infection transmission
- ensure that clothing and skin do not contact potentially contaminated environmental surfaces
- remove gown and gloves and perform hand hygiene before leaving the patient-care area.

Practical Info

How should contact precautions be applied?

Contact precautions are applied in addition to standard precautions. The key aspects of applying contact precautions relate to:

- use of appropriate personal protective equipment (PPE)
- special handling of equipment
- patient placement
- minimising patient transfer or transport.

Hand hygiene and PPE

Effective hand hygiene is particularly important in preventing contact transmission and the 5 moments for hand hygiene outlined in Section 3.1.1 *Recommendation 1* should be followed at all times. When the presence of *C. difficile* or non-enveloped viruses is known or suspected, use of alcohol-based hand rubs alone may not be sufficient to reduce transmission of these organisms (see Section 3.1.1).

Putting on both gloves and gown upon entering the patient-care area helps to contain infectious agents, especially those that have been implicated in transmission through environmental contamination (e.g. *C. difficile*, norovirus and other intestinal tract pathogens, respiratory syncytial virus)[153][155][156][157][158][163]. If you are going to perform multiple tasks whilst in the patient zone, remember to remove contaminated gloves after a task, perform hand hygiene and apply clean gloves before starting the next task with that patient to reduce the risk of infection transmission. Considerations in selecting a gown appropriate to the situation are outlined in Section 3.3, *Recommendation 29*.

A surgical mask and protective eyewear or face shield must be worn if there is the potential for generation of splashes or sprays of blood and body substances into the face and eyes.

Hand hygiene compliance is likely to be improved through greater prominence of sinks or alcohol-based hand rub dispensers. More information is at Section 4.6.1.

Key Info

Benefits and harms — Substantial net benefits of the recommended alternative

The benefits of using hand hygiene and personal protecitve equipment (PPE) clearly outweigh any undesirable effects.

Certainty of the Evidence — Low

There is supportive evidence and a strong theoretical rationale to support this intervention. The Centers for Disease Control and Prevention[162] provides 1B evidence to support the practice of wearing gloves and gowns for transmission-based precautions.

This intervention is also supported by work, health and safety principles.

Preference and values — No substantial variability expected

It is expected that all patients and staff of Australian healthcare facilities would highly value use of hand hygiene and PPE to prevent contact transmission of infections.

Resources and other considerations — No important issues with the recommended alternative

Any marginal increases in costs of compliance to hand hygiene and PPE is offset by the corresponding reduction in infection rates[215].

Rationale

The practice of wearing personal protective equipment is suggested for transmission-based precautions, including contact precautions. Personal protective equipment can protect healthcare workers against contaminated environmental surfaces and medical equipment, so gloves and gowns should be put on before entry into a patient's room and removed after leaving the patient-care area.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 recommendation (developed using the FORM approach) to be reassigned a GRADE recommendation and accompanying strength. All considerations in adopting or adapting this recommendation are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report.*

Summary

Research question

- **Population: Patients**
- **Intervention: Hand hygiene and personal protective equipment**
- **Comparator: No hand hygiene and no personal protective equipment**
- **Outcome: Incidence rate of healthcare associated infections**

Weak Recommendation

9. It is suggested that patient-dedicated equipment or single-use patient-care equipment be used for patients on contact precautions.

If common use of equipment for multiple patients is unavoidable, clean the equipment and allow it to dry before use on another patient.

Practical Info

Single-use or patient-dedicated equipment

Standard precautions concerning patient-care equipment (see Section 3.1.3 *Practice Statements 9-11 & Recommendation 12*) are very important in the care of patients on contact precautions. If patient-care devices (e.g. blood pressure cuffs, nebulisers, mobility aids) are shared between patients without being reprocessed between uses, they may transmit infectious agents[152][154][161]. Where common use of equipment for multiple patients is unavoidable, a risk assessment should be performed and cleaning carried out according to the manufacturer's instructions.

Any medical device (instruments and equipment) that is to be reused requires reprocessing—cleaning, disinfection and/or sterilisation. The minimum level of reprocessing required for reusable instruments and equipment depends on the individual situation (i.e. the body site, presence of multi-resistant organisms and the nature by which the instrument will be used). For further information on the reprocessing of reusable medical devices, see Section 3.1.4.

Key Info

Benefits and harms — Substantial net benefits of the recommended alternative

The benefits of using patient dedicated equipment clearly outweigh any undesirable effects.

Certainty of the Evidence — Low

There is supportive evidence and a strong theoretical rationale for this intervention. The Centers for Disease Control and Prevention suggest (Category 1B evidence)[162] that patient-dedicated or single-use equipment be used as part of contact precautions.

This intervention is also supported by work health and safety principles.

Preference and values — No substantial variability expected

It is expected that all patients and staff of Australian healthcare facilities would highly value use of dedicated patient equipment to prevent contact transmission of infections.

Resources and other considerations — No important issues with the recommended alternative

The cost effectiveness and feasibility of this practice would depend on the availability of such equipment in a healthcare facility.

Staff training and/or tools such as checklists in wards, may be necessary to ensure uptake of advice.

Rationale

Evidence shows that using patient-dedicated equipment has been beneficial for preventing transmission of infectious agents[162].

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 recommendation (developed using the FORM approach) to be reassigned a GRADE recommendation and accompanying strength. All considerations in adopting or adapting this recommendation are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report.*

Summary
Research question

- **Population:** Patients
- **Intervention:** Patient-dedicated/single-use patient-care equipment
- **Comparator:** Reusable equipment
- **Outcome:** Incidence rate of healthcare associated infections

3.2.3 Droplet precautions

What are the risks?

A number of infectious agents are transmitted through respiratory droplets (i.e. large-particle droplets >5 microns in size) that are generated by a patient who is coughing, sneezing or talking. Transmission via large droplets requires close contact as the droplets do not remain suspended in the air and generally only travel short distances. They can however, contaminate horizontal surfaces close to the source patient, and the hands of healthcare workers can become contaminated through contact with those surfaces. For this reason consideration should be given to the need for additional personal protective equipment (PPE) (see Section 3.3.).

Droplet precautions are based on evidence that shows that:

- Hand hygiene is effective in preventing transmission of viruses and reducing the incidence of respiratory infections both within and outside healthcare settings[165][171][166].
- Physical interventions are highly effective against the spread of a broad range of respiratory viruses[168][170].
- Surgical masks protect the wearer from droplet contamination of the nasal or oral mucosa[172]. See *Recommendation 30* for further information on surgical masks.
- Physical proximity of less than one metre has been associated with an increased risk for transmission of some infections via the droplet route.
- Placing surgical masks on coughing patients can also prevent infected patients from dispersing respiratory secretions into the air[172].

How should droplet precautions be applied?

The key aspects of applying droplet precautions relate to:

- standard precautions
- use of appropriate PPE
- special handling of equipment
- patient placement
- minimising patient transfer or transport.

Weak Recommendation

10. It is suggested that droplet precautions, in addition to standard precautions, are implemented for patients known or suspected to be infected with agents transmitted by respiratory droplets that are generated by a patient when coughing, sneezing or talking.

Practical Info

When should droplet precautions be implemented?

Droplet precautions are intended to prevent transmission of infectious agents spread through close respiratory or mucous membrane contact with respiratory secretions. As these microorganisms do not travel over long distances, special air handling and ventilation are not required. Infectious agents for which droplet precautions are indicated include influenza, norovirus, pertussis, meningococcus.

Hand hygiene and droplet precautions

Some infectious agents transmitted by the droplet route may also be transmitted by contact[203]. Hand hygiene is therefore an important aspect of droplet precautions and the 5 moments for hand hygiene outlined in Section 3.1.1 should be followed.

Key Info

Benefits and harms — Substantial net benefits of the recommended alternative

The benefits of using droplet precautions for patients known or suspected to be infected with agents transmitted by respiratory droplets clearly outweigh any undesirable effects.

Certainty of the Evidence — Low

There is supportive evidence and a strong theoretical rationale (CDC Category 1B evidence)[172] for the use of droplet precautions for patients known or suspected to be infected with agents transmitted by respiratory droplets.

This intervention is also supported by work health and safety principles.

Preference and values — No substantial variability expected

It is expected that all patients and staff of Australian healthcare facilities would highly value use of droplet precautions (such as hand hygiene combined with personal protective equipment (PPE), special handling of equipment, patient placement and minimising patient transport) to prevent transmission of infections.

Resources and other considerations — No important issues with the recommended alternative

This practice would entail standard hand hygiene practices, as well as additional steps such as PPE, and consideration of patient placement and patient transport.

Staff training and/or tools such as checklists in wards, may be necessary to ensure uptake of advice.

Rationale

Droplets precautions are intended to prevent the transmission of pathogens that are spread through respiratory or mucous membrane contact with respiratory secretions.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 recommendation (developed using the FORM approach) to be reassigned a GRADE recommendation and accompanying strength. All considerations in adopting or adapting this recommendation are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report.*

Summary

Research question

- **Population:** Patients
- **Intervention:** Droplet precautions
- **Comparator:** Non-droplet precautions
- **Outcome:** Incidence rate of healthcare associated infections

Weak Recommendation

11. It is suggested that a surgical mask should be worn when entering a patient-care environment to prevent droplet transmission.

Practical Info

Use of surgical masks to prevent droplet transmission

There is insufficient evidence to support the use of P2 respirators for reducing the risk of infections transmitted by the droplet route. Although surgical masks do not protect the wearer from infectious agents that are transmitted via the airborne route, surgical masks that meet Australian Standards are fluid impervious and protect the wearer from droplet contamination of the nasal or oral mucosa. The surgical mask is generally put on upon room entry, with hand hygiene practised before putting on the mask and after taking off the mask. For further information on characteristics and levels of surgical masks, see *Recommendation 30* and *Table 17.*

Key Info

Benefits and harms Substantial net benefits of the recommendedalternative

The benefits of wearing a surgical mask for patients known or suspected to be infected with agents transmitted by respiratory droplets clearly outweigh any undesirable effects.

Certainty of the Evidence Moderate

There is evidence (CDC Category 1B)[162] to support the recommendation that masks should be worn upon entry into a patient- care environment.

Preference and values No substantial variability expected

It is expected that all patients and staff of Australian healthcare facilities would highly value use of a surgical mask as a personal protective equipment to prevent droplet transmission of infections.

Resources and other considerations No important issues with the recommended alternative

This practice would require the provision of surgical masks.

Staff training and/or tools such as checklists in wards may be necessary to ensure uptake of advice.

Rationale

More studies are needed to improve understanding of droplet transmission under various circumstances.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 recommendation (developed using the FORM approach) to be reassigned a GRADE recommendation and accompanying strength. All considerations in adopting or adapting this recommendation are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report.*

Summary

Research question

- **Population:** Patients
- **Intervention:** Droplet precautions
- **Comparator:** Non-droplet precautions
- **Outcome:** Incidence rate of healthcare associated infections

Summary

Research question

- **Population:** Healthcare workers
- **Intervention:** Masks and protective eyewear
- **Comparator:** No masks and protective eyewear
- **Outcome:** Incidence rate of healthcare associated infections

Practice Statement

12. It is good practice to place patients who require droplet precautions in a single-patient room.

Practical Info

Placement of patients on droplet precautions

Placing patients on droplet precautions in a single-patient room reduces the risk of patient-to-patient transmission. When single-patient rooms are in short supply, the following principles apply in decision-making on patient placement:

- prioritise patients who have excessive cough and sputum production for single-patient room placement
- consider patients ability to perform hand hygiene and follow appropriate cough etiquette
- place together in the same room (cohort) patients who are infected with the same pathogen and are suitable roommates.

If it becomes necessary to place patients who require droplet precautions in a room with a patient who does not have the same infection:

- avoid placing patients on droplet precautions in the same room with patients who have conditions that may increase the risk of adverse outcomes from infection or that may facilitate transmission (e.g. those who are immunocompromised, have anticipated prolonged lengths of stay, have cystic fibrosis, cardiac conditions or muscular dystrophy)
- ensure that patients are physically separated (> one metre apart) from each other and draw the privacy curtain between beds to minimise opportunities for close contact.

If a patient requires care under droplet precautions but an aerosol generating procedure is undertaken, then droplet precautions should be increased to airborne precautions for at least the duration of the procedure. The procedure should be undertaken in a treatment room, away from other patients (if the patient is cohorted with others).

In all cases, the importance of respiratory hygiene and cough etiquette should be explained to patients on droplet precautions (see Section 3.1.5).

Where clinical need permits and is not compromised, it may be possible in some settings (e.g. interventional radiology) to schedule patients who require droplet precautions to the end of the list.

In primary care and other office-based practice, examples of appropriate implementation of droplet precautions include segregation in waiting rooms for patients with violent or frequent coughing, and the availability of tissues, alcohol-based hand rub and a waste bin so that patients can practice respiratory hygiene and cough etiquette.

For further information on isolation and cohorting of patients, see Section 3.4.2.1.

Transfer of patients on droplet precautions

When transfer of a patient on droplet precautions within or between facilities is necessary, there is the potential for other patients and healthcare workers to come in contact with infectious agents when the patient coughs or sneezes. This can be addressed by asking the patient to wear a fluid resistant surgical mask while they are being transferred and to follow respiratory hygiene and cough etiquette. Children should wear a correctly fitting mask when they are outside an isolation room. The child's oxygen saturation should be monitored.

Key Info

Benefits and harms

The benefits of placing patients who require droplet precautions in a single-patient room outweighs any harms. However, it is important to consider the potential adverse outcomes associated with isolation rooms.

Certainty of the Evidence

The evidence in this area is limited or inconsistent. The practice statement is based on current expert advice and trends in clinical practice.

Preference and values

It is expected that all patients and staff of Australian healthcare facilities would highly value placing patients who require droplet precautions in a single room to prevent the spread of infection.

Resources and other considerations

Placing patients on droplet precautions in a single-patient room requires the availability of such rooms. In smaller facilities, or those in more remote or regional areas, making such a room available may not be possible.

Rationale

This advice is based on limited empirical evidence, but on sound theoretical principles and supported by expert advice. Placing patients on droplet precautions in single-patient rooms is justified to reduce healthcare associated infection.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 good practice points to be reassigned as a GRADE practice statement. All considerations in adopting or adapting this practice statement are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report*.

Summary

Research question

- **Population:** Patients
- **Intervention:** Droplet precautions
- **Comparator:** Non-droplet precautions
- **Outcome:** Incidence rate of healthcare associated infections

3.2.4 Airborne precautions

Why are airborne precautions important?

Certain infectious agents are disseminated through airborne droplet nuclei or small particles in the respirable size range that remain infective over time and distance.

Airborne precautions are based on evidence that shows that:

- the use of P2 respirators prevents the inhalation by healthcare workers of small particles that may contain infectious agents transmitted via the airborne route
- the use of negative pressure rooms reduces the transmission of infection
- wearing of correctly-fitted surgical masks by coughing patients prevents dispersal of respiratory secretions into the air (close monitoring is required to minimise respiratory risk) [86].

Implementing airborne precautions in different healthcare settings

Healthcare workers should prioritise the use of P2 respirators and other respiratory protection, where available.

In situations when personal protective equipment may be limited and a patient is exhibiting the signs of a respiratory disease, consider placing a mask or tissue over the patient's mouth as tolerated.

Strong Recommendation

13. It is recommended that airborne precautions, in addition to standard precautions, are implemented in the presence of known or suspected infectious agents that are transmitted person-to-person by the airborne route.

Practical Info

When should airborne precautions be implemented?

Airborne precautions prevent transmission of microorganisms that remain infectious over time and distance when suspended in the air. These agents may be inhaled by susceptible individuals who have not had face-to-face contact with (or been in the same room as) the infectious individual.

Infectious agents for which airborne precautions are indicated include measles (rubeola), chickenpox (varicella) and *M. tuberculosis.*

Information about which precautions to apply for specific conditions is given in Appendix 2—Section 6.4.

Implementing airborne precautions in different healthcare settings

In situations when personal protective equipment may be limited (such as the setting in which paramedics work) and a patient is exhibiting the signs of a respiratory disease, consider placing a mask or tissue over their mouth as tolerated.

Healthcare workers should also prioritise the use of N95 respirators and other respiratory protection, where available.

Key Info

Benefits and harms — Substantial net benefits of the recommended alternative

The benefits of implementing airborne precautions for patients known or suspected to be infected with infectious agents transmitted person-to-person by the airborne route clearly outweigh any undesirable effects.

Certainty of the Evidence — Moderate

The Centers for Disease Control and Prevention[162] strongly recommends (Category 1A) applying airborne precautions.

The Public Health Agency of Canada[235] strongly recommends the implementation of airborne precautions for patients known or suspected to be infected with infectious agents transmitted person-to-person by airborne route, such as infectious pulmonary tuberculosis.

Preference and values — No substantial variability expected

It is expected that all patients and staff of Australian healthcare facilities would highly value the implementation of airborne precautions to stop the spread of infectious agents.

Resources and other considerations — No important issues with the recommended alternative

This practice would require implementing standard precautions, as well as minimising exposure of other patients and staff to the infectious agent. This requires the provision of appropriate personal protective equipment and training for staff on their correct use.

Rationale

The implementation of airborne precautions in the presence of known or suspected infectious agents that are transmitted by the airborne route is an effective measure to reduce the spread of infection.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 recommendation (developed using the FORM approach) to be reassigned a GRADE recommendation and accompanying strength. All considerations in adopting or adapting this recommendation are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report.*

Summary

Research question

- **Population:** Patients
- **Intervention:** Airborne precautions
- **Comparator:** Non-airborne precautions
- **Outcome:** Incidence rate of healthcare associated infections

Weak Recommendation

14. It is suggested that a correctly fitted P2 respirator is worn when entering the patient-care area when an airborne-transmissible infectious agent is known or suspected to be present.

Practical Info

How should airborne precautions be applied?

The key aspects of applying airborne precautions relate to:

- standard precautions, including respiratory hygiene and cough etiquette (see Section 3.1.5)
- use of appropriate personal protective equipment (PPE) (particularly correctly-fitted P2 respirators)
- minimising exposure of other patients and staff members to the infectious agent.

Specialist procedural areas should refer to their discipline-specific guidelines for detailed advice on applying airborne precautions relevant to the field of practice.

Personal protective equipment

The need for PPE should be based on the precautions required to protect against infectious agents based on the mode of transmission. In the majority of situations where standard respiratory protection is needed, a single use surgical mask (minimum level 2 barrier) is appropriate[175]. See *Recommendation 30, Practical Info, Table 17* for further information on surgical mask levels.

When there is a high probability of airborne transmission due to the infectious agent or procedure (e.g. bronchoscopy), sound scientific principles support the use of P2 respirators to prevent transmission. P2 respirators are designed to help reduce the wearer 's respiratory exposure to airborne contaminants such as particles, gases or vapours.

For example, influenza does not usually require the routine use of a P2 respirator except when there is a pandemic strain of influenza.

Standard AS/NZS 1715: 2009 outlines a range of respiratory protective equipment, which provide different levels of protection dependent upon the nature of the microorganism, the mode of transmission and procedure being undertaken.

While the terms 'P2 respirator' and 'N95 respirator' are often used interchangeably in the healthcare setting, they are required to meet different standards. In Australia, the requirements for P2 respirators are stated in **Standard AS/NZS 1716: 2012**. The United States (US) National Institute of Occupational Safety and Health (NIOSH) specifies N95 respirator requirements. See *Table 13* for further information.

Table 13. Properties of different types of mask

Properties	P2 respirators	N95 respirators
Other names	N95 respirator, respiratory protection device, particulate respirator	P2 respirator, respiratory protection device, particulate respirator
Characteristics[168]	• Raised dome or duckbill • 4–5 layers (outer polypropylene, central layers electret [charged polypropylene]) • Filtration through mechanical impaction and electrostatic capture • Designed to provide a good facial fit to minimise aerosol contamination of the mucous membranes of the nose and mouth P2 particulate filtering respirators/ masks must have a filter efficiency of at least 94% when tested with Sodium Chloride aerosol at a flow rate of 95 litres/minute. Under the EN system, aerosol testing is similar to Standard AS/ NZS 1716: 2012, but have additional filter efficiency testing with paraffin oil aerosol that must also meet the minimum 94% filter efficiency to be classified as P2. The particle size of this aerosol has a mass median diameter of 0.3 to 0.6 microns with a range of particles in the 0.02 to 2 micron size range.	• Raised dome or duckbill • 4–5 layers (outer polypropylene, central layers electret [charged polypropylene]) • Filtration through mechanical impaction and electrostatic capture • Designed to provide a good facial fit to minimise aerosol contamination of the mucous membranes of the nose and mouth NIOSH classified N95 particulate filtering respirators/ masks must have a filter efficiency of at least 95% when tested with Sodium Chloride aerosol at a flow rate of 85 litres/minute. N95 respirator masks can only be used for oil free aerosols. The particle size of this aerosol ~0.3 micron.
Sealing[168]	• Ties at crown and bottom of head, pliable metal nose bridge • Fit testing and fit checking required	• Ties at crown and bottom of head, pliable metal nose bridge • Fit testing and fit checking required
Australian Standards	**Standard AS/NZS 1715: 2009** **Standard AS/NZS 1716: 2012**	Set by the US NIOSH classification (NIOSH Guidelines – Procedure No. TEB-APR-STP-0059)
Intended use	• Routine care of patients on airborne precautions • High-risk procedures such as bronchoscopy when the patient's infectious status is unknown • Procedures that involve aerosolisation of particles that may contain specific known pathogens	• Routine care of patients on airborne precautions • High-risk procedures such as bronchoscopy when the patient's infectious status is unknown • Procedures that involve aerosolisation of particles that may contain specific known pathogens
Notes	• Care must be taken if placing respirators on patients and must suit clinical need (i.e. if the patient has chronic obstructive airways disease [COAD] or is in respiratory distress, the respirator will exacerbate symptoms).	• Care must be taken if placing respirators on patients and must suit clinical need (i.e. if the patient has chronic obstructive airways disease [COAD] or is in respiratory distress, the respirator will exacerbate symptoms).

P2 respirators — fit testing and checking

In order for a P2 respirator to offer the maximum desired protection it is essential that the wearer is properly fitted and trained in its safe use. Healthcare workers are encouraged to actively observe each other's mask fitting and immediately advise of any fitting issues to maximise healthcare worker and patient safety. A risk-management approach should be applied to ensure that staff working in high- risk areas are trained in appropriate fit of the P2 respirator and how to perform a fit check at the point of use. This may also include fit testing of the mask as outlined below.

Fit testing

The purpose of fit testing is to identify which size and style of P2 respirator is suitable for an individual, and to ensure that it is worn correctly. It also provides an opportunity to ensure healthcare workers are properly trained in the correct use of the mask.

When fit testing is to be undertaken, it should be done so based on relevant state/territory jurisdictional requirements in conjunction with a risk assessment with relevance to the healthcare setting.

While fit testing may be complex and resource intensive, it is a valuable practice which provides an opportunity to educate healthcare professionals. Fit testing programs may be considered:

- at the commencement of employment for employees who will be working in clinical areas where there is a significant risk of exposure to infectious agents transmitted via the airborne route— assessment of the significance of risk will involve consideration of the location (e.g. risk is higher in an intensive care unit) and activities to be undertaken (e.g. a physiotherapist performing induced sputum is at risk of exposure to infectious aerosols);
- when there is a significant change in the wearer's facial characteristics that could alter the facial seal of the respirator (e.g. significant change in body weight, facial surgery); and
- at regular intervals — **Standard AS/NZS 1715: 2009** recommends annual fit testing. Healthcare facilities should ensure that they have a respiratory protection program that regularly evaluates the risk to which healthcare workers are exposed and determines which employees are required to undertake fit testing.

Employers must ensure that their employees have the medical ability to wear a respirator. Medical evaluations are required for both positive pressure and negative pressure respirators.

There are two types of facial fit test—qualitative and quantitative. Qualitative fit tests are fast and simple but can be influenced by the wearer. Quantitative fit tests require the use of specialised equipment used by a trained operator. **Standard AS/NZS 1715: 2009** outlines the method by which fit testing is conducted.

Fit checking

Healthcare workers must perform fit checks every time they put on a P2 respirator to ensure it is properly applied. No clinical activity should be undertaken until a satisfactory fit has been achieved. Fit checks ensure the respirator is sealed over the bridge of the nose and mouth and that there are no gaps between the respirator and face. Healthcare workers must be informed about how to perform a fit check.

The procedure for fit checking includes (see Figure 9):

- placement of the respirator on the face
- placement of the headband or ties over the head and at the base of the neck
- compressing the respirator to ensure a seal across the face, cheeks and the bridge of the nose

- checking the positive pressure seal of the respirator by gently exhaling. If air escapes, the respirator needs to be adjusted
- checking the negative pressure seal of the respirator by gently inhaling. If the respirator is not drawn in towards the face, or air leaks around the face seal, readjust the respirator and repeat process, or check for defects in the respirator.

The manufacturer's instructions for fit checking of individual brands and types of P2 respirator should be referred to at all times.

Healthcare workers who have facial hair (including a 1–2 day beard growth) must be aware that an adequate seal cannot be guaranteed between the P2 respirator and the wearer's face.

Wearing a P2 respirator

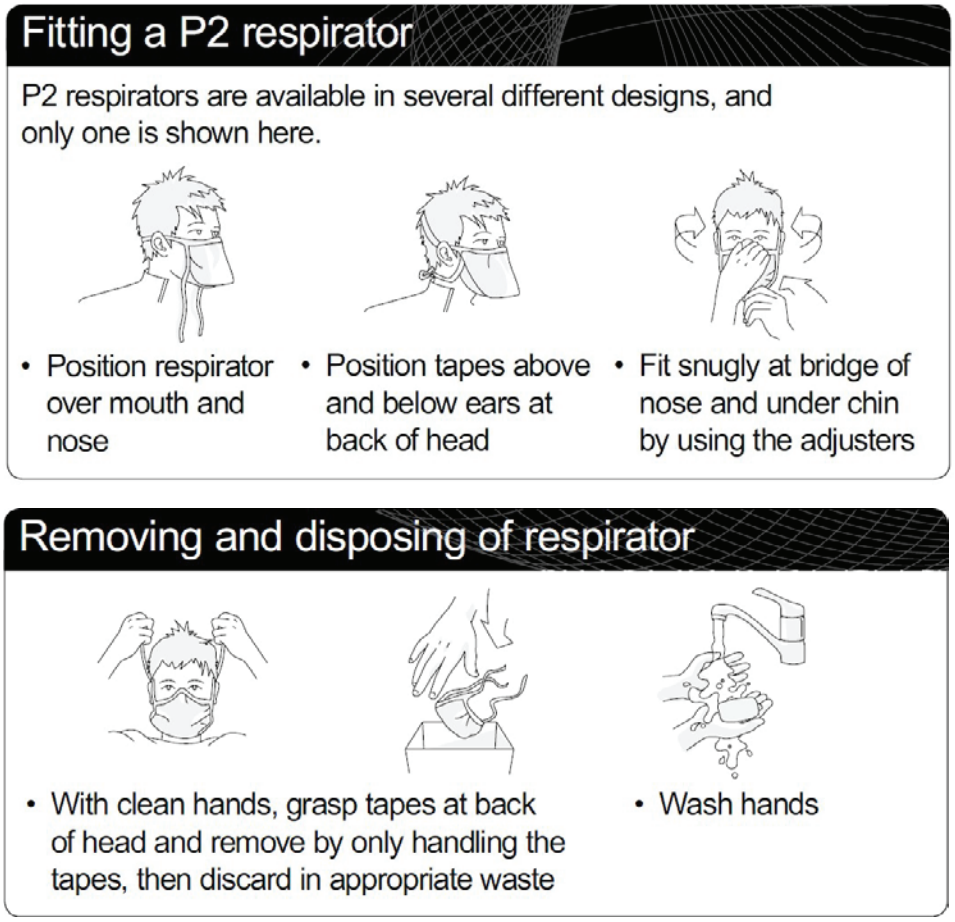
Considerations when using a P2 respirator include[174]:

- if a good facial seal cannot be achieved (e.g. the intended wearer has a beard or long moustache), an alternative respirator such as a powered air-purifying respirator (PAPR) should be used
- respirators should not be touched while being worn
- respirators should be changed when they become moist
- respirators should never be reapplied after they have been removed
- respirators should not be left dangling around the neck
- hand hygiene should be performed upon touching or disposing of a used respirator.

Removal of a P2 respirator

Correct removal of a P2 respirator is important as there is a risk of contamination to the user if not removed correctly. Considerations when removing a P2 respirator include (see Figure 9):

- removal of respirators should be by the straps from the back of the head
- respirators should be removed outside the patient-care area and disposed of in a closed receptacle[261].



Note: P2 respirators are available in several different designs, and only one is illustrated above.

Figure 9. Process for fitting and removing a P2 respirator

Source: Australian Government Department of Health[176]

Key Info

Benefits and harms

The benefits of wearing a correctly fitted P2 respirator when an airborne transmissible agent is known or suspected clearly outweighs any undesirable effects.

Certainty of the Evidence

The overall quality of evidence regarding the use of face masks is low due to poorly controlled studies.

The epic3 Guidelines[78] present Class D evidence (general practice statements) stating that it is best practice to use correctly fitted respirators in situations where a risk-assessment deems it necessary.

The Public Health Agency of Canada[235] present CII evidence (general practice statements) stating that it is best practice for healthcare workers to wear respirators when caring for patients with airborne infections.

Preference and values

It is expected that all patients and staff of Australian healthcare facilities would highly value the use of a P2 respirator to prevent airborne transmission of infections.

Resources and other considerations

This practice would require the provision of P2 respirators and fit testing of respirators to the healthcare staff.

Rationale

This advice is based on limited empirical evidence, but on sound theoretical principles and supported by expert advice. Wearing a correctly fitted P2 respirator when entering the patient-care area of a patient under airborne precautions is justified to reduce healthcare associated infection.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 good practice points to be reassigned as a GRADE practice statement. All considerations in adopting or adapting this practice statement are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report*.

Summary

Research question

- **Population:** Patients
- **Intervention:** Airborne precautions
- **Comparator:** Non-airborne precautions
- **Outcome:** Incidence rate of healthcare associated infections

Summary

Research question

- **Population:** Healthcare workers
- **Intervention:** Masks and protective eyewear
- **Comparator:** No masks and protective eyewear
- **Outcome:** Incidence rate of healthcare associated infections

Practice Statement

15. It is good practice to place patients on airborne precautions in a negative pressure room (Class N/Type 5) with bathroom facilities or in a room from which air does not circulate to other areas.

Exceptions to this should be justified by risk assessment.

Practical Info

Patient placement

When patients with suspected or confirmed airborne infection require treatment using nebulisers, or procedures such as bronchoscopy or nasoendoscopy, it is suggested that a negative pressure room, or a room from which air does not circulate to other areas, should be used. Healthcare workers should be aware it is important to place patients in an area that can be contained. Patients should also be asked to wear a surgical mask while not in a single room, until advised to remove it by attending staff. The door to the room must remain closed for any patient who requires airborne precautions. Where possible only staff and visitors who have confirmed immunity (evidenced by serological immunity or vaccination history) to the specific infectious agent should enter the room, see Section 4.2.1 for further information. While appropriate personal protective equipment should be worn by all staff and visitors, those with unknown immunity or non-immune healthcare workers should be extra vigilant. While there is a paucity of evidence to confirm their effectiveness, negative pressure rooms may reduce the transmission of airborne infection within healthcare settings[172].

Standardised transmission-based precautions signage should identify the isolation room and include the necessary precautions to be adopted.

Prior to placing a patient in a negative pressure room, the pressure differential should be checked. When negative pressure rooms are in use, the pressure differential should be checked regularly, preferably daily, even if a continuous differential pressure sensing device is in use. For further information on negative pressure rooms (Class N/Type 5) see the *Australiasian Health Facility Guidelines*[392], **Standard AS 1324.1: 2001, Standard AS 1324.2: 2003 and Standard AS 1668.2: 2012 and Amendment 2: 2016**.

Visitors should be restricted and screened by nursing staff, with visitors' names recorded either in a log book or in the case notes.

Transfer of patients

If transfer of the patient outside the negative pressure room is necessary, asking the patient to wear a correctly fitted surgical mask while they are being transferred and to follow respiratory hygiene and cough etiquette, as well as covering any skin lesions associated with the condition (e.g. chickenpox [varicella]) will reduce the risk of cross-transmission. Children should wear a correctly fitting mask when they are outside an isolation room. The child's oxygen saturation should be monitored.

Key Info

Benefits and harms

The benefits of placing patients on airborne precautions in a negative pressure room or similar clearly outweighs any undesirable effects.

Certainty of the Evidence

This practice is supported by suggestive clinical or epidemiologic studies, and based on sound theoretical principles.

Preference and values

It is expected that all patients and staff of Australian healthcare facilities would value placing patients in a room matched to their known or suspected airborne precautions.

Resources and other considerations

This practice would require having either a negative pressure room or a room that does not circulate air to other areas available. This may be difficult in smaller or more regional facilities, as well as in primary care facilities.

Rationale

This advice is based on limited empirical evidence, but on sound theoretical principles and supported by expert advice. Placing patients on airborne precautions in a negative pressure room is justified to reduce healthcare associated infection.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 good practice points to be reassigned as a GRADE practice statement. All considerations in adopting or adapting this practice statement are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report*.

Summary

Research question

- **Population:** Patients
- **Intervention:** Airborne precautions
- **Comparator:** Non-airborne precautions
- **Outcome:** Incidence rate of healthcare associated infections

3.3 Personal protective equipment

What are the risks?

Any infectious agent transmitted by the contact or droplet route can potentially be transmitted by contamination of healthcare workers' hands, skin or clothing. Cross-contamination can then occur between the healthcare worker and other patients or healthcare workers, or between the healthcare worker and the environment. Infectious agents transmitted through droplets can also come into contact with the mucous membranes of the healthcare worker.

Personal protective equipment (PPE) refers to a variety of barriers, used alone or in combination, to protect mucous membranes, airways, skin and clothing from contact with infectious agents. PPE used as part of standard precautions includes aprons, gowns, gloves, surgical masks, protective eyewear and face shields. Selection of PPE is based on the type of patient interaction, known or possible infectious agents, and/or the likely mode(s) of transmission.

There have been few controlled clinical studies evaluating the relationship between the use of PPE and risk of healthcare associated infections. However, the use of barriers reduces opportunities for transmission of infectious agents[57]. PPE also protects patients from exposure to infectious agents in the surrounding environment carried by healthcare workers.

Decision-making about personal protective equipment

Selection of protective equipment must be based on assessment of the risk of transmission of infectious agents to the patient or carer, and the risk of contamination of the clothing or skin of healthcare workers or other staff by patients' blood, body substances, secretions or excretions.

Local policies and current health and safety legislation should also be taken into account[219]. Factors to be considered are:

- probability of exposure to blood and body substances
- type of body substance involved
- probable type and probable route of transmission of infectious agents.

Appropriate sequences and procedures for putting on and removing PPE are shown below.

All PPE must meet relevant Therapeutic Goods Administration criteria for listing on the Australian Register of Therapeutic Goods or

equivalent and relevant Australian Standards. PPE should also be used in accordance with manufacturer's recommendations.

Where to wear PPE

PPE is designed and issued for a particular purpose in a protected environment and should not be worn outside that area. Protective clothing provided for staff in areas where there is high risk of contamination (e.g. operating suite/room) must be removed before leaving the area. Even where there is a lower risk of contamination, protective clothing that has been in contact with patients should not be worn outside the patient-care area. Similarly, to reduce the risk of disease transmission between patients, PPE should be removed and if necessary, replaced, before attending to another patient. Inappropriate wearing of PPE (e.g. wearing operating suite/room attire in the public areas of a hospital or wearing such attire outside the facility) may also lead to a public perception of poor practice within the facility.

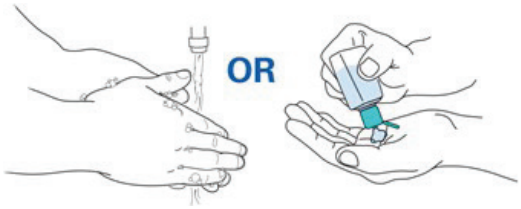
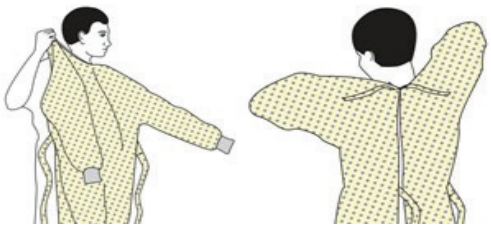
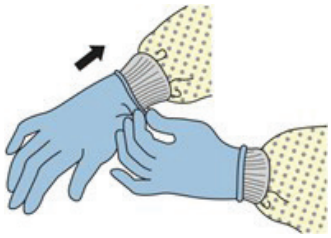
Patient-care tip

In certain settings, patients may also be required to wear PPE. However, there may be issues around compliance when dealing with specific patient groups such as paediatric patients, or patients with dementia or claustrophobia. In these cases, other infection control measures should be applied.

Sequence for putting on and removing PPE

To reduce the risk of transmission of infectious agents, PPE must be used appropriately. The following table outlines sequences and procedures for putting on and removing PPE.

Table 14. Putting on and removing PPE

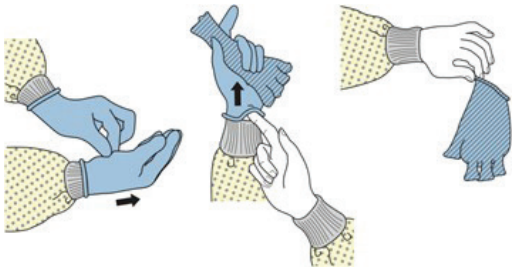
SEQUENCE FOR PUTTING ON PPE	
Put on PPE before patient contact and generally before entering the patient room	
HAND HYGIENE • Wash hands or use an alcohol based hand rub.	
GOWN • Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back. • Fasten at the back of neck and waist.	
MASK • Secure ties or elastic bands at middle of head and neck.	
PROTECTIVE EYEWEAR OR FACE SHIELD • Place over face and eyes and adjust to fit.	
GLOVES • Extend to cover wrist of isolation gown.	

SEQUENCE FOR REMOVING PPE

Remove PPE at doorway or in anteroom

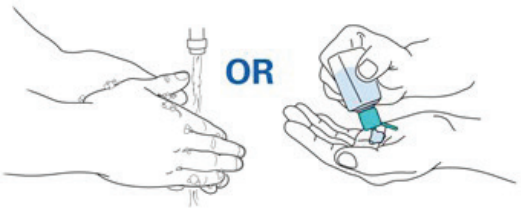
GLOVES

- Outside of gloves is contaminated!
- Grasp outside of glove with opposite gloved hand; peel off.
- Hold removed glove in gloved hand.
- Slide fingers of ungloved hand under remaining glove at wrist.
- Peel glove off over first glove.
- Discard gloves in waste container.



HAND HYGIENE

- Wash hands or use an alcohol based hand rub.



PROTECTIVE EYEWEAR OR FACE SHIELD

- Outside of eye protection or face shield is contaminated!
- To remove, handle by head band or ear pieces.
- Place in designated receptacle for reprocessing or in waste container.

GOWN

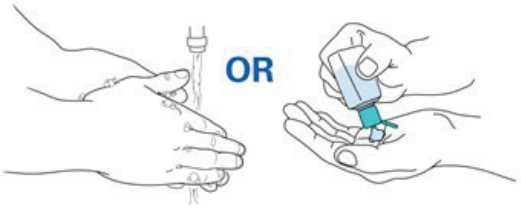
- Gown front and sleeves are contaminated!
- Unfasten ties.
- Pull away from neck and shoulders, touching inside of gown only.
- Turn gown inside out.
- Fold or roll into a bundle and discard.

MASK

- Front of mask is contaminated—DO NOT TOUCH!
- Grasp bottom, then top ties or elastics and remove.
- Discard in waste container.

HAND HYGIENE

- Wash hands or use an alcohol based hand rub immediately after removing all PPE.



Adapted from CDC Guideline for Isolation Precautions[213].

Removal of PPE should be done at the doorway (just prior to leaving patient's room) or immediately outside patient room.

Surgical or particulate masks should be removed outside of the patient room or >1 metre from symptomatic patients[86]. To remove a P2 respirator, perform hand hygiene and step outside the room or into an anteroom before removing and disposing of the respirator in a closed container and performing hand hygiene again.

Sequencing may differ across healthcare settings and any variations to sequencing should be based on a risk assessment relevant to the setting and task being undertaken. Note that for surgical procedures and dentistry, the sequence for putting on PPE differs. In these situations, masks and protective eyewear are applied first prior to hand preparation. Gown and gloves are then put on (see Section 3.5.3).

Sequencing may also be different in unique circumstances such as in an Ebola outbreak. When an outbreak is detected, advice from the healthcare facilities Infection Control Team should be followed.

Weak Recommendation

16. It is suggested that clean aprons/gowns should:

- be appropriate to the task being undertaken
- be worn for a single procedure or episode of patient care where contamination with body substances is likely.

The used apron/gown should be removed in the area where the episode of patient care takes place.

Practical Info

Aprons and gowns

International guidelines recommend that protective clothing (apron or gown) be worn by all healthcare workers when[57][213]:

- close contact with the patient, materials or equipment may lead to contamination of skin, uniforms or other clothing with infectious agents
- there is a risk of contamination with blood, body substances, secretions or excretions (except sweat).

The type of apron or gown required depends on the degree of risk, including the anticipated degree of contact with infectious material and the potential for blood and body substances to penetrate through to clothes or skin. Gowns and aprons used in clinical areas should be fluid impervious.

Gowns and aprons should be changed between patients.

Aprons/gowns are routinely used upon entering the room of a patient requiring contact precautions. Clean aprons or gowns should be appropriate to the task being undertaken. This is discussed further in Section 3.2.2 Recommendation 21 practical information.

Table 15. Recommended use and characteristics of aprons/gowns

Type	Recommended use	Characteristics
Plastic apron	Worn for general use when there is the possibility of sprays or spills or exposure to blood or body substances during low-risk procedures[57][213]. Worn during contact precautions when patient contact is likely.	• Fluid impervious • Single-use, for one procedure or episode of patient care • Disposable
Gown	Worn to protect the healthcare worker's exposed body areas and prevent contamination of clothing with blood, body substances, and other potentially infectious material[181][191][196][216].	• Fluid impervious • Single-use • Disposable • Choice of sleeve length depends on the procedure being undertaken, the extent of risk of exposure of the healthcare worker's arms, the volume of body substances likely to be encountered, and the probable time and route of transmission of infectious agents
Full body gown	Worn when there is a risk of contact of the healthcare worker's skin with a patient's broken skin, extensive skin to skin contact (e.g. lifting a patient with scabies), or a risk of contact with bloody and body substances which are not contained (e.g. vomiting). Worn when there is the possibility of extensive splashing of bloody and body substances or there is a risk of exposure to large amounts of body substances (e.g. in some operative procedures).	• Fluid impervious • Single-use • Long sleeved so clothing and exposed upper body areas are protected • Always worn in combination with gloves and other PPE where indicated
Sterile gown	Worn for procedures that require an aseptic field	• Pre-packaged

*Some types can be re-used. These need to be laundered or reprocessed according to **Standard AS/NZS 4146: 2000** — Laundry Practice

Note: Clinical and laboratory coats or jackets worn over personal clothing for comfort and/or purposes of identity are not considered to be PPE. These items of clothing need to be changed dependent on activity and the extent of exposure to potential pathogens.

Removing aprons and gowns

Removal of aprons and gowns before leaving the patient-care area (e.g. in the room or anteroom) prevents possible contamination of the environment outside the patient's room. Aprons and gowns should be removed in a manner that prevents contamination of clothing or skin. The outer, 'contaminated', side of the gown is turned inward and rolled into a bundle, and then discarded into a designated container for waste or linen to contain contamination (see Sections 3.1.7 & 3.1.8).

Key Info

Benefits and harms Substantial net benefits of the recommended alternative

The benefits of wearing aprons or gowns clearly outweigh any undesirable effects.

The wearing of aprons and gowns helps prevent the spread of infection to other patients through protecting healthcare workers from contamination while providing care.

A possible harm is that healthcare workers may rely on the use of an apron/gown and not undertake other appropriate infection control practices, however this can be mitigated through education and training.

Certainty of the Evidence Low

This recommendation is supported by some experimental, clinical, or epidemiological studies and a strong theoretical rationale.

A systematic review (n=4) found that acquisition rates of vancomycin-resistant enterococci (VRE) were lower when gloves and gowns were worn. All studies were observational and deemed very low quality[215].

Preference and values No substantial variability expected

It is expected that all patients and staff of Australian healthcare facilities would highly value minimising infections during any episode of care and that a recommendation to wear aprons/gowns should be appropriate for most healthcare workers.

Resources and other considerations No important issues with the recommended alternative

The provision and laundering of cloth gowns presents a cost to healthcare facilities, as does the provision and disposal of single use gowns/aprons. These costs would likely be outweighed by the costs and consequences of not wearing aprons and gowns.

Rationale

Wearing of gowns and aprons is justified to reduce healthcare associated infection.

Wearing of personal protective clothing (gowns and aprons) is an internationally accepted practice when:

- healthcare workers are in close contact with the patient, materials or equipment that may lead to contamination of skin, uniforms or other clothing with infectious agents
- there is a risk of contamination with blood, body substances, secretions or excretions (except sweat)

Gowns are used to protect the healthcare worker's exposed body areas and prevent contamination of clothing with blood, body substances, and other potentially infectious material.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 recommendation (developed using the FORM approach) to be reassigned a GRADE recommendation and accompanying strength. All considerations in adopting or adapting this recommendation are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report.*

Summary

Research question

- **Population:** Healthcare workers
- **Intervention:** Aprons and Gowns
- **Comparator:** No aprons and gowns
- **Outcome:** Incidence rate of healthcare associated infections

Weak Recommendation

17. It is suggested that face and eye protection should be worn during procedures that generate splashes or sprays of blood and body substances into the face and eyes.

Practical Info

Face and eye protection

The mucous membranes of the mouth, nose and eyes are portals of entry for infectious agents, as are other skin surfaces if skin integrity is compromised (e.g. by acne, dermatitis)[211][210][195][193].

Face and eye protection reduces the risk of exposure of healthcare workers to splashes or sprays of blood and body

substances[184][57] and is an important part of standard precautions. Procedures that generate splashes or sprays of blood and body substances, require either a face shield or a mask worn with protective eyewear[185][189][212][217][188][204][177].

Face and eye protection is worn as part of transmission-based precautions as discussed in Sections 3.2 - 3.2.4.

Table 16. Use of face and eye protection as part of standard precautions

Type of care	Examples	Face and eye protection required
Routine care	General examination (e.g. medical, physiotherapy, nursing) Routine observations	Not required unless caring for a patient on droplet precautions (surgical mask) (see Section 3.2.3) or airborne precautions (P2 respirator) (see Section 3.2.4).
Procedures that generate splashes or sprays	Dental procedures Nasopharyngeal aspiration	Protective eyewear/full-length face shield
	Emptying wound or catheter bag	Surgical mask
Procedures involving the respiratory tract (including the mouth)	Intubation Nasopharyngeal suction	Protective eyewear Surgical mask

Surgical masks

Surgical masks are loose fitting, single-use items that cover the nose and mouth. They are used as part of standard precautions to keep splashes or sprays from reaching the mouth and nose of the person wearing them. They also provide some protection from respiratory secretions and are worn when caring for patients on droplet precautions. Surgical masks can be placed on coughing patients to limit potential dissemination of infectious respiratory secretions from the patient to others (see Section 3.2.3, *Recommendation 24*).

Considerations when using a surgical mask include:

- masks should be changed between patients and when they become soiled or wet
- masks should never be reapplied after they have been removed
- masks should not be left dangling around the neck
- touching the front of the mask while wearing it should be avoided
- hand hygiene should be performed upon touching or discarding a used mask.

Children should wear a specifically designed child mask and their oxygen saturation should be monitored. Surgical masks can be categorized into three types based on the level of protection provided.

Table 17. Types of surgical masks

Characteristics*	Level 1 barrier	Level 2 barrier	Level 3 barrier
Application	For general purpose medical procedures, where the wearer is not a risk of blood or body fluid splash, or to protect staff and/or the patient from droplet exposure to microorganisms	For use in emergency departments, dentistry, changing dressings on small wounds or healing wounds where minimal blood droplet exposure may occur	For all surgical procedures, major trauma first aid or in any area where the healthcare worker is at risk of bloody or body fluid splash
Bacterial filtration efficiency (BFE), %	≥95	≥98	≥98
Differential pressure, mm, H_2O/cm^2	<4.0	<5.0	<5.0
Resistance to penetration by synthetic blood, minimum pressure in mmHg for pass result	80 mmHg	120 mmHg	160 mmHg

*Note that these characteristics are based on unworn masks, and may differ or not meet performance expectations due to individual fit characteristics.

Source: Standard AS 4381: 2015

More information about different types of masks is at Section 3.2.4 - Airborne precautions.

Eye protection

Goggles with a manufacturer's anti-fog coating provide reliable, practical eye protection from splashes, sprays, and respiratory droplets from multiple angles. Newer styles of goggles fit adequately over prescription glasses with minimal gaps (to be efficacious, goggles must fit snugly, particularly from the corners of the eye across the brow).

Other types of protective eyewear include safety glasses with side-shield protection, which are widely used in dentistry and other specialties that use operating microscopes[395]. While effective as eye protection, goggles and safety glasses do not provide splash or spray protection to other parts of the face.

Personal eyeglasses and contact lenses are not considered adequate eye protection.

Face shields

Single-use or reusable face shields may be used in addition to surgical masks, as an alternative to protective eyewear. Compared with other forms of protective eyewear, a face shield can provide protection to other parts of the face as well as the eyes. Face shields extending from chin to crown provide better face and eye protection from splashes and sprays; face shields that wrap around the sides may reduce splashes around the edge of the shield.

Removing face and eye protection

Removal of a face shield, protective eyewear and surgical mask can be performed safely after gloves have been removed and hand hygiene performed. The ties, earpieces and/or headband used to secure the equipment to the head are considered 'clean' and therefore safe to touch with bare hands. The front of a mask, protective eyewear or face shield is considered contaminated.

Cleaning reusable face and eye protection

Reusable face shields and protective eyewear should be cleaned according to the manufacturer's instructions, generally with detergent solution, and be completely dry before being stored. If they are to be disinfected, they should be disinfected using either a TGA-included sterilant or medical device disinfectant - low level, or by heat as per **Standard AS/NZS 4187: 2014**.

Individual actions for reducing the risk:

- Before putting on personal protective equipment (PPE) explain to the patient that it is a routine part of infection prevention and control.
- Assess the risk of spraying or splashing in the specific situation and choose PPE accordingly.
- If you have a sensitivity or allergy to latex, inform your manager and ensure you always use an alternative glove type.
- Follow appropriate sequence and procedure for putting on and removing PPE outlined in Table 14.
- Remove PPE before leaving the patient-care area and follow the sequence and procedure outlined in Table 14.
- Lead by example and champion the appropriate use of PPE in your setting.

Key Info

Benefits and harms Substantial net benefits of the recommended alternative

The benefits of wearing masks and protective eyewear when indicated clearly outweigh any undesirable effects

The benefits of reducing healthcare associated infection (HAI) transmission are clearly established. Face and protective eyewear must be worn appropriately and fitted correctly for the full benefit to be realised.

Certainty of the Evidence Low

There is little high quality evidence to support the use of masks and protective eyewear in healthcare facilities. The use of masks is supported by a strong theoretical rationale and occupational health and safety principles.

Preference and values No substantial variability expected

It is expected that all patients and staff of Australian healthcare facilities would highly value minimising infections during any episode of care.

Resources and other considerations No important issues with the recommended alternative

The main resource implications of masks and protective eyewear are the purchasing costs. Indirect costs include the increased time involved in fit-testing and checking. The benefits of using masks and protective eyewear on reduced HAIs, however, outweighs these costs.

Consideration to how an adequate supply of masks will be maintained during a potential outbreak or pandemics must be given.

Rationale

Whilst there is little high quality evidence to support the use of face and protective eyewear, their use is supported by work health and safety principles and expert advice.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 recommendation (developed using the FORM approach) to be reassigned a GRADE recommendation and accompanying strength. All considerations in adopting or adapting this recommendation are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report.*

Summary

Research question

- **Population:** Healthcare workers
- **Intervention:** Masks and protective eyewear
- **Comparator:** No masks and protective eyewear
- **Outcome:** Incidence rate of healthcare associated infections

Weak Recommendation

18. It is suggested that single-use, fit for purpose gloves are worn for:

- each invasive procedure
- contact with sterile sites and non-intact skin or mucous membranes
- activity that has been assessed as carrying a risk of exposure to blood and body substances.

Hand hygiene should be performed prior to donning gloves and after gloves are removed.

Gloves must be changed between patients and after every episode of individual care.

Practical Info
Gloves

Gloves can protect both patients and healthcare workers from exposure to infectious agents that may be carried on hands[187]. As part of standard precautions, they are used to prevent contamination of healthcare workers' hands when[213]:

- anticipating direct contact with blood or body substances, mucous membranes, non-intact skin and other potentially infectious material
- handling or touching visibly or potentially contaminated patient-care equipment and environmental surfaces[18][179][187].

The capacity of gloves to protect healthcare workers from transmission of blood borne infectious agents following a needlestick or other puncture that penetrates the glove barrier has not been determined[213].

Appropriate use of gloves is an essential component of standard precautions (see Section 2.1 and 3.1).

When and how should gloves be worn?

As with all personal protective equipment (PPE), the need for gloves is based on careful assessment of the task to be carried out, the related risk of transmission of microorganisms to the patient; and the risk of contamination of the healthcare worker 's clothing and skin by the patient's blood and body substances[213][57]. Risk assessment includes consideration of:

- who is at risk (whether it is the patient or the healthcare worker)
- whether sterile or non-sterile gloves are required, based on contact with susceptible sites or clinical devices and the aspect of care or treatment to be undertaken
- the potential for exposure to blood or body substances
- whether there will be contact with non-intact skin or mucous membranes during general care and invasive procedures
- whether contaminated instruments will be handled.

When gloves are worn in combination with other PPE, they are put on last (see Table 14).

What type of gloves should be worn?

Non-sterile single-use medical gloves are available in a variety of materials, the most common being natural rubber latex (NRL) and synthetic materials (e.g. nitrile). NRL remains the material of choice due to its efficacy in protecting against blood borne viruses and properties that enable the wearer to maintain dexterity[205][219]. However, sensitivity to NRL in patients, carers and healthcare workers may occur (see below) and must be documented. A local policy is required on using alternative glove types when patients have latex allergies.

The selection of glove type for non-surgical use is based on a number of factors[200][180][198] [208]:

- the task to be performed (i.e. glove type should be fit for purpose and aim to avoid interference with dexterity, friction, excessive sweating or finger and hand muscle fatigue)
- anticipated contact with chemicals and chemotherapeutic agents
- personal factors, such as latex sensitivity and size.

Facility policies for creating a latex-free environment should also be taken into account.

Table 18. Selection of glove type

Glove	Indications for use	Examples
Non-sterile gloves	• Potential for exposure to blood, body substances, secretions or excretions • Contact with non-intact skin or mucous membranes	• Venepuncture • Vaginal examination • Dental examination • Emptying a urinary catheter bag • Naso-gastric aspiration • Management of minor cuts and abrasions
Sterile gloves (see 3.1.8 Aseptic technique for further detail)	• Potential for exposure to blood, body substances, secretions or excretions • Contact with susceptible sites or clinical devices where sterile conditions should be maintained	Surgical aseptic technique procedures e.g. • Urinary catheter insertion • Complex dressings • Central venous line insertion site dressing • Lumbar puncture • Clinical care of surgical wounds or drainage sites • Dental procedures requiring a sterile field
Reusable utility gloves	• Indicated for non-patient-care activities • Utility gloves may be decontaminated for re-use (according to the glove manufacturer's directions) provided the integrity of the glove is not compromised	• Worn for cleaning the environment or cleaning and disinfecting patient care equipment • Instrument cleaning in sterilising services unit
Gloves suitable for clinical use		
NRL (latex) gloves	• Preferable for clinical procedures that require manual dexterity and/or will involve more than brief patient contact • Select powder-free latex gloves to minimise the risk of latex sensitivity or allergies	
Synthetic gloves (e.g. nitrile)	• Procedures involving high risk of exposure to blood-borne virus and where high barrier protection is needed • Provides suitable alternative to latex if there are no issues with glove fit or sensitivity	

Sources: Derived from Kotilainen et al 1989[202]; Korniewicz et al 1989[201]; Korniewicz et al 1993[199]; Rego & Roley 1999[209];Loveday et al 2014[78]; Korniewicz et al 2002[197] ; Sehulster & Chinn 2007[109]; Siegel et al 2007[213].

When should gloves be changed?

Gloves (other than utility gloves) should be treated as single-use items, and discarded, not washed. This is because infectious agents cannot be reliably removed from glove surfaces and continued glove integrity cannot be ensured.

International guidance suggests that changing of gloves is necessary:

- between episodes of care for different patients, to prevent transmission of infectious material[57][213]
- during the care of a single patient, to prevent cross-contamination of body sites[18][213]
- if the patient interaction involves touching portable computer keyboards, other portable devices or any other mobile equipment that is transported from room to room[213].

Prolonged and indiscriminate use of gloves should be avoided for a number of important reasons. A failure to change gloves between procedures has been found to increase the risk of cross-transmission[223][224] and has been associated with transmission of methicillin- resistant *Staphylococcus aureus* (MRSA) and Gram- negative bacilli[186][206][207]. Prolonged glove use may also cause adverse reactions and skin sensitivity[57][213].

Further, the use of gloves must be in addition to standard hand hygiene practices.

Hand hygiene should always be performed before putting on gloves and after removing them[207][214][18].

Latex allergy

Latex allergy is a reaction to certain proteins in latex rubber. The amount of latex exposure needed to produce sensitisation or an allergic reaction is unknown. However, current understanding of latex allergy is as follows:[218]

- increasing the exposure to latex proteins increases the risk of developing allergic symptoms— most people who are allergic to latex have had frequent exposure to latex over many years; the majority are nurses, doctors, dentists or patients who have had a number of operations
- in sensitised people, symptoms usually begin within minutes of exposure; but they can occur hours later and can be quite varied—mild reactions involve skin redness, rash, hives, or itching; more severe reactions may involve respiratory symptoms such as runny nose, sneezing, itchy eyes, scratchy throat, and asthma (difficult breathing, coughing spells, and wheezing); and rarely, shock may occur although a life-threatening reaction is seldom the first sign of latex allergy
- the risk of latex allergy is influenced by the amount of protein/allergen and powder in the latex glove; not by powder alone[194].

Healthcare workers with latex allergies should inform their managers to ensure that their work areas can be latex free.

If latex gloves are used, they should be non-powdered due to the risks associated with aerosolisation and an increased risk of latex allergies.

Removing and disposing of gloves

When removing gloves, care should be taken not to contaminate the hands. After gloves have been removed, hand hygiene should be performed in case infectious agents have penetrated through unrecognised tears or have contaminated the hands during glove removal.

Gloves should be disposed of as soon as they are removed, with disposal complying with local policies and standards.

Individual actions for reducing the risk:

- Before putting on PPE explain to the patient that it is a routine part of infection prevention and control.
- Assess the risk of spraying or splashing in the specific situation and choose PPE accordingly.
- If you have a sensitivity or allergy to latex, inform your manager and ensure you always use an alternative glove type.
- Follow appropriate sequence and procedure for putting on and removing PPE outlined in Table 14.
- Remove PPE before leaving the patient-care area and follow the sequence and procedure outlined in Table 14.
- Lead by example and champion the appropriate use of PPE in your setting.

For practical information on the use of gloves, see Case Study 5.2.

Key Info

Benefits and harms

The benefits of wearing gloves clearly outweigh any undesirable effects. Gloves can protect both patients and healthcare workers from exposure to infectious agents that may be carried on hands. Gloves are an essential component of standard precautions.

Whilst the benefits of appropriate glove usage in reducing the transmission of infection are well-documented, evidence from numerous studies demonstrates that the rate of compliance with hand hygiene is often worse when gloves are worn[221][222]. The reason for this association, however, has not been investigated thoroughly.

Certainty of the Evidence

This advice is based on limited evidence, but on sound theoretical principles and supported by expert advice.

Preference and values

It is expected that all patients and staff of Australian healthcare facilities would highly value minimising infections during any episode of care.

Resources and other considerations

The provision of gloves presents cost to healthcare facilities.

Rationale

This advice is based on limited empirical evidence, but on sound theoretical principles and supported by expert advice. The use of gloves is justified to reduce healthcare associated infection.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 good practice points to be reassigned as a GRADE practice statement. All considerations in adopting or adapting this practice statement are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report.*

Summary

Research question

- **Population:** Patients
- **Intervention:** Personal protective equipment
- **Comparator:** No personal protective equipment
- **Outcome:** Incidence rate of healthcare associated infections

3.3.1 Other items of clothing

Ties and lanyards

Where possible, the wearing of lanyards and neckties should be avoided as evidence indicates these pieces of clothes may facilitate transmission of infection[203][225][226][227][228].

Footwear

Footwear suitable for the duties being undertaken must be worn and preferably be designed to minimise the risk of injury from dropped sharps, as well as minimise risk of exposure to blood and body substances.

Uniforms

In areas of clinical practice where there is a high risk of repeated exposure to blood and other body substances, it is recommended that uniforms be worn as well as the appropriate personal protective equipment.

Whilst no clinical studies that have demonstrated cross-transmission of healthcare associated pathogens via standard apparel, a number of small prospective trials have demonstrated that the uniforms of healthcare professionals can become contaminated with a variety of pathogens[178].

Healthcare workers should wear a clean uniform for each shift. Uniforms should be washed at home, separately from other items. If the uniform has been contaminated with blood or body substances, the hospital facility laundry must be used[205].

3.4 Management of multi-resistant organisms and outbreak situations

Summary

Section 3.4 outlines approaches to the management of multi-resistant organisms (MROs) or outbreak situations.

For the purpose of these Guidelines, MROs are taken to include: methicillin-resistant *Staphylococcus aureus* (MRSA), vancomycin- resistant enterococci (VRE), and multi-resistant Gram-negative bacteria (MRGN).

- The decision to screen for MROs when a patient is admitted to a healthcare facility should be dependent upon the specific MRO, any identified patient-risk factors and the local epidemiology of the MRO.
- MRO clearance processes are well-defined for MRSA however there is less evidence regarding clearance for MRGNs (including carbapenemase-producing *Enterobacterales* (CPE)) and VRE, and decisions should be made based on state and territory policy and after consultation with an infection prevention and control expert.
- Applying standard precautions, including hand hygiene, is the most effective measure to prevent and control the spread of MROs.
- It is suggested that transmission-based precautions be considered for all patients colonised or infected with an MRO.
- Maintaining a surveillance system to record the presence of all MROs can assist in the timely reporting and notification of cases or outbreaks.
- Outbreaks of MROs should be managed by a dedicated outbreak control team, and appropriate infection control strategies should be implemented.

Patient-care tip

When a patient is infected or colonised with an MRO or involved in an outbreak, there is potential for adverse effects such as anxiety, mood disturbances, perceptions of stigma and reduced contact with clinical staff. Clearly explaining to patients the measures being undertaken and why they are necessary may help to alleviate these effects. At no time should a patient's MRO status interfere with the provision of appropriate, high quality care.

3.4.1 Multi-resistant organisms

What are the risks?

Multi-resistant organism (MROs), which are predominantly bacteria, are resistant to multiple classes of antimicrobial agents. Antimicrobial resistance increases the morbidity and mortality associated with infections, and contributes to increased costs of care due to prolonged hospital stays and other factors, including the need for more expensive drugs[237]. A major cause of antimicrobial resistance is the exposure of a high-density, high-acuity patient population in frequent contact with healthcare workers to extensive antimicrobial use, along with the attendant risk of cross-infection[230][231].

For the purpose of these guidelines, MROs are taken to include:

- **all methicillin-resistant *Staphylococcus aureus* (MRSAs)**, which are responsible for up to a third of healthcare associated bloodstream infections (BSI)[230]. Mortality from MRSA related BSI ranged from 10% to 50%, according to the setting[232]
- **all vancomycin-resistant enterococci (VREs)** with mobile resistance determinants (e.g. VanA, VanB)—the ratio of invasive VRE infection to colonisation appears to be proportionately lower than that of MRSAs[230]
- **a range of Gram-negative bacteria (MRGNs)** with multiple classes of drug resistance or resistant mechanisms to critically important antimicrobials—highly transmissible resistance is a particular feature of antimicrobial resistance among the Gram-negative bacteria, especially the *Enterobacterales*. In particular, an increasing number of carbapenemase-producing *Enterobacterales* (CPE) cases and outbreaks have been identified in Australia and this is recognised as an emerging public health issue[229]. Multi- drug resistance is also common and increasing among non-fermenting Gram-negative bacteria (e.g. *Pseudomonas aeruginosa* and *Acinetobacter baumannii*) and a number of strains have now been identified that exhibit resistance to essentially all commonly used antimicrobials. These organisms are associated with treatment failure and increased morbidity[230].

A two-level approach is necessary for the prevention and control of MROs. This involves implementation of:

- **core strategies** for MRO prevention and control in any situation where MRO infection or colonisation is suspected or identified (see *Recommendation 33*)
- **organism-based or resistance mechanism-based approaches** if incidence or prevalence of MROs are not decreasing despite implementation of the core strategies (see below for further information).

In the event of an MRO outbreak, investigation and control/containment should be conducted as outlined in Section 3.4.2.

The best practices in these guidelines are based on the assumption that healthcare settings already have basic infection prevention and control systems in place. If this is not the case, healthcare settings will find it challenging to implement the practices recommended for the management of MROs. These healthcare settings must work with organisations that have infection prevention and control expertise, such as: academic health science centres, regional infection control networks, public health units that have professional staff certified in infection prevention and control, and local infection prevention and control associations to develop evidence-based programs[259].

Organism-specific approach

When the incidence or prevalence of MROs is not decreasing despite implementation of the core strategies outlined in *Recommendation 33*, further measures to control transmission need to be considered. A risk management approach focuses on:

- the type of MRO (e.g. prioritisation of available isolation facilities according to MRO)
- the healthcare area (e.g. intensive care or haematology/oncology units have higher risks of transmission)
- patient factors (e.g. whether the consequences of infection are severe)
- available resources (e.g. whether screening a certain patient population is feasible)
- whether interventions to interrupt transmission are available (e.g. decolonisation for MRSA).

Further measures may include:

- *Targeted screening*—timely active screening to identify colonised patients combined with the use of contact precautions for the care of colonised patients has been followed by a significant reduction in the rates of both colonisation and infection of patients with MRSA[243][244]. Screening involves collecting specimens from the patient and subsequent laboratory analysis of these samples. In a risk assessment approach to screening, considerations include the endemicity of the MRO, the prevalence of MRO infection and the likelihood of MRO carriage. Clinicians and the infection control professional should be informed of both negative and positive screening results promptly. If screening returns a positive sample, contact precautions should be applied and appropriate use of isolation and cohorting facilities should be implemented.
- *Decolonisation*—interventions may be:
  - topical—whole body washes (using chlorhexidine) and topically applied antimicrobial agents
  - systemic—orally administered antimicrobials (tetracyclines, fusidic acid, ciprofloxacin, rifampin and trimethoprim- sulfamethoxazole)
  - combinations of systemic and topical therapy.
- *Surveillance and timely feedback*—increased surveillance may be appropriate to monitor the effect of interventions designed to control particular MROs. Surveillance information should be fed back to health care workers and facility management promptly.

Screening

In acute-care settings, routine screening for MROs for all admitted patients is not encouraged. The decision to screen for specific MROS should be based on the level of risk and the local epidemiology of the specific MRO. Control measures specific to local factors should be determined and endorsed by the healthcare facility management structure, and the screening protocols for MROs should be influenced by the:

- local prevalence of the MRO
- the reason for admission of the patient
- the potential risk of transmission to others
- the risk status of the unit to which the patient is admitted
- the likelihood that the patient is carrying an MRO.

As a minimum standard to reduce the risk of transmission of MROs, it is recommended that the following approaches to screening be implemented. This guidance for screening is based on patient risk factors for these organisms. Other risk groups may be defined by local experience, based on screening initiatives or outbreak epidemiology. Expert direction and resources allocation is required for effective MRO screening.

For example some facilities have found that screening patients who are recent hospital admissions from international facilities into Australian facilities have increasingly been shown to be positive for MRGN. While this is an area for future research, healthcare facilities could currently consider screening these patients on admission, particularly in areas where MROs are found to be prevalent in transferred patients.

Table 19. Suggested approach to routinely screening for MRSA

Organism	Screen who	Screen when	Sample collection
MRSA	***1. Patients with any of the following risk factors:*** • previous infection or colonisation of MRSA • frequent re-admissions to any healthcare facility • transfers from other acute care facility, particularly one known to have a high prevalence of MRSA • residence in long term care facilities • chronic wounds • a number of co-morbidities • locales or populations with a high prevalence of community strains of MRSA • a long-term indwelling medical device.	• Screened routinely at the time of admission unless they are being admitted directly to isolation facilities and it is not planned to attempt to clear them of MRSA carriage.	• Multiple sites including one from the nose and another mucosal surface. • Reasonable sites to swab include anterior nares, skin lesions and wounds, sites of catheters, catheter urine, ostomy sites, groin/ perineum, tracheostomy and other skin break in all patients, and sputum from patients with a productive cough. • Where maximum sensitivity is required, consideration should be given to adding a throat swab. The umbilicus should be sampled in all neonates.
	2. Healthcare workers epidemiologically linked to single-strain outbreak in health care facility.	• After confirmation of epidemiological evidence. • Two weeks after decolonisation therapy.	
	3. High risk units and/or procedures: • intensive care unit (ICU)/high dependency unit • spinal unit • burns unit • pre-operative clinics • Patients with planned prosthetic surgery (joint replacement, cardiothoracic surgery)	• All patients on admission, discharge and once weekly.	

Table 20. Suggested approach to routinely screening for VRE and MRGN

Organism	Screen who	Screen when	Sample collection
VRE	***1. High risk units:*** • ICU • nephrology • haematology • solid organ transplant unit, and • patients epidemiologically linked to single-strain outbreak in healthcare facility. ***2. Patients at high risk of carriage:*** • recent hospitalisation in any healthcare facility • critical illness in intensive care units • long duration of stay and severity of illness • chronic disease and impaired functional status • patients with urinary catheters, and/or • prolonged or broad-spectrum antimicrobial use, particularly vancomycin.	• For endemic VRE screen on admission to intensive care unit, at discharge and once weekly. • For VRE in a haematology/ oncology facility screen periodically every 3-6 months.	• Multiple sites including rectal or perianal swabs. • Reasonable sites include groin, wounds, ostomy sites and respiratory secretions or tracheal aspirates.
MRGN, ESBLs, plasmid- mediated AmpC, MR-*Pseudomonas aeruginosa, MR-Acinetobacter baumannii*, carbapenemase-producing *Enterobacterales* (CPE, see below for additional CPE-specific risk factors)	***1. High risk units:*** • ICU • solid-organ transplant unit • speciality centres (e.g. burns, neurosurgery), and • patients epidemiologically linked to single-strain outbreak in healthcare facility. ***2. Patients at high risk of carriage:*** • those with recent broad spectrum antimicrobial therapy (carbapenem, quinolones, and 3rd and 4th generation cephalosporins) • history of recent travel • to area of high endemicity • long duration of stay and severity of illness • chronic disease and impaired functional status, and/or • presence of invasive medical • devices Admission screening of MRGNs should be based on local epidemiology and consideration of high-risk groups.	• If screening and isolation are not routine, they may be considered to address a temporary outbreak in a specific unit and discontinued once the outbreak is controlled.	• Multiple sites including rectal or perianal swabs. • Reasonable sites to include are nares, groin, wounds, ostomy sites and respiratory secretions or tracheal aspirates depending on the infectious agent.

Organism	Screen who	Screen when	Sample collection
Carbapenemase-producing *Enterobacterales* (CPE)	***In addition to the above considerations for screening of MRGNs, the following risk factors should also be considered for CPE*[229]*. Patients who:*** • are hospitalised for a long time • have been hospitalised or had surgery overseas • have had multiple or recent exposures to different antibiotic agents, especially cephalosporins, fluroquinolones and carbapenems • have diabetes mellitus • are on mechanical ventilation • have an indwelling medical device, and/or • are recipients of an organ or stem cell transplant.	• Patients at high-risk of colonisation or infection with CPE should be actively screened for CPE colonisation or infection upon hospital admission.	• Aspirates from any tubes or drains. • Rectal swabs, faeces or urine from catheterised patients. Specimens from open wounds should also be considered[229].

Screening for patients in home care and other community-based settings

The current evidence does not support routine screening for MROs in home care and community-based settings such as residential aged care. In these settings, the use of standard precautions as part of routine practice should assist in minimising the cross-transmission risks of infection, regardless of multi-resistant organism status.

Any patients with risk factors for transmission, such as a discharging wound, should have a risk assessment performed to determine whether any transmission-based precautions should be implemented.

MRO clearance

The evidence is still emerging on the most effective method of demonstrating clearance of a particular MRO. This is an area that warrants further research.

MRSA

The following criteria should be satisfied prior to certifying that a patient has cleared MRSA:

- more than three months elapsed time from the last positive specimen
- all wounds healed, and no indwelling medical devices present (this may differ across the states and territories—refer to local policy for clarification)
- no exposure to any antimicrobial or antiseptic body wash for at least two weeks prior to screening
- no exposure to specific anti-MRSA antimicrobial therapy in the past three months
- consecutive negative screens from above screening sites on two separate occasions.

It is important to note that colonisation of MRSA may continue for a prolonged period of time, and that MRSA can resurface if a patient is hospitalised or prescribed antimicrobials. Patients may need to undertake clearance again if re-admitted to an acute care facility, particularly a high-risk unit, as the previous clearance is only reflective of a patient's MRSA status at the time the swabs were taken.

VRE

There is no agreed protocol for VRE clearance and caution should be applied. Some patients with VRE may appear to 'clear ' with time but relapse with antimicrobial therapy.

Patients should be 'cleared' of VRE for the purposes of discontinuing contact precautions in the acute setting on an individual basis. In this instance, it is reasonable to follow the above criteria for MRSA and MRGN. Expert direction from senior infection control experts should be sought on all VRE clearances.

MRGNs (excluding CPE)

There is not yet an agreed protocol for the clearance of MRGN carriage due to a lack of scientific evidence. However, patients can have their MRO alert retired and can be managed with standard precautions if the following criteria are met:

- more than three months elapsed since time from last positive specimen
- all discharging wounds healed
- no indwelling medical devices present
- no enterostomy or tracheostomy present
- no antimicrobial therapy in the past three months
- consecutive negative screens from specified screening sites (above) obtained on separate occasions at least three weeks apart.

Recommendations regarding MRGN clearance are continuing to evolve with emerging evidence, and infection control professionals should be involved in determining appropriate clearance protocols.

CPE

The following recommendations are in place regarding the clearance of CPE[229]*:*

- a patient colonised with CPE cannot be considered cleared within 12 months of a positive result
- clearance must be assessed based on relevant state and territory policies, and in consultation with an infection prevention and control professional, and a clinical microbiologist or infectious diseases physician
- any person deemed cleared should be rescreened at every subsequent overnight admission to a healthcare facility to identify any relapse in detectable CPE colonisation
- a healthcare facility can consider ceasing contact precautions for a patient readmitted to hospital more than 12 months since a positive result of CPE colonisation if they have no risk factors. This requires three negative screening swabs at least 24 hours apart.

In absence of high-quality evidence to show that clearance of colonisation will occur, a cautious approach to determining clearance for CPE is required.

Emerging MROs

It is acknowledged that Australia has had very few identified cases of *Candida auris* to date. All of the cases found in Australia so far have been in people who were in hospital overseas where *C. auris* is more common.

Antimicrobial stewardship

Safe and appropriate use of antimicrobials is a strategic goal of the clinical governance system[304]. Over the last 50 years, the prevalence of MROs such as MRSA has risen alarmingly, initially mainly in hospitals but now increasingly in the community. There is good evidence that overall rates of antimicrobial resistance correlate with the total quantity of antimicrobials used,

as determined by the number of individuals treated, prior exposure and the average duration of each treatment course. In individuals, the risk of colonisation and infection with MROs correlates strongly with previous antimicrobial therapy.

For more information about antimicrobial resistance and antimicrobial stewardship programs, see Section 4.5.

Weak Recommendation

19. It is suggested that contact precautions be considered for all patients colonised or infected with a multi-resistant organism (MRO) where there is anticipated patient and/or environmental contact, including:
    - performing hand hygiene and putting on gloves and gowns before entering the patient-care area
    - using patient-dedicated or single-use non-critical patient-care equipment
    - using a single-patient room or, if unavailable, cohorting patients with the same strain of MRO in designated patient-care areas (upon approval from the healthcare facility's Infection Control Team)
    - ensuring consistent cleaning and disinfection of surfaces in close proximity to the patient and those likely to be touched by the patient and healthcare workers.

Practical Info

Core strategies for mulit-resistant organisms (MRO) prevention and control

Successful control of MROs is based on a combination of interventions with a shift over the last decade towards the engagement and participation of patients in infection control strategies. These involve continued rigorous adherence to hand hygiene, appropriate use of personal protective equipment (PPE) and implementation of specific contact-based precautions (isolation of infected or colonised patients, increased environmental cleaning and patient-dedicated equipment) until patients are culture-negative for a target MRO or have been discharged from the facility.

In non-acute healthcare settings, general measures of infection control (particularly hand hygiene by both patients and healthcare workers) may be enough to prevent transmission. However, contact precautions, such as gowns and gloves, may be necessary if the patient is heavily colonised or there is known continuing transmission. Local guidelines and circumstances should determine practice in settings where the patient population is vulnerable[234].

There is emerging evidence which suggests that there are a range of possible negative patient outcomes associated with the use of contact precautions for patients infected or colonised with an MRO which need to be considered. These are discussed below.

Organisational measures—such as staff education on prevention and management of MRO transmission, antimicrobial stewardship programs, and appropriate response to active surveillance cultures—are discussed in Section 4.

Hand hygiene

MROs can be carried from one person to another via the hands of a healthcare worker. Contamination can occur during patient care or from contact with environmental surfaces in close proximity to the patient, particularly when patients have diarrhoea and the reservoir of the MRO is the gastrointestinal tract. Effective hand hygiene is therefore the most important measure to prevent and control the spread of MROs. Alcohol-based hand rub of at least 70% v/v ethanol or equivalent has been shown to be effective against methicillin- resistant Staphylococcus aureus (MRSA) and vancomycin-resistant enterococci (VRE)[236].

Personal protective equipment

Both direct patient contact (e.g. routine patient care) and indirect contact (e.g. involving environmental contamination) can lead to contamination of the healthcare worker's hands and clothing. Appropriate use of gloves has been found to be as effective a strategy as patient isolation in containing MROs, particularly when isolation may not be feasible[238][239]. Evidence suggests the use of gowns is shown to be effective against MRO transmission where contact precautions are being applied[233]. Glove use is more effective when combined with wearing of gowns[240][241][242]. However, it must also be acknowledged that implementation issues such as cost and availability of resources may prohibit universal gown use[233].

Recommendation 29 provides further guidance on the selection of an appropriate gowns and Recommendation 31 on selection of gloves.

Isolation

Placing colonised or infected patients in single rooms, cohort rooms or cohort areas as a component of a multifaceted infection control policy can reduce acquisition rate and infection with MROs in acute-care settings. Cohorting patients with the same strain of MRO has been used extensively for managing outbreaks of specific MROs, including MRSA, VRE, extended spectrum beta-lactamase (ESBL)- producing bacteria, and *Pseudomonas aeruginosa.*

However, it is not always appropriate to cohort patients with the same MRO species if they have a different resistance mechanism or phenotype (e.g. if one has a community-acquired strain of likely panton-valentine leukocidin (PVL)-positive MRSA and the other has a hospital-acquired strain of MRSA). CPE positive patients should not be grouped together without expert direction from the Infection Control Team[229].

Decisions regarding priority of isolation when demand for single rooms exceeds availability should be made by the Infection Control Team based on the patients, their acuity and the types and strains of MRO present. Priority should always be given to patients requiring airborne precautions. There may also be other competing priorities for single rooms not related to infectious diseases and these may need to be considered when allocating resources e.g. patient security and palliation.

In long-term care facilities, isolation and cohorting may not be possible, so hand hygiene with appropriate routine use of gloves for individual resident and environmental contact is preferred[238].

Due to the varying nature of healthcare facilities, it is not feasible to provide a generic policy on the movement of patients with MROs. This needs to occur at a local level and be relevant to the patient's treatment plan. These policies should not limit access to treatment and should consider the social implications of managing a patient with an MRO.

Information about the reported harms of patient isolation as part of contact precautions are discussed below.

Environmental cleaning

In acute-care areas where the risk of patient vulnerability and risk of cross infection due to the presence of an MRO is high, contact precautions should be followed. This will require all patient surrounds and frequently touched objects (e.g. bedrails, trolleys, bedside commodes, doorknobs, light switches or tap handles, ensuite facilities) to be cleaned with a suitable detergent and disinfected with a Therapeutic Goods Administration (TGA)-listed hospital-grade disinfectant (or sodium hypochlorite if indicated for use as per *Recommendation 14*). As outlined in Section 3.1.3 *Practice Statement 9* practical information, this process must involve either:

- a 2-step clean, which involves a physical clean using detergent solution followed by use of a chemical disinfectant
- a 2-in-1 clean in which a combined detergent/disinfectant wipe or solution is used and mechanical/manual cleaning action is involved.

Sole reliance on a disinfectant without mechanical/manual cleaning is not recommended.

Patient equipment

Standard precautions concerning patient-care equipment are very important in the care of patients with MROs. Patient-care devices (e.g. electronic thermometers) may transmit infectious agents if devices are shared between patients. To reduce the risk of transmission, disposable or patient dedicated equipment is preferred. Section 3.1.4 provides more detailed information on reusable instruments and equipment.

Monitoring

Monitoring of the incidence of target MRO infection and colonisation should continue after these interventions are implemented. If rates do not decrease, more interventions may be needed to reduce MRO transmission.

Management of specific MROs

MRSA

In addition to standard precautions and contact precautions, droplet precautions should be used for patients known to be infected or colonised with MRSA in the lower respiratory tract when patient care activities are likely to expose healthcare workers.

Patients positive for MRSA should have an electronic alert placed on their case record for easy identification on readmission. The Infection Control Team may prescribe a decolonisation program for patients depending on their level of risk from ongoing colonisation and availability for follow-up. Consider topical plus/minus systemic decolonisation for:

- healthcare workers epidemiologically linked to transmission
- patients having prolonged hospitalisation
- patients with chronic conditions likely to be readmitted (e.g. haemodialysis)
- patients prior to undergoing high-risk elective surgery such as cardiac and implant surgery.

VRE

Patients positive for VRE should have an electronic alert placed on their case record for easy identification on readmission.

Management of patients with VRE depends on the potential risks involved.

- It is suggested that patients with suspected or confirmed VRE are managed using contact precautions, including placement in a single room with dedicated toilet facilities. Infection control precautions should concentrate on managing the risk of VRE transmission, including the risk of environmental transmission, and take into account the presence of other patients who may be at high risk of infection with VRE.
- Emerging evidence suggests that in appropriate circumstances, patients positive for VRE may be managed with standard precautions (i.e. hand hygiene, environmental cleaning, cleaning of shared patient equipment between use and frequently touched surfaces, and appropriate use of disinfectants) provided the patient does not have risk factors that facilitate transmission such as diarrhoea or poor compliance with personal hygiene.
- This decision should be based on a risk assessment performed by the Infection Control Team, and in the context of a locally agreed policy relating to management of patients with VRE. This decision should also be clearly outlined in a policy approved through the organisations governance committee. If these processes cannot be adequately completed by the healthcare facility, contact precautions should be implemented for all patients with suspected or confirmed VRE.

Further information on the use of horizontal measures to prevent transmission of MROs is discussed below.

MRGNs

Patients positive for MRGN should have an electronic alert placed on their case record for easy identification on readmission. It is suggested that patients with suspected or confirmed MRGNs are managed through contact precautions, including placement in a single room with dedicated toilet facilities.

CPE

Patients positive for CPE should have an electronic alert placed on their case record for easy identification on readmission. It is suggested that patients with suspected or confirmed CPE are managed through contact precautions, including placement in a single room with dedicated toilet facilities. Priority for isolation should be dependent upon the risk of transmission for each patient (e.g. patients with diarrhoea, patients with medical devices in situ). These precautions should remain in place until the patient is discharged from the facility. CPE positive patients should not be cohorted without guidance from the Infection Control Team.

Emerging evidence on contact precautions

It is suggested that contact precautions be considered for all patients colonised or infected with an MRO where there is anticipated patient and/or environmental contact. Variations to this should be determined via a risk assessment with consideration for the healthcare setting. If there is no contact with the patient or the patient's environment (e.g. briefly speaking with the patient) then there may not be a need for the healthcare worker to apply contact precautions.

Increasingly, some healthcare facilities are focusing on the use of horizontal measures to prevent transmission of MROs. These include hand hygiene, bathing patients with chlorhexidine (see Recommendation 38) and environmental cleaning and disinfection[248]. It is important that healthcare facilities using horizontal measures implement processes and policies surrounding the use for patients infected or colonised with an MRO, and monitor the impact of these measures on the transmission of MROs through process and outcome reporting.

There is emerging evidence that the use of contact precautions for patients colonised or infected with an MRO may be associated with potential negative outcomes such as decreased patient satisfaction with care[247], increase in adverse events such as falls and ulcers[249], reduced patient contact with healthcare workers[248], higher rates of anxiety and depression[247][248], and increased days spent in hospitals[247]. However, not all studies regarding the specific impact of contact precautions on these negative outcomes are conclusive[246], in part due to low quality evidence and poor study design. Potential negative outcomes and mitigation measures should be considered in developing and implementing healthcare facility policies.

It is important that both patients and healthcare workers are provided with education about the purpose and use of contact precautions. Educating healthcare workers on the importance of maintaining similar patient visitation rates for patients in isolation can assist in reducing some of the harms associated with contact precautions.

Patient-care tip

When patients are placed on transmission-based precautions due to infection or colonisation with an MRO, efforts should be made to ensure patients continue to receive adequate medical care, and to counteract potential psychological adverse effects of isolation such as anxiety and depression, and feeling of stigmatisation.

Key Info

Benefits and harms — Small net benefit, or little difference between alternatives

The benefits of implementing contact precautions for patients colonised or infected with a multi-resistant organism (MRO) include a decrease in transmission of methicillin-resistant Staphylocccus aureus (MRSA) and vancomycin-resistant enterococci (VRE). However, the evidence on the effectiveness of contact precautions is not conclusive and few studies have directly compared the benefits of contact precautions above and beyond standard precautions.

Some of the reported harms of contact precautions for patients include[246]: reduced patient contact with healthcare workers, increased number of preventable adverse effects, decreased patient satisfaction with their quality of care and delays in access to radiological examinations.

Certainty of the Evidence Low

This recommendation has been adapted from United States Centers for Disease Control and Prevention *Management of Multidrug-Resistant Organisms in Healthcare Settings* (2006).

The quality of evidence is low, and there is significant variability amongst results regarding both the benefits and harms of contact precautions for MROs.

Preference and values Substantial variability is expected or uncertain

As contact precautions have been found to be associated with a range of negative patient outcomes including prolonged hospital stays and less patient visits, not all patients and staff may value the implementation of contact precautions for patients colonised or infected with MROs.

Resources and other considerations No important issues with the recommended alternative

Whilst contact precautions may be cost effective at the individual level, across an entire healthcare facility, there may be significant resource considerations associated with implementing contact precautions. The costs associated with implementing contact precautions may include the cost of equipment and the cost of screening processes.

Rationale

Implementing transmission based precautions when a patient has been colonised or infected with a mulit-resistant organism is justified to reduce healthcare associated infection. When deciding whether to implement transmission-based precautions, the benefits and harms should be considered, alongside any associated costs.

Adaptation

The GRADE process provided a consistent and transparent approach which allowed for this 2010 recommendation (developed using the FORM approach) to be reassigned a GRADE recommendation and accompanying strength. All considerations in adopting or adapting this recommendation are captured in the *'key info'* tab.

Further information on the application of GRADE can be found in *Appendix 3: Process Report.*

Summary

Research question

- **Population:** Patients colonised or infected with an MRO
- **Intervention:** Transmission-based precautions
- **Comparator:** Non-transmission-based precautions
- **Outcome:** Incidence rate of healthcare associated infections (MROs)

Practice Statement

20. It is good practice for healthcare facilities to maintain a surveillance system to record the presence of all multi-resistant organisms.

Practical Info

Surveillance of multi-resistant organism (MROs)

Surveillance of MROs is imperative in order to understand the impact, magnitude and distribution of antimicrobial resistance (AMR) in Australia. This allows for the development of policies and programs and can inform a coordinated response to critical antimicrobial resistances (CARs). Surveillance data on MROs in Australia comes mostly from public hospital laboratories. Each health facility should select an appropriate active surveillance strategy, based on their current epidemiology of MRO colonisation and local state or territory policies and legislation.

A National Alert System for Critical Antimicrobial Resistances (CARAlert) has been established by the Australian Commission on Safety and Quality in Health Care as part of the Antimicrobial Use and Resistance in Australia (AURA) Surveillance System. CARAlert collects surveillance data on nationally agreed priority organisms with critical resistance to last-line antimicrobial agents. CARAlert aims to complement existing surveillance programs in providing timely advice to state and territory health authorities on the occurrence of CARs nationally. For further information and to access reports, see https://www.safetyandquality.gov.au/antimicrobial-use-and- resistance-in-australia/what-is-aura/national-alert-system-for-critical-antimicrobial-resistances-caralert/?section=5.

All healthcare facilities should also have systems in place to ensure timely reporting of MROs which are classified as notifiable diseases to the relevant national and/or state/territory health authorities.

Further information on surveillance in healthcare facilities is available in Sections 4.4, its subsections, and 4.5.3.

Key Info

Benefits and harms

The benefits of establishing a surveillance system for multi-resistant oganisms in healthcare facilities clearly outweighs the harms.

Certainty of the Evidence

The National Safety and Quality Health Service Standards on Governance (Standard 1) and Infection Prevention and Control (Standard 3) require organisations to demonstrate governance mechanisms and risk management for infection prevention and control.

Preference and values

There are no significant issues that impact on patient preferences and values, or on health equity.

Resources and other considerations

It is suggested that an existing register within a healthcare facility is used, so this practice should not impact on resourcing besides possible extra training for staff.

Rationale

Effective surveillance systems should provide meaningful and accessible information so that actions can be taken to prevent and contain multi-resistant organisms.

As coordinated and integrated efforts in antimicrobial resistance are established across Australia, this information will be important for benchmarking activities and in monitoring the emergence of resistance and changes in patterns of resistance.

Summary

Research question

- **Population:** Patients colonised or infected with an MRO
- **Intervention:** Transmission-based precautions
- **Comparator:** Non-transmission-based precautions
- **Outcome:** Incidence rate of healthcare associated infections (MROs)

3.4.2 Outbreak investigation and management

What constitutes an outbreak?

When there are more cases of infection with the same organism than would normally be expected in one area or period of time, this constitutes an outbreak.

An outbreak may be defined as:

- occurrence of more cases of disease than expected in a given area among a specific group of people over a particular period of time
- two or more linked cases of the same illness.

Outbreaks commonly identified in healthcare facilities include:

- methicillin-resistant Gram negative (MRSA)
- vancomycin-associated enterococci (VRE)
- multi-resistant Gram negative (MRGN)
- respiratory pathogens (e.g. influenza, respiratory syncytial virus [RSV])
- diarrhoeal pathogens (e.g. norovirus)
- measles (rubeola), chickenpox (varicella)
- scabies
- *C. difficile*.

This section gives principles and overall guidance for managing an outbreak. For specific guidance on particular infections, please refer to national guidelines related to the management of that infection.

Outbreak investigation and management

A suspected outbreak may be identified by a healthcare worker; by laboratory personnel; or by state/territory health authorities conducting routine surveillance, investigating reports of illness and from reportable disease notifications. When an outbreak is detected, the healthcare facility's infection control management system should be notified and an outbreak control team should be formed relevant to the size and seriousness of the outbreak and the healthcare facility involved. There may also be a requirement to notify the state/territory public health unit.

The responsibility for investigation and the extent of investigations will vary according to the outbreak type and circumstances. It is important to investigate an outbreak immediately, as the availability and quality of microbiological evidence and epidemiological data diminishes rapidly with time between illness and investigation.

An outbreak management plan should be developed based on local policy and consultation between the infection control professional, healthcare workers, patients, facility management and state/territory health authorities, as appropriate. Such a plan is multifactorial and its implementation is typically overseen by a person with designated responsibility for infection control, such as an infection control professional, clinical microbiologist or infectious diseases physician.

The outbreak response may differ according to the nature of disease, the virulence of the organism and the vulnerability of the patients concerned. However, the principles that underlie an outbreak investigation are similar: identification of the aetiological agent, the route(s) of transmission, exposure factors and the population at risk.

All healthcare facilities should have systems in place to ensure timely reporting of notifiable diseases to the relevant national and/or state/ territory health departments. As patients may present to a healthcare facility and be later confirmed to have a transmissible disease state/ territory health authorities need to be notified to enable tracing of contacts of the infected patient in order to initiate appropriate counselling, quarantine and post-exposure prophylaxis. Healthcare facilities may need to identify staff on duty and other patients present who may have been exposed to the infectious patient and be at risk.

One of the important aspects of the outbreak management process is the written and oral communication of findings to the appropriate authorities, the appropriate health professionals and the public. This communication is based on the type and severity of the outbreak. During an outbreak it is important to provide education to the key stakeholders and clinicians about the organism and its mode of transmission.

Within a healthcare facility, effective communication could consist of:

- appropriate signage to limit access to a room or a clinical unit
- electronic alerts on the medical record to manage cases and contacts
- emails and multimedia to target all stakeholders within the healthcare facility
- provision of education and written materials to visitors to inform them of the situation and the infection control measures with which they should comply.

Table 21 outlines the process of outbreak investigation and corresponding management. In practice many steps are taken more or less simultaneously, as the results of investigations and implementation of strategies to contain and control will vary with the availability and timeliness of information and seriousness of the outbreak. In primary care there may be a limited ability to investigate an outbreak, which will be generally conducted by public health authorities once they have been notified. All outbreaks, however minor, should be investigated promptly and thoroughly and the outcomes of the investigations documented.

Note: An infection prevention and control professional should be involved and consulted throughout all stages of an outbreak investigation.

Table 21. Steps in an outbreak investigation

The steps below should be considered during healthcare facility-level investigations of outbreaks.

Steps	Suggested approach	Responsibilities (dependent on facility and type of outbreak)
Step 1. Recognise outbreak and prepare to investigate		
Determine existence of the outbreak	• Establish background rate of disease. • Consider if observed number of cases is in excess of the usual number, and cases are typical. • Examine surveillance data.	• Healthcare workers. • Laboratory personnel.
Determine if immediate control measures are needed (refer to Section 3.4.2.1)	• Reinforce standard precautions. • Apply appropriate transmission-based precautions.	• Healthcare workers—as soon as outbreak is suspected.
Notify and communicate with:	• Healthcare workers and ancillary staff in immediate area. • Infection control professional. • Executive. • Laboratory. • Public health unit (if notifiable disease or required pursuant to public health legislation).	• Healthcare workers—as soon as outbreak is suspected. • Laboratory personnel (e.g. routine screening can identify outbreak)—as soon as outbreak is suspected.
Formation of an outbreak investigation/ management team (OMT) – this will vary according to location/ resources, made up of one or more people with designated responsibility	Membership may include but is not limited to: • administrators (medical and nursing) • managers of implicated areas • infection control professional or designated person • with infection control experience • clinical Microbiologist • infectious diseases physician/ epidemiologist/ • statistician • lead investigator or 'chair' nominated • others as defined by circumstances.	• Management—as soon as notified.
Step 2. Verify the diagnosis and confirm that an outbreak exists		
Confirm that there are more than expected number of cases meeting the surveillance case definition of the disease of interest in the period under review	• Confirm clinical diagnoses (symptoms and features of illness). • Review laboratory data and request additional laboratory tests if necessary, e.g. molecular typing of organisms to confirm clonality.	• Laboratory personnel to report results. • Clinicians to verify clinical diagnosis.
Consider likely outbreak definition and whether criteria are met	• Are there more cases than expected compared to previous weeks/months? • Review scientific literature. • Consider epidemiology of cases—are there two or more linked cases of the same illness?	• OMT representatives (clinical microbiologist, senior clinicians).

Steps	Suggested approach	Responsibilities (dependent on facility and type of outbreak)
Step 3. Establish case definition and find cases		
Establish a set of standard criteria to decide whether or not a person has the disease of concern	Case definition should be based on: • clinical information about the disease • characteristics of the people who are affected • information about the location • specification of the time period for the outbreak. Case definition can be refined later after collection of primary data. Cases should be classified using the case definition as: • *'Confirmed'* (usually laboratory verification) • *'Probable'* (usually has typical clinical features) • *'Suspect'* (usually has fewer typical clinical features).	• OMT representatives (clinical microbiologist, senior clinicians).
Find cases	Gather critical information by: • interview • follow-up of disease notification • health alerts.	• Healthcare workers. • OMT representatives. • Healthcare facility management.
Identify and count cases	Collect the following types of information: • identifying information • demographic information • clinical information • risk factor information (including environmental tests).	• OMT representative.
Tabulate information collected on cases investigated and update as new cases appear	• Time—date of onset of illness. • Person—age, sex. • Place—where did the exposure occur? • Other relevant information.	• OMT representative.
Step 4. Characterise outbreak by person, place and time		
Review descriptive epidemiology of all cases	Descriptive epidemiological date includes: • person: sex, age, occupation, residence • place: information that provides detail about possible source of agent and nature of exposure • time: date and time of onset, record relevant events in a timeline.	• OMT representative.
Step 5. Determine who is at risk		
Identify groups at risk	• Number of people who have developed the disease/condition of interest (numerator). • At risk population: number of people likely to be exposed e.g. total number of patients on ward, staff and visitor contact (denominator). • Time and place of onset. • Personal characteristics.	• OMT representative.

Steps	Suggested approach	Responsibilities (dependent on facility and type of outbreak)
Initiate precautionary measures	• Use of standard precautions and appropriate transmission-based precautions. • Increase frequency and efficiency of environmental cleaning. • Prophylactic treatment/immunisation. • Antibiotic restrictions. • Exclusion of cases from high risk activities. • Isolation and/or cohorting of patients. • Restricting movement of patients, staff and visitors. • Screening of patients with isolation of patients and cohorting of contacts. • Provision of health information and advice.	• Healthcare workers. • Infection control professional.
Step 6. Implement ongoing control/prevention measures *(this can be done at any time during the outbreak as deemed necessary)*		
Review measures initiated for immediate control (Step 1 and Step 5)	• Are infection control measures adequate to reduce risk of transmission?	• Healthcare workers. • OMT. • Healthcare facility management.
Implement appropriate ongoing control measures and strategies to prevent further illness (see Section 3.4.2.1)	• Restrict spread from the case. • Interrupt chain of infection. • Interrupt transmission or reduce exposure. • Reduce susceptibility to infection. • Assessment of policy, regulations, standards.	• Healthcare workers. • OMT. • Healthcare facility management.
Communicate and coordinate with all stakeholders	• Electronic flagging of medical records of contacts. • Reinforcement of infection control precautions to staff, patients and visitors.	• Healthcare workers. • OMT. • Infection control professional.
Make plans to evaluate their effectiveness	• Document type and time of implementation of infection control measures. • Monitor factors contributing or affected by outbreak and any associated changes.	• Healthcare workers. • OMT. • Infection control professional.
Step 7. Communicate findings		
Prepare written report that evaluates methods used for the control of the outbreak	• Include discussion of factors leading to outbreak, comprehensive timelines, summary of investigation and documented actions. • Short and long term recommendations for prevention of similar outbreak. • Disseminate to appropriate stakeholders including publication.	• OMT. • Healthcare facility management.

Table 22. Developing and testing an hypothesis for an outbreak

In addition to Table 21 above, the steps outlined below should be considered during public health level investigations of outbreaks.

Steps	Suggested approach	Responsibilities (dependent on facility and type of outbreak)
Step 8. Develop hypothesis—the 'how' and 'why'		
Develop hypotheses from the factual information gathered to date on potential source, vector, pathogen and route of transmission	• Data collected by interview. • Common links. • Plausible exposure. • Enivironmental test results where appropriate. • Review literature.	• OMT representative.
Step 9. Test hypothesis with established facts		
Perform epidemiologic study	• Cohort. • Case-control.	• OMT representative.
Analyse the data	• Compare the risk factors among ill (cases) vs. not ill (controls). • Attack rates. • Relative risk.	• OMT representative or outsourced to consultant with knowledge of statistical methods.
Carry out further studies if necessary- to support the hypothesis or if analytic studies do not confirm the hypothesis	• Further study to refine case definition. • May involve testing of environment samples, food samples or environmental screening in some situations (e.g. Legionella, Pseudomonas).	• OMT.

Individual actions for reducing the risk:

- Become familiar with local policy on the implementation of transmission-based precautions in the event of an outbreak.
- If an outbreak is suspected or identified, implement core strategies for prevention and control and seek advice from an infection control professional or person with designated responsibility for this task regarding intensified strategies appropriate to the specific organism.

Practice Statement

21. It is good practice for all outbreaks, however minor, to be investigated promptly and thoroughly and the outcomes of the investigations documented.

Practical Info

All healthcare facilities should have an outbreak management plan based on local policy and consultation between the infection control professional, healthcare workers, patients, facility management and state/territory health authorities, as appropriate.

The responsibility and extend of outbreak investigations will vary according to the outbreak type and circumstances. It is important to investigate an outbreak immediately, as the availability and quality of microbiological evidence and epidemiological data diminishes rapidly with time between illness and investigation.

Key Info

Benefits and harms

The benefits of promptly and thoroughly managing outbreaks of mulit-resistant organism (MROs) in healthcare facilities clearly outweighs the harms.

Certainty of the Evidence

The National Safety and Quality Health Service Standards on Governance (Standard 1) and Infection Prevention and Control (Standard 3) require organisations to demonstrate governance mechanisms and risk management for infection prevention and control.

Preference and values

This measure should not impact patient preferences and values nor have any health equity implications.

Resources and other considerations

Promptly and thoroughly managing outbreaks of MROs in healthcare facilities would result in economic benefits due to a shorter duration of outbreak and reduction in bed-days lost.

Rationale

Successful outbreak management is based on the prompt exchange of information to enable the successful management of the outbreak. Management will be based on a combination of standard and transmission-based precautions. Specific interventions will be determined by the infection control professional, based on the mode of transmission of the infectious agent.

Summary

Research question

- **Population:** Patients colonised or infected with an MRO
- **Intervention:** Transmission-based precautions
- **Comparator:** Non-transmission-based precautions
- **Outcome:** Incidence rate of healthcare associated infections (MROs)

3.4.2.1 Infection control strategies to contain an outbreak

Infection control strategies to control/contain an outbreak

These Guidelines provide core principles of infection prevention and control. However, it is the responsibility of healthcare facilities to develop local policies and procedures relevant to their setting, in addition to the Australian Commission on Safety and Quality in Health Care recommendations for certain multi-resistant organism (MROs).

Good governance and administrative or managerial support are crucial to support outbreak management (see Section 4.1). The healthcare worker's role in outbreak management will include:

- reinforcement of standard precautions, including adherence to the 5 moments for hand hygiene, environmental cleaning protocols and appropriate use of personal protective equipment (PPE)
- implementation of relevant transmission-based precautions, including isolation and cohorting.

The specific precautions required for each infectious agent are listed in Appendix 2—Section 6.4.

Hand hygiene

During an outbreak, adherence to the five moments for hand hygiene can assist in preventing further cases and reducing environmental contamination.

Environmental Cleaning

Frequency and efficiency of environmental cleaning should be increased above the standard for the area to ensure any contaminants are removed (see Appendix 2—Section 6.1 for guidance on cleaning in high-risk situations). A targeted cleaning regime may be introduced and continued for the duration of the outbreak dependent on the mode of transmission of the infectious agent.

Consideration should be given to whether the surrounding environment will need to be disinfected in addition to being cleaned. Further information is available in Section 3.1.3.

Patient Isolation

The isolation of colonised or infected patients is important when managing an outbreak. Standardised transmission-based precautions signage should identify the isolation room and include the necessary precautions to be adopted. Patients should be isolated to a negative pressure room with bathroom facilities or in a room from which air does not circulate to other areas if available. The door should be kept closed for patients on airborne precautions.

If isolation is not possible, cohorting of patients should occur as advised by an infection control professional.

Single room

Single-patient rooms are always indicated for patients placed on airborne precautions and are preferred for patients who require contact or droplet precautions. In the event of an outbreak, single-patient rooms are preferred for all modes of transmission.

During an outbreak, single patient rooms should be prioritised for patients who have conditions that facilitate transmission of infectious material to other patients (e.g. draining wounds, stool incontinence, uncontained secretions) and for those who are at increased risk of acquisition and adverse outcomes resulting from infection (e.g. immunosuppression, open wounds, indwelling catheters, anticipated prolonged length of stay, total dependence on healthcare workers for activities of daily living). The prioritisation of single rooms may also need to take into account other factors that might warrant the need for single rooms, including patients requiring end of life care or special security.

Cohorting

Cohorting patients who are colonised or infected with the same strain confines their care to one area and prevents contact with other patients. Cohorts are created based on clinical diagnosis, microbiologic confirmation when available, epidemiology, and mode of transmission of the infectious agent. It is generally preferred not to place severely immunosuppressed patients in patient-care areas with other patients. Carbapenemase-producing *Enterobacterales* (CPE) positive patients should also not be grouped together without expert direction from senior infection control experts.

Cohorting allows more efficient use of staff. Cohorting has been used for managing outbreaks of MROs and pandemic influenza, and modelling studies provide additional support for cohorting patients to control outbreaks.

Placement of large numbers of patients

In the event of an outbreak or exposure involving large numbers of patients who require transmission precautions, an infection control professional should be consulted before patient placement.

Appropriate measures may include:

- cohorting of patients in areas of the facility that are away from other patients
- if airborne, using temporary portable solutions (e.g. exhaust fan) to create a negative pressure environment in the converted area of the facility.

Restricting movement within the facility

Restricting movement of patients during an outbreak reduces the risk of further transmission.

If transfer within the facility or transport to another facility is necessary, advice should be sought from an infection control professional. If an infected or colonised patient must be moved the transport service and receiving area or facility should be notified of the nature of the patient's infection or colonisation.

It is important to:

- ensure that infected or colonised areas of the patient's body are covered if relevant
- if the target infection is transmitted by the droplet or airborne route, ask the patient to wear a mask while being moved.

Contaminated PPE should be removed and disposed of and hand hygiene performed before the patient is moved. Clean PPE should be put on before the patient is handled at the destination.

For specific control measures for CPE positive patient movement, see Australian Commission on Safety and Quality in Health Care, Recommendations for the control of CPE: A guide for acute care health facilities (2017)[229].

Exclusion Policies

Exclusion policies may also be implemented to restrict the spread of disease throughout a healthcare facility. This could include:

- excluding patients from participating in specific activities
- restricting or cancelling visiting hours for patients in outbreak areas
- excluding staff from work until well if they are implicated in the transmission of infection (e.g. food handlers or clinical staff)
- managing vaccine refusal, contraindication to vaccination and vaccine non-response by ensuring appropriate work placements, work adjustments, work restrictions and exclusions.

In an outbreak of viral gastroenteritis, healthcare workers should not return to work until diarrhoea and vomiting have ceased for 2 days. It is extremely important that healthcare workers comply with appropriate hand hygiene methods and infection control practices upon return to work, given that some studies have shown prolonged viral shedding for up to 21 days.

Information about exclusion periods for healthcare workers with acute infections is in Section 4.2.2.

Patient-care tip

Patients, their families and visitors may experience concern or fear or feel that they are not being given enough information in an outbreak situation.

Clearly explaining the process of outbreak management and the importance of infection control measures may assist them in understanding the situation and improve compliance with infection control directives.

Consider referring the healthcare facilities Infection Control Practitioner to the patient and/or family for more in-depth discussions and information.

Applying transmission-based precautions during an outbreak

Successful outbreak management is based on a combination of standard and transmission-based precautions. Specific interventions will be determined by the infection control professional, based on the mode of transmission of the infectious agent. These include:

- appropriate hand hygiene practices (see *Recommendation 1*)
- use of appropriate PPE (including gloves, apron or gowns, and surgical mask or P2 respirator) (see *Recommendations 29-31*)
- implementing patient-dedicated or single-use non-critical equipment (e.g. blood pressure cuff, stethoscope) and instruments and devices (see *Recommendation 22*)
- following standard procedures for containment, cleaning and decontamination of spills (see *Recommendations 9-12*)
- increasing the frequency of environmental cleaning over the standard for that area, using appropriate products (see Appendix 2, Sections 6.1 & 6.7).

Practice Statement

22. It is good practice to consider the use of early bay closures to control known or suspected norovirus outbreaks rather than ward/unit closures.

Rather than closing an entire ward or unit to manage an outbreak of norovirus in a healthcare facility, it may be more efficient to control an outbreak through cohorting symptomatic patients in bays. If taken, this approach needs to be implemented promptly and early (within three days of the first case becoming ill) in combination with adequate infection control strategies.

Practical Info

In the past, ward or unit closure was considered as the central control measure for managing outbreaks of norovirus in healthcare facilities. However, a recent literature review[148] undertaken for the development of the 2019 Guidelines found that efficient control may be achieved by the closure of bays. If taken, this approach needs to be implemented promptly and early (within three days of the first case becoming ill) in an outbreak before extensive transmission has occurred within a clinical area.

Norovirus epidemiology

Norovirus is the most frequently occurring cause of community-acquired acute gastroenteritis in people of all ages. It is one of the most common causes of outbreaks in healthcare settings, affecting both long-term care facilities and acute care hospitals.

Norovirus belongs to the family *Caliciviridae* and is a single-stranded RNA, non-enveloped virus that can cause gastroenteritis in humans[116]. Noroviruses are divided into at least six genogroups (GI-GVI) and further subdivided into more than 38 genotypes based on

phylogenetic analysis of the major capside protein[116][120]. Currently, human noroviruses belong to one of three norovirus genogroups which are further divided into more than 25 genetic clusters[117].

Human noroviruses cannot be grown in cell culture[121], therefore, diagnostic methods focus on detecting viral RNA or antigen. There were 17 studies (81%) which identified that NoV genotype GII.4 have caused the majority of clinical outbreaks in healthcare settings during the past decade.

Norovirus infections generally have a shorter incubation period and are characterised by acute onset of nausea, vomiting, abdominal pain and diarrhoea[62]. The mean duration of symptoms is 2-3 days.

Transmission pathways

Transmission for norovirus infections in healthcare settings mainly occur by the faecal–oral route, either through person to person contact or through exposure to contaminated food[94].

Whilst some observational studies have suggested there is a possibility of viral transmission via aerosols, there is no data or determination criteria to support this assumption.

It appears that Genotype GII.4 is more often associated with transmission mediated by person-to-person contact than with other types of transmission.

Individuals may shed norovirus for more than 21 days after the resolution of symptoms, possibly acting as a possible source for nosocomial transmission. However no data has been reported on ongoing transmission or secondary cases.

Key Info

Benefits and harms

Bay closures have been found to be effective for controlling norovirus outbreaks[118][119], particularly when this is combined with other infection control measures.

Certainty of the Evidence

Three studies were found which examined the effectiveness of ward or bay closures[148]. None of the studies were randomised, but their overall methodological quality was rated as high.

Preference and values

This measure should not impact patient preferences and values nor have any health equity implications.

Resources and other considerations

Containing patients in bays can reduce the amount of environmental cleaning required. Bay closures can result in a more rapid turnaround of closed areas and removal of restrictions on admissions and discharges. This would result in economic benefits due to a shorter duration of outbreak and reduction in bed-days lost.

Rationale

Evidence from three studies has shown that bay closures may be a more efficient way to control a norovirus outbreak than ward closures. This measure has resource implications, as it can result in a reduction in the number of bed-days lost during an outbreak, and a reduction in outbreak frequency, which can in turn result in cost savings.

Summary
Research question

- **Population:** Patients
- **Intervention:** Bay closures
- **Comparator:** Ward closures
- **Outcome:** Incidence rate of healthcare associated infections

3.5 Applying standard and transmission-based precautions during procedures

Summary

Section 3.5 outlines processes for risk identification and the application of standard and transmission-based precautions for certain procedures. It is not intended to provide guidance on performing procedures, but outlines the principles involved in the delivery of care that reduces the risk of transmission of infection during the insertion and maintenance of invasive medical devices and for surgery.

Medical and dental procedures increase the risk of transmission of infectious agents between patients and healthcare workers.

- 'Procedure' includes any situation in which there is a potential for contact between the skin of the healthcare worker and the patient's tissues, body cavities or organs, either directly or via surgical instruments or invasive medical devices.
- The more invasive the procedure, the greater the risk of transmission of infection. Before a procedure is undertaken, consideration should be given to whether there is a safer, less invasive alternative.
- The level of perceived infection risk depends on a range of factors including the site and complexity of the procedure and patient characteristics (e.g. age, underlying illness).
- Healthcare workers should be trained and competent in safe procedural techniques and participate in regular education sessions about minimising the infection risk of procedures. If there is any uncertainty, healthcare workers should contact the person with designated responsibility for infection control.

Patient-care tip

Patients and their carers should be offered clear, consistent information and advice throughout all stages of their care. This should include the risks of procedure-related infections, what is being done to reduce them and how they are managed.

3.5.1 Taking a risk-management approach to procedures

All procedures involve some risk of infection. Minimising the infection risk associated with a procedure should be an integral part of considering the overall risks and benefits of that procedure to the patient. The aim should be to perform the procedure with the lowest level of perceived infection risk that will meet the treatment goals for that patient. When performing the procedure, associated infection risks should be identified and minimised.

In developing local policies for a healthcare facility, it is useful to refer to guidelines developed to inform practice in performing specialised procedures.

Classifying procedures

Procedures can be classified according to the level of perceived risk, by applying the principles of Spaulding's criteria for assessing the risk of medical instruments and equipment according to their intended use (see Section 3.1.4).

Table 23. Level of risk to patients from different types of procedures

Level of risk	Criteria	Example
High risk (critical site)	Any surgical entry into tissue, body cavities or organs, or repair of traumatic injury.	Abdominal surgery Dental surgery
Medium risk (semi-critical site)	Contact with mucous membranes or non-intact skin.	Respiratory procedure Internal/instrument examination (e.g. ultrasound, endoscopy) Minor skin surgery Minor dental procedures
Low risk **(non-critical site)**	Contact with intact skin.	Non-invasive examinations or procedures (e.g. abdominal ultrasound) Blood pressure measurement, electrocardiogram (ECG), injection through intact skin Extra-oral dental examination

Appropriate use of devices

Appropriate use of devices is integral to reducing the risk of procedures. Single-use or single-patient items should be used wherever practicable, and items designed for single use must not be used for multiple patients. Healthcare workers should be aware of situations where cross-contamination may occur during routine procedures. See Section 3.1.4 for further information.

Aseptic technique

Aseptic technique protects patients during invasive clinical procedures by employing infection control measures that minimise, as far as practicably possible, the presence of pathogenic microorganisms. While the principles of aseptic technique remain constant for all clinical procedures, the level of practice will change depending upon a standard aseptic technique risk assessment. See Section 3.1.6 for further information.

The care bundle approach

The Institute for Healthcare Improvement (IHI) in the US developed a structured 'care bundle' approach to help healthcare workers consistently deliver the safest possible care for patients undergoing treatments with inherent risks. A bundle is a set of evidence-based practices (generally three to five) that, when performed collectively and reliably, improve patient outcomes.

Many bundle elements are well-established practices, combined in a structured protocol that is agreed upon and is the responsibility of the whole clinical team. Bundle characteristics include the following:

- The elements are all necessary and sufficient and make up a cohesive unit of steps that must all be completed to succeed.
- The elements are all based on randomised controlled trial evidence.
- The elements involve all-or-nothing measurement, making implementation clear-cut.
- Bundle elements occur at a specific time and in a specific place (e.g. during morning rounds every day).

Examples of care bundles are given in Section 3.5.2.2 (intravascular device [IVD] care bundle) and Section 3.5.2.3 (ventilator-associated pneumonia [VAP] care bundle). These can be used to monitor, assess and improve performance as well as to increase consistency of care.

Existing care bundles can be used as a tool and be developed by each facility to meet its needs. For more information, refer to the IHI website at www.ihi.org.

3.5.2 Invasive medical devices

Summary

- Invasive medical devices include:
  - **catheters inserted for drainage** (e.g. urinary catheters)
  - **catheters for intravascular access** (e.g. peripheral intravenous catheter, peripherally inserted central venous catheter, central venous catheter)
  - **devices for mechanical ventilation** (e.g. intubation)
  - **devices for feeding** (e.g. enteral feeding tube).
- The following sections provide best-practice guidance on strategies for the selection, insertion, maintenance and removal of invasive medical devices.

Practice Statement

23. It is good practice for healthcare facilities to develop, implement and review processes to address the insertion, use and maintenance, and removal of invasive medical devices. These processes should be centred on the principles of only using devices if they are deemed essential, and removing them as soon as no longer needed.

Healthcare facilities should undertake a risk assessment to assist with determining appropriate procedures and timing for the removal of invasive medical devices and for the surveillance and management of invasive medical devices.

Practical Info

Invasive medical devices are a common source of healthcare associated infections (HAIs) and provide a route for infectious agents to enter the body. Pneumonia, urinary tract infections and bloodstream infection account for around 70% of intensive care unit HAIs, and most of these are associated with invasive devices[270]. The need for appropriate processes and policies in all healthcare facilities that addresses the proper insertion, use, management and removal of invasive medical devices is, therefore, paramount[272].

Aseptic insertion and careful maintenance of devices is critical to reducing infection risk. Information on use of aseptic technique for specific procedures (including invasive medical devices) can be found in Section 3.1.6 and Appendix 1—Section 5.11.

Key concepts in minimising the risk of infection related to the use of invasive medical devices:

- Only use an invasive medical device when clinically indicated and consider the infection-risk during decision making.
- Ensure all staff are adequately trained and competent in the skills required for safe insertion, maintenance and removal of a device.
- Choose the most appropriate device and system for the patient.
- Check the device at every shift and remove as soon as no longer necessary.
- Regularly monitor patients, the insertion site and the device for any signs and symptoms of infection.
- Minimise the period of time a device remains in a patient.
- Provide patient education on the infection risk associated with the insertion of devices and the importance of proper maintenance.
- Clearly document the insertion, maintenance and removal of the device, as well as daily review of device necessity.
- Implement appropriate surveillance systems to monitor infection rates.

Key Info

Benefits and harms

The benefits of developing and implementing process for the use of invasive medical devices outweighs any undesirable effects.

Certainty of the Evidence

Systematic reviews (n=3) have been carried out which investigate the role of quality improvement programs on the risk of infection, and have found that implementing processes and protocols around the insertion and removal of invasive medical devices can be effective[272]. However, many studies in this area are uncontrolled before-after designs and are at risk of bias.

Preference and values

It is expected that all patients and staff of Australian healthcare facilities would highly value the implementation of processes surrounding the use of invasive medical devices in order to reduce infection.

Resources and other considerations

There may be costs associated with the implementation of processes and protocols around the use of invasive medical devices, including education and clinical leadership activities.

Rationale

This advice is based on limited empirical evidence, but on sound theoretical principles and supported by expert advice. The development and implementation of processes for using invasive medical devices is justified to reduce healthcare associated infection.

Summary
Research question

- **Population:** Patients
- **Intervention:** Systems and processes for device management
- **Comparator:** No systems and processes for device management
- **Outcome:** Post-procedural infection

3.5.2.1 Indwelling urinary devices

Indwelling urinary devices

An indwelling urinary catheter is a flexible, tubular instrument passed into the bladder either through the urethra or though the abdominal wall above the symphysis pubis and is used to empty the contents of the bladder. Indwelling urinary catheters are used for a number of reasons, including[285][282]:

- management of urinary retention or obstruction
- clot retention associated with gross haematuria
- monitoring for sepsis, trauma, renal function, electrolyte or fluid balance
- injury or surgery affecting urinary function and/or involving immobility (including injury, surgery or disease affecting the spinal cord)
- urinary incontinence management associated with wound care, end-of-life care or chemotherapy, if other options available adversely impact patient comfort
- urogenital or bladder management (e.g. management of fistula or haematuria)
- labour and birth management.

What are the risks?

Bacterial infections associated with urinary catheterisation gain access to the urinary tract either through:

- *Extraluminal contamination*—this can occur if there is a break in aseptic technique during insertion of the catheter or servicing the drainage system, from the healthcare worker's hands or from the patient's own colonic or perineal flora.
- *Intraluminal contamination*—this can occur through reflux of bacteria from a contaminated urine drainage bag.

Around 20% of healthcare associated infections are urinary tract infections, with approximately 1.7% of all hospital patients acquiring a urinary tract infection during their stay[278]. A large proportion of urinary tract infections are associated with catheterisation, with up to 97% of urinary tract infections in intensive care units associated with an indwelling catheter. As approximately 25% of patients in hospital receive short-term indwelling urinary catheters[81], it is paramount that best-practice infection prevention processes are followed.

Healthcare associated urinary tract infections are associated with a range of negative outcomes including an increased length of stay in hospitals[278]. The risk of infection is related with the method and duration of catheterisation, the quality of catheter care and host susceptibility. The longer a urinary catheter is in place, the greater the risk of infection.

Minimising the risk from indwelling urinary devices

- **Assessing the need for catheterisation:** Limiting catheter use and minimising duration are primary strategies in reducing the risk of catheter-associated urinary tract infections (CAUTI). Facilities should clearly outline the indications for catheter insertion and the need for insertion of an indwelling urinary device should be reviewed before the procedure is performed.
- **Education of healthcare workers:** Healthcare workers performing catheterisation should be trained and competent in the technique and familiar with policies and procedures for insertion, maintenance and changing regimes of indwelling urinary devices.
- **Educating patients:** It is important to provide patients with information in relation to the need for catheterisation and details about the insertion, maintenance and removal of their catheter.
- **Implementing appropriate surveillance:** Surveillance relating to indwelling catheters is suggested, and can include monitoring for compliance with indications for insertion, and documentation of processes.

Table 24. Process for urethral catheter insertion and maintenance

Stage	Process
Insertion	• Insert only if clinically indicated. • Ensure documented facility policy on urethral catheter insertion is being followed and that staff members performing the procedure are trained in the specific technique. • Select appropriate catheter and catheter size[284]. • Use sterile equipment (including a sterile drape) and aseptic technique when inserting urinary catheters and connecting to the sterile system. • Clean the urethral meatus with sterile normal saline before insertion of the catheter. The evidence underpinning this suggestion; however, is currently inconclusive. • Use an appropriate sterile, single-use lubricant when inserting the catheter. Male patients may require the application of anaesthetic gel prior to the insertion of the catheter[283]. • After insertion, properly secure the catheter to the drainage device and secure the catheter and the drainage device to the patient[282]. • Document insertion of the device in the patient medical record (detailing device, date, time, product and clinical indication).
Maintenance	• The need for catheterisation should be assessed at least once daily. • Use an aseptic closed system and avoid breaches to this system (e.g. unnecessary emptying of the urinary drainage bag). • Before manipulation, perform hand hygiene and put on non-sterile gloves. • Position drainage bag to prevent back-flow of urine or contact of bag wth the floor. • Regularly check for kinks in tubing and ensure that there is continuous drainage. • Ensure there is a secure connection between the catheter and the drainage device. • Do not add antiseptic or antimicrobial solutions into drainage bags, as studies have shown no reduction in the incidence of bacteriauria when adding hydrogen peroxide or chlorhexidine into drainage bags. • Empty the drainage bag frequently enough to maintain urine flow and prevent reflux. • Use a separate urine collection container for each patient, avoiding contact between the drainage bag and container. Following use, the container should be discarded if single use, or cleaned and sterilised if reusable. • Change drainage bags only when necessary (i.e. according to either manufacturers' recommendations or the patient's clinical needs). • Clamping is unnecessary. • Daily meatal and periurethral hygiene can be maintained through routine bathing or showering. No reduction in bacteriauria has been demonstrated when aseptic/ antimicrobial agents are used for meatal care compared with routine bathing or showering[280]. • Document all procedures involving the catheter or drainage system. • Evidence indicates that bladder irrigation, instillation and washout may have local toxic effects and contribute to the development of resistant microorganisms. However, continuous or intermittent bladder irrigation may be indicated during urological surgery or to manage catheter obstruction.
Removal	• Remove as soon as the need for catheterisation is no longer required. • Systems should be used to prompt early removal of the urinary catheter, as evidence suggests that reminders and stop orders can reduce CAUTI[279]. • Document all information regarding the catheter removal.

Sources: Tenke et al (2008)[277]; Loveday et al (2014)[272]; NICE (2012)[274]

Patient-care tip

Patients should be provided with information regarding the reason for the catheter and the plan for review and removal.

Given the risk of urinary tract infection associated with urinary catheterisation, it is important that patients and relatives understand about infection prevention, are aware of the signs and symptoms of urinary tract infection and know how to access expert help if difficulties arise.

CAUTI maintenance bundle

An example of a bundle procedure for maintenance of urinary catheters is to:

- perform a daily review of the need for the urinary catheter
- check the catheter has been continuously connected to the drainage system
- ensure patients are aware of their role in preventing urinary tract infection, or if the patient is unable to be made aware, perform routine daily meatal hygiene
- empty urinary drainage bags frequently enough to maintain urine flow and prevent reflux. Use a separate urine collection container for each patient, avoiding contact between the drainage bag and container
- perform hand hygiene and put on gloves and apron before each catheter care procedure; on procedure completion, remove gloves and apron and perform hand hygiene again. These practices can be measured and used to monitor performance by the clinical team.

3.5.2.2 Intravascular access devices

Intravascular access devices

Indwelling intravascular access devices (catheters) provide a route for:

- administering fluids, blood products, nutrients and intravenous medications
- monitoring haemodynamic function
- maintaining emergency vascular access
- obtaining blood specimens.

The main types of intravascular access devices are:

- **Peripheral intravenous catheters (PIVCs)**—which are inserted into peripheral veins (e.g. small veins in the arms) and are the most commonly used intravascular access device in hospitalised patients. They are short term devices.
- **Peripheral inserted central venous catheters (PICCs)**—which are also inserted through a peripheral vein site and can be used for a prolonged period of time (e.g. for long chemotherapy regimes, extended antibiotic therapy or total parenteral nutrition).
- **Central venous catheters (CVCs)**—which are inserted into larger veins within the chest and abdomen and generally remain in place for long periods of time. They are also sometimes called a central venous access device (CVAD) or central venous line.
- **Other vascular access devices**—examples include arterial lines, mid lines, and totally implantable central venous access ports.

What are the risks?

Intravascular access devices provide potential routes for infectious agents to cause local infection or to enter the bloodstream. As a result, despite their important role in diagnostic and therapeutic care, intravascular access devices are a potential source of healthcare associated infections, the most severe form being bloodstream infections (BSIs) associated with the insertion and maintenance of these devices. Intravascular access device related BSIs are associated with significant mortality, worsening of the severity of the patient's underlying ill health, prolonging the period of hospitalisation and increasing the cost of care.

There is risk of infection when the device is inserted and while it remains in situ. The risks inherent in insertion of intravascular access devices include bypassing the skin, which is an important barrier against microorganisms gaining entry to sterile sites such as the bloodstream, and leaving a foreign body in the patient for several days or longer which is likely to become colonised by microorganisms.

Risk factors for intravascular access device related BSI[293]:

- Prolonged hospitalisation before the intravascular access device is inserted.
- Prolonged placement of the intravascular access device.
- Heavy microbial colonisation of the insertion site that contaminate the catheter during insertion and migrate along the cutaneous catheter track and risk of contamination from healthcare workers' hands or equipment during insertion.
- Heavy microbial colonisation of the cannula/catheter hub, usually secondary to contamination from healthcare workers' hands during care interventions such as preparing and administering injections.
- Contamination of fluids, medicines and/or ultrasound gel.

The microorganisms that colonise catheter hubs and the skin adjacent to the insertion site are the source of most intravascular access device related BSIs. Coagulase-negative staphylococci, particularly *Staphylococcus epidermidis*, are the most frequently implicated microorganisms. Other microorganisms commonly involved include *Staphylococcus aureus*, *Candida* species and enterococci.

Minimising the risk from intravascular access devices

Table 25. Minimising the infection risk to patients from intravascular access devices by device type

	Peripheral Intravenous Catheter (PIVC)	Peripheral Inserted Central Catheter (PICC)	Central Venous Catheter (CVC)
Need for catheterisation	All types of intravascular access devices should be used only when clinically indicated and deemed necessary, and when all other alternatives have been considered (such as oral medication). Select the most appropriate device and site for the patient after assessing the need for the device and duration of therapy[310].		
		The risk factors associated with inserting central lines should be considered prior to insertion, and all risks should be minimised, where possible.	
Skin preparation	Healthcare workers should allow sufficient contact time for site preparation, ensuring the following: • remove hair, if necessary, using clippers (not shavers)[312][313] • clean a site large enough for insertion before applying antisepsis and allowing to dry completely • decontaminate the site using a single-use application of alcohol-based chlorhexidine gluconate solution (2% chlorhexidine gluconate in 70% isopropyl alcohol)[310][322] • if insertion through or close to mucous membranes is necessary, use aqueous solution supplemented with 2% chlorhexidine • for patients with a history of chlorhexidine sensitivity, use 5% alcohol-based povidone-iodine solution or 10% aqueous povidone-iodine if insertion is close to or through mucous membranes (see *Recommendation 39* for further information).		

<table>
<tr><th></th><th>Peripheral Intravenous Catheter (PIVC)</th><th>Peripheral Inserted Central Catheter (PICC)</th><th>Central Venous Catheter (CVC)</th></tr>
<tr><td>Device selection</td><td>Choose the shortest and smallest gauge suitable for the prescribed therapy as this can reduce the risk of phlebitis.

This must be well secured to prevent dislodgement.</td><td colspan="2">Use a central catheter with the least number of lumens, connectors and ports possible[307].

Consider the length of time that the catheter is likely to be in situ.

If total parenteral nutrition is being administered, a single lumen should be reserved for that use.

There is evidence to suggest that antimicrobial coated or impregnated catheters can reduce the risk of bloodstream infection. However, the magnitude of the benefits differs according to the healthcare setting, and significant benefits have primarily been reported in intensive care units[33][287][309].</td></tr>
<tr><td>Site selection</td><td>In selecting the best insertion site, consider:
• using the patient's non-dominant forearm, where possible
• using the basilic or brachial veins on the posterior (dorsal) forearm, where possible
• that the metacarpal veins on the dorsum of the hand are easiest to visualise but more liable to clot and are prone to vessel damage.

Avoid, where possible:
• using areas of flexion (i.e. wrist and antecubital fossa), as this may predispose to phlebitis
• using areas below previous cannulation, bruised or phlebitic areas
• using an infected limb, or a limb with a PICC or implanted venous access device
• using the arm on the side of the body where lymph node clearance/ fistulas may be located
• using lower limbs due to the risk of deep vein thrombosis
• using the anterior (ventral) forearm veins, especially the cephalic vein, in patients with chronic renal failure.</td><td>In selecting the best insertion site, consider using the non-dominant arm where possible.</td><td>Use a subclavian site, rather than a jugular or a femoral site, in adult patients for CVC placement.</td></tr>
</table>

<table>
<tr><th></th><th>Peripheral Intravenous Catheter (PIVC)</th><th>Peripheral Inserted Central Catheter (PICC)</th><th>Central Venous Catheter (CVC)</th></tr>
<tr><td>Insertion</td><td colspan="3">All healthcare workers who insert intravascular access devices should be appropriately trained or under the supervision of a trained clinician. Required competencies and accreditation are determined according to healthcare facility policy.

Perform hand hygiene immediately prior to the insertion of all catheters, either by washing with antimicrobial hand wash solution and water or using an alcohol-based hand rub.

Multiple insertion attempts increase risk of infection, to avoid this each healthcare facility should have a document inserter escalation pathway, and a process for identifying difficult vascular access patients early so that they are referred to the appropriately skilled inserter.</td></tr>
<tr><td></td><td>Use aseptic technique for the insertion of PIVCs (see Appendix 1, Section 5.11).</td><td colspan="2">Use maximum sterile barrier precautions for insertion of central venous catheters; there is evidence that they can reduce immediate post-insertion skin colonisation.</td></tr>
<tr><td></td><td></td><td>When PICC insertion is done at the bedside (i.e. the patients' room), establish a suitable aseptic field and maintain this throughout the procedure.</td><td>Using a two-dimensional ultrasound can offer benefits in safety and quality when compared with an anatomical landmark technique[300]. If using ultrasound guidance, healthcare workers should be appropriately trained in this technique and the principles of asepsis applied throughout the procedure including the use of sterile ultrasound gel. See ultrasound care guidelines for further information[134].

Consideration may be given to the use of CVC insertion bundles.</td></tr>
<tr><td>Dressing and securement</td><td colspan="3">Use either sterile gauze or sterile, transparent, semi-permeable dressing to cover the catheter site. There is insufficient evidence to suggest the use of one dressing type over the other. Patient preference and clinician preference are currently acceptable factors to consider when choosing a dressing type.

If a patient is diaphoretic or if the site is bleeding or oozing, use gauze dressing until this is resolved.

Inspect dressing (device and site) at each shift. If there is any moisture or leaking, or the dressing becomes damp, loose, soiled or lifting then it should be replaced.

Replacement of dressings:
• Gauze dressings should be replaced at least every 24 hours.
• CVAD/PICC transparent dressings should be replaced every 7 days.
• PIVCs are a short term device and change may not be required until the device is removed.</td></tr>
</table>

	Peripheral Intravenous Catheter (PIVC)	Peripheral Inserted Central Catheter (PICC)	Central Venous Catheter (CVC)
Maintenance	Use hand antisepsis and aseptic technique for catheter site care and for accessing the system. The safe maintenance of an intravascular access device includes: good practice in caring for the patient's catheter hub and connection port to avoid contamination by staff hands, the use of an appropriate site dressing regime, and using flush solutions to maintain the patency of the line. Examine the dressing, device and site at each shift and promptly remove a catheter that is no longer required. Replace catheter site dressing if it becomes damp, loosened or soiled—do not reinforce a suboptimal dressing with tape. Using chlorhexidine-impregnated dressings at the catheter insertion site has been shown to reduce intravascular access device related bloodstream infection and device colonisation rates. The safety of these dressings has not been established in low birth- weight neonates who may be at risk of skin or systemic toxicity[308][309]. Patients should be educated to alert healthcare staff if they experience any discomfort at the insertion site including pain, burning, swelling or bleeding. When using a needleless connector, the hub should be scrubbed (70% alcohol wipe is the application of choice) before each access to minimise the risk of microbial contamination[289][293][314][315][316].		
Device replacement	All catheters should be checked at each shift and removed when no longer required or if infection is suspected. All catheters inserted in an emergency situation (e.g. by emergency ambulance services or during cardiac arrest) should be removed and replaced when the patient is stable and within 24 hours of insertion.		
	Do not routinely replace PIVCs in neonates and children. There are two options for the replacement of PIVCs in adults. See below for more detailed information.		Do not routinely replace CVCs.
Replacement of administration sets	All administration sets should be replaced when disconnected from the hub or if the catheter is changed. Leave administration sets that do not contain lipids, blood or blood products in place for intervals of up to 96 hours. Change administration sets used for intermittent infusion of blood, blood products or lipid emulsions (including 3-1 parenteral nutrition solutions) when the infusion is complete or at least every 24 hours. Change administration sets used to infuse propofol every 12 hours or as per manufacturer's guidelines. Change administration sets used to infuse heparin every 24 hours.		

Sources: Queensland Health Guidelines[288][289][290][291]; HICPAC Guidelines[275]; NSW Ministry of Health Guidelines[297]; Western Australia Guidelines[298]; epic Guidelines[272]; CDC Guidelines[310]

Patient Engagement

Healthcare workers should inform patients of the reason they require an intravascular access device and the plan of care including planned removal. Where appropriate, patients should also be involved in the choice and placement of the intravascular access device in the first place, and educated about keeping the dressing dry.

Replacement of PIVCs

Policies on the replacement of PIVCs should be based on a formal risk assessment that takes into account:

- the availability of staff appropriately trained in the insertion, monitoring, assessment and maintenance of PIVCs on each shift
- the quality of PIVC surveillance in the healthcare facility, including surveillance of regular inspection of the site and device, and of PIVC-related staphylococcus-aureus-bacteraemia (SAB)
- the need for robust documentation and reporting processes on device insertion, maintenance and removal that is supported by the results of audits.

In considering the above factors, healthcare facilities may routinely follow one of the following two options:

Option 1: Replace a PIVC every 72 hours

This practice is based on observational studies that show an increased risk of blood stream infection with PIVCs left in place for more than 72 hours[293].

Option 2: Replace a PIVC based on clinical indication

A strategy of replacing a PIVC when a clinical indication for replacement is identified or the PIVC is no longer required (rather than routinely at 72 hours) may be considered only when there is:

- Surveillance of PIVC related BSI performed at the facility.
- Comprehensive documentation of insertion, maintenance and removal of PIVCs (audit results demonstrate a sustained compliance with daily PIVC assessment documentation).
- Compliance with competency requirements for insertion and management.

This option is informed by a systematic review, first published in 2011 and updated most recently in 2015, which concluded that rates of bloodstream infection and thrombophlebitis were not significantly different when PIVCs were changed based on clinical indication rather than routinely replaced[306]. The rate of PIVC-related bloodstream infection, however, is approximately 1/1000-3000 patients, so studies with larger patient numbers are required to determine the true impact of this approach on bloodstream infection.

Replacing a PIVC based on clinical indication can be cost saving and may reduce the discomfort for patients associated with regular replacement.

Quality improvement interventions

The implementation of quality improvement interventions can support the appropriate use and management of intravascular access devices and ensure their timely removal[272]. Aspects of quality improvement can include:

- implementing protocols for device insertion and maintenance
- using reminders and prompts to review the use and suitable removal of intravascular access devices
- auditing compliance with intravascular access device protocols and providing feedback to staff
- providing continual professional education to staff regularly engaged in intravascular access device insertion and maintenance.

More information for healthcare workers about intravascular access device insertion, including online training, is available at: http://www.cec.health.nsw.gov.au/topics/concluded-projects/clab-icu/cli-online-training[317]; https://www.health.qld.gov.au/clinical- practice/guidelines-procedures/diseases-infection/infection-prevention/intravascular-device-management[318].

Figure 10. Personal protective equipment and maximal barrier precautions for insertion of CVCs, PICCs or guidewire exchange (cap, surgical mask (covering mouth and nose), sterile gown, sterile gloves and sterile full body drape)[310]

Intravascular access device care bundles

There are numerous care bundles in use on the management of central and peripheral vascular devices.

Before implementing a care bundle, it is important to identify current practice in the particular area. Gaps in service provision need to be identified, analysed and systematically addressed through the implementation of the bundle. Examples of available bundles include:

- i-CARE https://www.health.qld.gov.au/clinical-practice/guidelines-procedures/diseases-infection/infection-prevention/intravascular- device-management
- Health Protection Scotland http://www.hps.scot.nhs.uk/haiic/ic/bundles.aspx.

3.5.2.3 Ventilation

Certain patients require mechanical ventilatory support by endotracheal tube or tracheostomy. Common medical indications include acute lung injury, chronic obstructive lung disease and acute respiratory acidosis.

When performing intubation and ventilation in the presence of known or suspected infectious agents that are transmitted by the airborne route, airborne precautions are required. For further information refer to Section 3.2.4.

What are the risks?

Ventilator-associated pneumonia (VAP) is a type of healthcare associated pneumonia that can occur in up to 25% of all people who require mechanical ventilation. VAP is a common cause of morbidity and mortality with crude death rates of 5% to 65% as well as increased healthcare costs. VAP can develop at any time during ventilation, but occurs more often in the first few days after intubation, because the intubation process itself contributes to the development of VAP.

VAP primarily occurs because microorganisms colonise the endotracheal or tracheostomy tube and are embolised into the lungs, often in patients who may have underlying lung or immune problems. Bacteria may enter the lungs with procedures such as bronchoscopy.

Many practices have been demonstrated to reduce the incidence of VAP and its associated burden of illness. The first consideration should always be whether intubation is necessary.

Table 26. Summary of strategies for preventing VAP

Strategy	Summary
Physical strategies	• When intubation is necessary, use the orotracheal route as this is associated with a reduction in VAP and a decreased incidence of sinusitis compared to nasotracheal intubation. • Use new circuits for each patient and change these if they become visibly soiled or are malfunctioning, as per manufacturer instructions. • There is no difference in the incidence of VAP between patients whose airways are humidified using a heat and moisture exchanger, and those whose airways are humidified using a heated humidifier. The decision should be made for each patient, with the aim to ensure adequate moisture output to minimise the risk of airway obstruction. • Change heat and moisture exchangers for each patient every 5–7 days and as clinically indicated. Less frequent changes of heat and moisture exchangers may be associated with a slightly decreased incidence of VAP. • Use a closed endotracheal suctioning system, as safety considerations favour the use of closed systems. The number of disconnections should be minimised to reduce the risk of staff exposure to potentially infected secretions. • Change the endotracheal system for each patient as clinically indicated. Scheduled daily changes of closed systems have no effect on VAP. • Provide endotracheal tubes with subglottic secretion drainage ports for patients likely to require intubation for more than 48 or 72 hours. • Assess patients for sedation, weaning and extubation each day. • Use a microbiological filter to prevent contamination of the ventilator.
Positional strategies	• Elevate the head of the bed to 30°-45°. Where this is not possible, raise the head of the bed as much as possible. • Semi-recumbent positioning may be associated with a decreased incidence of VAP, but may not be safe for all patients.
Pharmacological strategies	• Consider the use of the oral antiseptic chlorhexidine. • For patients with severe head injury, consider the use of the oral antiseptic povidone-iodine (in the form of an oropharyngeal rinse). There are insufficient data to make a recommendation in critically ill patients other than those with severe head injuries.

Sources: Muscedere et al (2008)[273]; Kalil et al (2016)[271]; SHEA (2014)[281]

VAP care bundles

There are numerous care bundles in use for the management and prevention of VAP. Before implementing a care bundle, it is important to identify current practice in the particular area. Gaps in service provision need to be identified, analysed and systematically addressed through the implementation of the bundle.

Examples of available bundles include:

- Scottish Infection Care Society Audit Group VAP Prevention Bundle: http://www.sicsag.scot.nhs.uk/hai/VAP-Prevention-Bundle- web.pdf
- IHI Ventilator Bundle: http://www.ihi.org/resources/Pages/Tools/VentilatorBundleChecklist.aspx.

3.5.2.4 Enteral feeding tubes

Enteral feeding is usually prescribed for patients in hospital requiring artificial nutrition support for 7–10 days and long-term feeding. Home enteral tube feeding may be considered for patients needing artificial nutrition support for more than 30 days.

What are the risks?

Contamination of feeds is a key concern in both the hospital and community setting, with contamination largely occurring during the preparation or administration of feeds and being linked to serious clinical infection.

Most evidence concerning enteral feeding relates to gastrostomy or percutaneous endoscopic gastrostomies (PEG feeds). However, the principles outlined here are also applicable to nasogastric and jejunostomy feeding.

Table 27. Summary of processes for using enteral feeding tubes

Activity	Process
Preparation	• Perform hand hygiene before starting feed preparation. Even closed systems can become decontaminated if hand hygiene is not adequate. • Wherever possible, use pre-packaged, ready-to-use feeds. Closed systems (i.e. pre-sterilised, prefilled, ready-to-use feeds that do not expose feed to the air during assembly) have lower contamination than open systems. The design of the system is also important in order to minimise handling. • If decanting, reconstitution or dilution is required, use a clean working area and equipment dedicated for enteral feed use. • Mix feeds with cooled boiled water or freshly opened sterilised water using an aseptic non-touch technique.
Administration	• Perform hand hygiene immediately before administration. • Use minimal handling and aseptic non-touch technique to connect the administration system to the enteral feeding tube. • Use aseptic technique for administration of medications. • Discard administration sets and feed containers after each feeding session.
Care of insertion site and enteral feeding tube	• Perform hand hygiene immediately before commencing. • Wash the stoma daily with water and dry thoroughly. • Flush the enteral feeding tube with fresh tap water before and after feeding or administering medications to help minimise the potential risk of microbial colonisation of the internal and external surfaces. Use cooled boiled water or sterilised water for patients who are immunosuppressed.

Source: NICE (2012, updated 2017)[274]

Patient-care tip

Patients and carers should be educated in techniques of hand hygiene, enteral feeding and the management of the administration system before being discharged from hospital.

3.5.3 Surgical procedures

The discussion in this section applies to all surgical procedures regardless of setting. While there is less evidence for surgical procedures in office-based practice than in hospitals, the same principles apply.

What are the risks?

The microorganisms that cause surgical-site infections are usually derived from patients (endogenous infection), being present on their skin or from a surgical opening in the body. Exogenous infection occurs when microorganisms from instruments or the operating environment contaminate the site at operation, when microorganisms from the environment contaminate a traumatic wound, or when microorganisms gain access to the wound after surgery, before the skin has sealed.

The risk of surgery-related infection is increased by factors that:

- increase the risk of endogenous contamination (e.g. procedures that involve parts of the body with a high concentration of normal flora such as the bowel)
- increase the risk of exogenous contamination (e.g. prolonged operations that increase the length of time that tissues are exposed)
- diminish the efficacy of the general immune response (e.g. diabetes, malnutrition, or immunosuppressive therapy with radiotherapy, chemotherapy or steroids) or local immune response (e.g. foreign bodies, damaged tissue or formation of a haematoma).

Minimising the risk of surgical procedures

Practices to prevent surgical-site infections are aimed at minimising the number of microorganisms introduced into the operative site—for example by:

- removing microorganisms that normally colonise the skin
- preventing the multiplication of microorganisms at the operative site—for example by using prophylactic antimicrobial therapy
- enhancing the patient's defences against infection—for example by minimising tissue damage and maintaining normothermia
- preventing access of microorganisms into the incision postoperatively by use of a wound dressing.

This section gives general guidance on preventing surgical infection. More detailed information can be found in the National Institute for Health and Clinical Excellence (NICE) surgical-site infection guidelines (NICE 2008)[322] and the World Health Organization (WHO) Global Guidelines for the Prevention of Surgical Site Infection (2016)[323].

Patient-care tip

Patients and carers require clear, consistent information and advice throughout all stages of their care, including:

- the risks of surgical-site infections, what is being done to reduce them and how they are managed
- how to care for their wound after discharge
- how to recognise a surgical-site infection and who to contact if they are concerned.

An integrated care pathway helps to communicate this information to both patients and all those involved in their care after discharge. Patients should always be informed if they have been given antibiotics.

Hand hygiene for surgery

Surgical hand preparation should reduce the release of skin bacteria from the hands of the surgical team for the duration of the procedure; in case of an unnoticed puncture of the surgical glove that releases bacteria to the open wound. Surgical hand preparation must eliminate the transient and reduce the resident flora. There are special surgical scrub formulations available for use, although any product used within Australia should preferably be listed on the Australian Register of Therapeutic Goods (ARTG). Current WHO guidelines recommend the use of an alcohol-based formulation for preoperative surgical hand preparation, given its superior antimicrobial efficacy compared to other methods[323] [327]. Specific policies and procedures on products and methods of surgical hand preparation should be developed locally.

PPE for surgical and dental procedures

Personal protective equipment (PPE) is designed and issued for a particular purpose in a protected environment and should not be worn outside that area. For surgical procedures and dentistry, the sequence for putting on PPE differs from that outlined in Section 3.3. In these situations, masks and protective eyewear are applied first prior to hand preparation. Gown and gloves are then put on.

Double-gloving is the process of wearing two sets of gloves to protect against injury from sharps or the transmission of blood-borne infections that can occur in the event of glove perforation. A second pair of gloves protects the inner pair, and should not impact surgical performance[326]. There is little high quality evidence to determine the effectiveness of double-gloving above and beyond single-glove use or no change of gloves; however, many surgeons do prefer to double-glove for their own protection. In the case of double-gloving, it is suggested that the outer gloves are changed routinely during longer surgeries[323].

Information on the use of surgical aseptic technique and standard aseptic technique for wound care can be found in Section 3.1.6 and in Appendix 1—Section 5.11.

3.5.3.1 Preventing surgical site infections (SSIs)

Considerations pre-procedure

Table 28. Summary of perioperative processes

Stage	Process
Hand preparation	• Operating team members should remove hand jewellery, nail polish and artificial nails. • If hands are visibly soiled, perform hand hygiene with liquid soap prior to scrubbing. • Remove debris from underneath fingernails using a nail cleaner, preferably under running water. • Use a suitable antimicrobial soap or surgical alcohol-based hand rub, preferably with a product ensuring sustained activity, as directed and for the length of time recommended by the manufacturer.
Operating suite/room or procedure attire	• Operating team members must wear sterile operation or procedure attire. • All operating suite/room staff who are not operating within the critical aseptic field must wear dedicated non-sterile attire in all areas where operations are undertaken. This may contribute to minimising operating environment contamination and reduce the risk of SSIs. • Movements in and out of the operating area should be kept to a minimum.

Stage	Process
Patient preparation	• Advise patients to shower or have a bath (or help patients to shower, bath or bed bath) using soap, either the day before or on the day of, surgery. • Avoid routine removal of hair—if clinical circumstances require hair removal, it should be clipped on the day of surgery or as close as possible to the time of operation. Hair removal should be performed outside of the operating theatre[330][331]. Shaving hair is strongly discouraged. • Provide antibiotic prophylaxis where appropriate, in accordance with the Australian Therapeutic Guidelines. The indication for antibiotics and the choice of antibiotic prophylaxis should be based on these Guidelines. If indicated, it is suggested that antibiotics are administered within 120 minutes before the incision, whilst considering the half-life of the antibiotics[319]. • Consider screening for *S. aureus* and decolonise those with nasal carriage identified before high- risk surgery such as cardiothoracic or orthopaedic. • Avoid delaying surgery to provide parenteral nutrition, as there is no high quality evidence to demonstrate the effectiveness of parenteral nutrition in reducing SSIs. • The combined use of oral antibiotics and mechanical cleaning in adult patients undergoing colorectal procedures can lead to a reduced risk of SSIs in high-risk patients. Neither oral antibiotics or mechanical cleaning alone are suggested.

Source: WHO (2016)[319]; SHEA (2013)[329]; SHEA/IDSA (2014)[320]; TGL AEG (2014)[363]; [if not otherwise stated]

Considerations during a surgical procedure

Table 29. Summary of intraoperative processes

Stage	Process
Hand hygiene	• Perform hand hygiene before the first operation on the list using an antiseptic surgical solution, according to the manufacturer's instructions for the product that is being used. Use a single-use brush or pick for the nails, and ensure that hands and nails are visibly clean. • Before subsequent operations, perform hand hygiene using an antiseptic surgical solution. If hands are soiled during a procedure, hand hygiene should be performed again with an antiseptic surgical solution.
Operating suite/room attire	• In hospital settings, wear sterile gowns during the procedure. • There is no available evidence that double-gloving reduces the risk of SSI or that glove perforation increases the risk of SSI. However, consider wearing two pairs of sterile gloves when there is a high risk of glove perforation and the consequences of contamination of the operative field are high.
Patient preparation	• Prepare the skin at the surgical site immediately before incision using an antiseptic preparation, preferably chlorhexidine. • If diathermy is to be used, ensure that antiseptic skin preparations are dried by evaporation and there is no pooling of alcohol-based preparations. Evidence suggests there is no difference in rates of SSI when diathermy is used to make an incision compared with conventional techniques. • If an incise drape is required, use an iodophor-impregnated drape unless the patient has an iodine allergy. Do not use non-iodophor-impregnated incise drapes routinely for surgery as they may increase the risk of surgical-site infection. Ensure skin preparation is dry before draping the patient. • Preoperative and intraoperative warming can be used to reduce SSI rates. • Administering supplemental oxygen intraoperatively and postoperatively can reduce the risk of SSI in patients undergoing mechanical ventilation. • There is not significant evidence to determine an appropriate re-dosing protocol for prophylactic antimicrobial agents for the prevention of SSIs.

Stage	Process
Wound management	• Avoid routine use of wound irrigation or intracavity antibiotic lavage as measures to reduce surgical site infection as there is no evidence that it reduces the incidence of SSI. There is some evidence that postoperative lavage of the perineal space with povidone-iodine reduces SSI. • There is no robust evidence to support the use of a dressing in the immediate postoperative period for the prevention of SSI. However, it is generally accepted good clinical practice to cover the wound with an appropriate interactive dressing for a period of 2 days unless otherwise clinically indicated—for example, if there is excess wound leakage or haemorrhage. • There is no robust evidence to support the instillation of antibiotics into wounds prior to closure. • Using antimicrobial-coated sutures (included on the ARTG e.g. triclosan-coated sutures) can help to reduce SSI rates**. • There is no robust evidence to support the use of one dressing over another. However, in the majority of clinical situations a semi-permeable film membrane with or without an absorbent island is preferable. • Avoid routine use of intraoperative skin re-disinfection or topical antibiotics as measures to reduce the risk of surgical-site infection in abdominal surgery. • Single or double-ring surgical wound protector devices can reduce the rate of SSIs compared to regular wound protection. The use of wound protector devices should be determined by local need, and the availability and cost of the devices.

Source: WHO (2016)[319]; SHEA (2013)[329]; SHEA/IDSA (2014)[320]; TGL AEG (2014)[363]

** Information contained in Table 29 should not be interpreted as formal recommendations. Table 29 summarises evidence which has been reported in international guidelines.

Refer to the Summary of Recommendations for all formal NHMRC approved recommendations contained in this Guideline, based on the GRADE methodology.

Considerations post-procedure

Table 30. Summary of postoperative processes

Stage	Process
Dressings	• Use aseptic technique for changing or removing surgical wound dressings (see Section 3.1.6 and Appendix 1 Section 5.11 for further information). • Avoid the routine use of topical antimicrobial agents for surgical wounds that are healing by primary intention as measures to reduce the risk of SSI. • Use an appropriate dressing (such as semi-permeable film membrane with or without an absorbent island) to manage surgical wounds that are healing by secondary intention.
Cleansings	• Use sterile saline for wound cleansing up to 2 days after surgery.
Patient care	• There is evidence to suggest that blood glucose levels should be controlled during the immediate postoperative period at 180 mg/dL or lower. Intensive postoperative glucose control is not suggested as an effective measure to reduce the risk of SSI, and may in fact lead to a range of serious adverse outcomes.
Management of surgical site infection	• When surgical-site infection is suspected, take a specimen for culture and then, if clinically indicated, give the patient an antibiotic that covers the likely causative organisms. Consider local resistance patterns in choosing an antibiotic and review the selection in light of results of microbiological tests. • Antibiotic treatment may not be required for all SSIs: minor infections may respond to drainage of pus (for example, by removal of sutures) and topical antisepsis. Antibiotic therapy carries with it the risk of adverse drug reactions and the development of antimicrobial-resistant bacteria as well as the associated risk of *C. difficile* diarrhoea. • Avoid the use of Eusol and gauze, or dextranomer or enzymatic treatments for debridement in the management of SSI.

Source: WHO (2016)[319]; SHEA (2013)[329]; SHEA/IDSA (2014)[320]; TGL AEG (2014)[363]

4. Organisational support

Summary

For infection prevention and control to be effective at the clinical level, much organisational support is required. This includes embedding infection control into governance and management structures, initiating procedures (e.g. immunisation programs) to ensure that healthcare workers are protected, instituting processes for surveillance that feed into the overall quality control program, implementing systems for ongoing staff education and training, and incorporating infection control into planning for facility design and maintenance.

Infection control is a health and safety issue, which means that all those working in the healthcare facility—managers, healthcare workers and support staff—are responsible for providing a safe environment for patients and other staff.

Organisational support should aim to ensure that clinical work practices provide patient-centred care—this is not only essential from a safety and quality perspective, but out of consideration for patient preferences. This may require consultation with patients and relevant consumer groups in the development of healthcare services.

The information presented in this part is particularly relevant to managers of healthcare facilities. It outlines responsibilities of management of healthcare facilities, including governance structures that support the implementation, monitoring and reporting of effective work practices. While the focus of the information is acute-care facilities, much of the information is relevant in other healthcare settings.

This section covers:

- **4.1** — Management and clinical governance
- **4.2** — Staff health and safety
- **4.3** — Education and training
- **4.4** — Healthcare associated infection surveillance
- **4.5** — Antimicrobial Stewardship
- **4.6** — Influence of facility design on healthcare associated infection

4.1 Management and clinical governance

Summary

To be effective, infection prevention and control must be a priority in every healthcare facility—this requires total commitment at every level of the organisation.

- Organisational capacity is achieved by having appropriate governance and management structures. This means that managers are aware of the healthcare facility's performance in terms of infection transmission and there are systems in place to prevent the transmission of infection, reduce risk and address problems when they arise.
- The management structure and processes associated with infection control will differ depending on the size of the organisation and the types of healthcare services it delivers. However, the principles of clinical governance apply regardless of the setting and all essential roles and responsibilities should be fulfilled.
- The person in charge of the organisation (e.g. chief executive officer of a hospital, principal of an office-based practice) must have overall responsibility for and direct involvement in the organisation's infection prevention and control program.
- There must be adequate resourcing for dedicated infection control staff, and resources to run the infection prevention and control program including professional development.
- Each organisation should define the outcome measures for monitoring infection prevention and control policies (see Section 4.4.2).
- All employees should understand their roles and responsibilities and have appropriate training to maintain a safe work environment (see Section 4.2).
- Patient-centred healthcare is safer healthcare—patients' healthcare rights must be considered during the development of programs, policies and procedures.

4.1.1 Clinical governance in infection prevention and control

Addressing infection prevention and control requires a facility wide program and is everybody's responsibility. Healthcare facilities have a legal responsibility to provide a safe work environment, safe systems of work and a safe environment for patients and visitors. Clinical governance refers to the system by which managers and clinicians in each healthcare facility share responsibility and are held accountable for patient care. This involves minimising risks to patients and staff, and continuously monitoring and improving the quality of clinical care.

Preventing transmission of infectious agents should be a priority in every healthcare facility. This will involve action to:

- develop a facility-wide strategic plan for infection prevention and control
- establish a system to manage infection prevention and control (such as a committee) with input from across the spectrum of clinical services and management, and a mechanism for considering patients' feedback
- appoint infection control professionals and support their continuing professional development (e.g. attendance at relevant state or national professional organisation meetings)
- incorporate infection prevention and control into the objectives of the facility's patient and occupational safety programs
- provide administrative support, including fiscal and human resources, for maintaining infection prevention and control programs
- provide adequate staff training and protective clothing and equipment, and arrange workplace conditions and structures to minimise potential hazards.

All healthcare workers need to be aware of their individual responsibility for maintaining a safe care environment for patients and other staff.

Practice Statement

24. It is good practice for healthcare facilities to have effective clinical handover processes in place that includes infection risks.

Healthcare facilities should develop and implement a structured system for clinical handover, including documented policies and protocols.

Practical Info

Clinical communication problems are a major contributing factor in 70% of all hospital sentinel events.

Patient safety and communication between healthcare workers can be maximised when effective clinical handover processes are in place. This should include consideration for transfers between wards and departments, transfers between different healthcare facilities and communication/alerts on re-admission for long-term infection risks such as multi-resistant organism colonisation.

All healthcare facilities should develop and implement an organisational system for structured clinical handover, including documented policies/procedures and protocols, and agreed tools and guidelines. These processes should be evaluated regularly to ensure the effectiveness of clinical handover is maximised.

Refer to National Safety and Quality Health Service *Standard 6*[364] for more information on clinical handover.

Key Info

Benefits and harms

The benefits of effective clinical handover processes, which include improved communication between clinicians and staff, can result in improved patient safety and care, and outweigh any possible harms.

Certainty of the Evidence

A 2008 literature review of clinical handover processes[334] identified that implementing protocols and education on training around clinical handover processes results in a range of positive outcomes including less technical errors and information omission, and greater staff confidence in undertaking effective handover processes.

Preference and values

There should be no significant impact on patient preferences and values, nor on health equity.

Resources and other considerations

Education and training for staff on effective clinical handover processes requires resourcing.

Rationale

This advice is based on limited empirical evidence, but on sound theoretical principles and supported by expert advice. Having clinical handover processes in place in healthcare facilities is justified to reduce healthcare associated infection.

Summary

Research question

- **Population:** Healthcare workers
- **Intervention:** Policies and procedures for clinical handover
- **Comparator:** No formalised process for clinical handover
- **Outcome:** Efficient communication of high quality clinical information and improved patient outcomes

4.1.2 Roles and responsibilities

Management and clinical governance can have a positive impact on the effectiveness of infection prevention and control by driving continuous quality improvement and promoting a non-punitive culture of trust and honesty[336]. It is important that healthcare managers and clinicians effectively collaborate, and involve patients as partners in their healthcare in order to effect change and achieve the best possible outcomes[335].

The roles and responsibilities described below are most relevant to acute health care settings. However, all the roles described in this

section are important for effective infection prevention and control and can be readily adapted to other healthcare settings—for example, with the practice principal fulfilling relevant roles and responsibilities of a Chief Executive Officer (CEO), and the office manager or other staff representative with an interest in infection prevention and control fulfilling the role of infection control professional.

A. Chief Executive Officer/Administrator

The healthcare facility's CEO or designated equivalent administrator should support and promote infection prevention and control as an integral part of the organisation's culture through the following strategies:

- having a performance agreement that includes infection prevention and control outcomes as a key performance indicator
- endorsing the inclusion of specific articulated infection prevention and control roles, responsibilities and accountabilities for relevant staff within the facility's management plan
- attending and participating in each Infection Prevention and Control (IPC) Committee meeting
- ensuring that infection control professionals are resourced:
  - in terms of co-workers, information technology, access to up-to-date information, designated office/work space and tools to meet relevant infection prevention-related legislative, regulatory and accreditation requirements
  - to achieve negotiated healthcare associated infection reduction targets and to perform the essential tasks outlined below
- ensuring that the healthcare facility's IPC program includes involvement of one or more medical practitioners to support and play a shared leadership role
- ensuring that the rights of patients, as articulated in the Australian Charter of Healthcare Rights[13], are integral to the IPC program

- committing to the IPC program vision, mission, priorities, targets and annual infection prevention and control plan with specific, measurable goals for healthcare associated infection risk mitigation and reduction—these should be outlined in an annual business plan which the CEO (or his or her designate) and the infection control professional jointly develop
- supporting an organisational culture that promotes individual responsibility for infection prevention and control among all staff and values the IPC program contribution to the safety of patients, healthcare workers and others. This support includes ensuring IPC program staffing levels are sufficient and incorporating responsibility for infection prevention and control into every staff member's job description
- authorising infection control professionals to:
  - implement IPC program recommendations
  - intervene when clinical or other practices pose infection risks (e.g. halt building and construction activities, close units during outbreaks and guide patient placement for isolation or cohorting)
- recommending remedial action when infection prevention and control measures are compromised or breached.

In some Australian states and territories and internationally, performance against infection control indicators is monitored.

B. Infection control professionals

Infection control professionals should have the skills, experience and qualifications relevant to their specific clinical setting and be able to:

- develop, manage and evaluate governance of infection prevention and control systems, related programs and services
- provide expert infection prevention consultancy and strategic direction to the healthcare facility and external agencies.

Infection control professionals are primarily responsible for designing, coordinating, implementing and undertaking ongoing evaluation of the facility's infection prevention and control program and policies. This includes compliance with the respective state/territory and/or national accreditation, licensing, policy or regulatory requirements. They are also responsible for equipment and product evaluation.

Infection control professionals need to be supported by the facility with resources, authority and time to maintain clinical and professional currency (including support for credentialing and have, preferably, a postgraduate qualification relevant to infection control [see Section 4.3.1]).

Infection control professionals must be involved in decisions on facility construction and design, patient placement ratios (e.g. single rooms, negative pressure rooms) and environmental assessments (see Sections 4.6 & 4.6.1).

The infection control professional's performance should be appraised at least annually, along with negotiation of individual professional development goals, support, opportunities and plan of work.

C. Infection prevention and control committee

A multidisciplinary IPC committee should review and guide the healthcare facility's IPC program, strategies and plans. Membership must include, but not be limited to:

- the CEO or his/her designate
- an executive member with the authority to allocate the necessary resources and take remedial action as needed from time to time
- an infection control professional

- one or more medical practitioners (preferably a clinical microbiologist and/or an infectious diseases physician).

The meeting frequency and content will depend on the facility's size, case-mix complexity and the infection risk of populations serviced. IPC Committee activity should be measured against an operational plan with set priorities to target within key focus areas.

The IPC committee should have a formal mechanism for regularly considering patients' experiences and feedback and modifying the IPC program accordingly.

The IPC committee should have an organisational communication strategy to facilitate day-to-day activities and reporting activities, which should be able to be escalated in response to an incident or outbreak. Regular and ad-hoc communication processes should exist between the IPC team and relevant public health authorities. Healthcare facilities that do not have access to an IPC committee (or infection control professional) should consult with an infection control professional in a larger health service for program advice and support.

D. Infection prevention and control processes in office-based practice

In office-based practice, the processes associated with infection prevention and control will differ although the responsibilities are the same. The principal of the practice is equivalent to the CEO. He or she has overall responsibility for infection prevention and control in the practice and should demonstrate a strong commitment to an agreed infection prevention and control plan based on the identified risks for that practice. Local policies and procedures need to be developed and implemented as part of standard operating procedures. A nominated staff member must take on the role of infection control professional, developing infection prevention and control procedures and overseeing their implementation. This staff member is likely to need additional training and perhaps ongoing external support in managing infection prevention and control issues. Infection prevention and control should be considered at every staff meeting, with discussion of procedures and processes of the practice and any problem areas.

For more information, see The Roayal Australian College of General Practitioners' *Infection Prevention and Control Standards for general practice and other office-based and community-based practices* (5th edition, 2014)[376] and Australian Dental Association's *Guidelines for Infection Control* (3rd edition, 2015)[337].

4.1.3 Infection prevention and control program

Infection prevention and control (IPC) program

The IPC program is the means by which infection prevention and control practice is implemented in every part of the healthcare facility. IPC programs should be considered across all healthcare settings including acute care hospitals, office-based practices (e.g. general practice clinics, dental clinics, community health facilities), the setting in which paramedics work and long-term care facilities. This should involve the development of a risk-management policy for each healthcare facility (see Section 4.1.4). The World Health Organization[340] has developed recommendations for the core components of an IPC program. These recommendations include:

- the need for a dedicated, trained team within each healthcare facility to run an IPC program
- the development of infection prevention and control policies and procedures that are multimodal and based on national and state/ territory Guidelines
- education and training of healthcare workers to improve their understanding of healthcare associated infection (HAI) and antimicrobial resistance, and so they can implement relevant policies and procedures
- the need for facility-based HAI surveillance which includes timely mechanisms for feedback and reporting to relevant healthcare professionals and senior management
- the use of multimodal strategies to address the prevention of HAIs

- regular monitoring and review of healthcare practices to ensure that all policies and procedures are being correctly implemented against key performance indicators
- developing policies and procedures related to staff health and safety, including immunisation policies, and strategies to prevent occupational exposure to infection hazards
- evaluation of chemical disinfectants, products and equipment purchase
- ensuring at the facility level that healthcare environments are clean and appropriate materials and equipment are available to enable appropriate infection prevention and control procedures
- provide input during the planning, design and construction of healthcare facilities.

An IPC program may also include antimicrobial stewardship initiatives run in conjunction with the pharmacy department/services.

A useful resource is the National Safety and Quality Health Service *Measurement for Improvement Toolkit*, which provides a set of practical methods to measure the safety and quality of clinical health care services: https://www.safetyandquality.gov.au/wp-content/uploads/2012/01/measurement-for-Improvement-toolkit-a.pdf

Resource allocation

The number of infection prevention and control professionals should be ensure that healthcare facilities have the appropriate level of skills and resources required to develop IPC programs and the capacity to respond to of HAIs.

Healthcare facility managers should ensure that there are sufficient resources available to support all aspects of the IPC program, including[338][339]:

- providing specific infection prevention and control full-time equivalents, determined according to the scope of the IPC program, the complexity of the healthcare facility, the characteristics of the patient population and the needs of the facility and community (office- based practices may choose to attribute responsibilities and functions relating to infection prevention and control to a particular staff member)
- meeting occupational health needs related to infection prevention and control (e.g. provision of appropriate technologies and protective personal equipment, healthcare worker immunisation, post-exposure evaluation and care, counselling services for healthcare workers involved in outbreak management, evaluation and management of healthcare workers with communicable infections)
- in a hospital setting, providing clinical microbiology laboratory support, including a sufficient number of medical technologists trained in microbiology as well as support appropriate: to the healthcare setting; for detecting endemic and emerging pathogens; monitoring transmission of microorganisms; planning and conducting epidemiologic investigations
- funding surveillance cultures, rapid diagnostic testing for viral and other selected pathogens, preparation of antibiotic susceptibility summary reports and trend analysis.

4.1.4 Risk management

Risk management is the basis for preventing and reducing harm arising from healthcare associated infections and underpins the approach to infection prevention and control throughout these guidelines. Within a healthcare facility, a successful approach to risk management includes action at the organisational level (for example providing support for effective risk management through an organisational risk- management policy, staff training and monitoring and reporting) as well as in clinical practice.

Organisational support for risk management

For risk management within an organisation to be effective, there needs to be appropriate infrastructure and culture; a logical and systematic approach to implementing the required steps; and embedding of risk-management principles into the philosophy, practices and business processes of an organisation, rather than it being a separate activity or focus. Factors that support risk management across the organisation include: development of a risk-management policy; staff training in risk management; implementation of a risk register, risk treatment schedule and integrated action plans; monitoring and audit; and risk-management reporting.

An infrastructure and environment that encourages two-way communication between management and healthcare workers and among healthcare workers is an important factor in increasing the level of support for and compliance with infection prevention and control programs. Management should:

- provide direction (e.g. nominate issues for attention that are relevant to the core business of the organisation, such as respiratory hygiene and cough etiquette in general practice, prevention of diarrhoeal disease in paediatrics, appropriate management of urinary catheters in spinal injury care)
- establish and evaluate periodic goals (i.e. nominate reduced rates for performance improvement)
- seek feedback on policy directives particularly in regards to changes in clinical care protocols or new technologies and how patients can be involved in policy formation
- provide information to individuals, self-directed work groups, patients and other stakeholders, with an emphasis on continually improving performance.

Healthcare workers can contribute to the development of risk-management structures, and are integral to the strategies within these. Strategies and examples to assist individual healthcare workers to reduce risk are included in Appendix 1.

New technologies and testing

Before purchasing any new technologies, consultation should occur with the reprocessing unit and infection prevention and control unit. Advice should be sought on[341]:

- the impact on risk of infection to the patient or other individuals as a result of the product
- whether the product may be implicated in the transmission of infection over time
- whether the product will have infection prevention and control implications for other consumables, equipment or plans
- whether any difficulties in cleaning and reprocessing the product may impact on the product's functionality and safety
- whether any alternative products that are available may present a lower risk of infection
- whether the product is 'listed' (hard surface disinfectants with specific claims), 'included' (disinfectants intended for use on medical devices) or exempt from the Australian Register of Therapeutic Goods.

A risk assessment should be undertaken before purchasing new technologies which should consider:

- the design of the instrument—how this may impact the ease of cleaning
- local capacity and expertise—whether staff will be able to adequately reprocess this instrument.

Practice Statement

25. It is good practice to use chlorhexidine in appropriate situations and only when clinically indicated.

Healthcare professionals should consider the appropriateness of using chlorhexidine in every clinical situation, as discussed in these Guidelines.

Chlorhexidine-containing products, devices or solutions must never be used on or around patients with known chlorhexidine sensitivity.

Practical Info

Chlorhexidine is an antiseptic antibacterial agent which is widely used in healthcare facilities, general practice and aged care settings. This product is available in numerous different forms: Dressing; Gel/Jelly; Lotion; Solution; Liquid; Pad; Sponge; Cream. Skin cleansing with chlorhexidine plays an important role in reducing the incidence of healthcare associated infections.

It is good practice to use chlorhexidine in situations where there is a clear patient benefit and efforts should be made to ensure it is used correctly.

There is a need for greater understanding of how resistance mechanisms are changing the susceptibility of disease-causing bacteria to chlorhexidine and/or antibiotics. There is also currently no standardised method or definition of chlorhexidine 'resistance'.

For further information on appropriate chlorhexidine use, see the Australian and New Zealand College of Anaesthetists and the Australian Commission on Safety and Quality in Health Care *Joint Safety Statement: Topical application of chlorhexidine and the risks of accidental injection* [348].

Key Info

Benefits and harms

It is appropriate to use chlorhexidine in hand hygiene formulations, as an oral care solution, for skin prep solution, in impregnated dressings where benefit is shown including for intravascular devices and in high risk settings and at-risk populations such as intensive care units and oncology, in impregnated or coated central venous catheters. Each of these is detailed in the corresponding sections of this Guideline.

However, it is suggested that healthcare workers limit the use of chlorhexidine and consider the appropriateness of using chlorhexidine in every clinical situation as this can assist in preventing chlorhexidine resistance.

Certainty of the Evidence

The majority of studies related to chlorhexidine resistance are controlled laboratory/ susceptibility studies (n=24) so the results cannot be generalised and applied to clinical settings.

Preference and values

There are no acceptability considerations which directly impact the patient for the use of chlorhexidine.

Applying caution in the use of chlorhexidine should not impact on patient health equity.

Resources and other considerations

There are no significant resource implications of limiting the use of chlorhexidine to clinically appropriate situations.

Rationale

This advice is based on limited empirical evidence, but on sound theoretical principles and supported by expert advice. The use of chlorhexidine when clinically indicated and appropriate is justified to reduce healthcare associated infection.

Summary

Research question

- **Population:** Patients
- **Intervention:** Chlorhexidine use
- **Comparator:** No Chlorhexidine use
- **Outcome:** Resistance to chlorhexidine and/or resistance against antibiotics

Practice Statement

26. It is good practice to include chlorhexidine in a healthcare facility's chemical register. Any adverse reactions to chlorhexidine should be maintained in an organisational risk register and reported to the Therapeutic Goods Administration.

Practical Info

Anaphylactic reactions to chlorhexidine are rare but are potentially life-threatening complications. Increasing chlorhexidine usage by consumers and healthcare workers has resulted in a number of different adverse reactions including allergic contact dermatitis, photosensitivity, anaphylaxis and septic shock[342][343][344][345]. Greater recognition of the potential for chlorhexidine-related anaphylaxis is needed, and patients should be prompted for any chlorhexidine reactions/anaphylaxis during the 'allergy history' subjective assessment. Chlorhexidine containing solutions, dressings or impregnated devices should never be used with patients known or suspected to be sensitive to chlorhexidine.

Whilst evidence is limited, it seems the severity of allergic reactions is greatest with repeated exposure and related to chlorhexidine impregnated central venous catheters. The effects of chlorhexidine use are relative to the population group where chlorhexidine is mostly used - which is in perioperative settings. Invasive use is a significant risk factor for anaphylaxis, and reactions are primarily reported in this population group, particularly with repeat and frequent exposure.

Exposure to chlorhexidine in the clinical environment is routine therefore avoidance of recurrent anaphylactic reactions must begin with the identification and substitution of all products containing chlorhexidine. Careful planning and implementation is required to prevent inadvertent exposure to chlorhexidine in the sensitised patient as they move throughout the hospital system.

Systems should be in place in healthcare facilities to ensure that[272]:

- healthcare workers are aware that chlorhexidine can cause anaphylactic reactions
- any known patient allergies are recorded in patient notes
- healthcare workers check for the use of chlorhexidine on any patient who experiences an unexplained reaction.

For further information on appropriate chlorhexidine use, see the Australian and New Zealand College of Anaesthetists and the Australian Commission on Safety and Quality in Health Care *Joint Safety Statement: Topical application of chlorhexidine and the risks of accidental injection* [348].

Key Info

Benefits and harms

As chlorhexidine usage can result in a number of adverse reactions including anaphylaxis, there is significant benefit in including chlorhexidine in a healthcare facility's register and recording any adverse reactions.

Certainty of the Evidence

A recent literature review found that chlorhexidine-related anaphylaxis appears to be a relatively rare event in healthcare. However, the evidence in this area is limited, and the studies available tend to be retrospective and focused specifically in perioperative settings. The limited nature of the evidence makes it difficult to determine the clinical significance of these findings, and it is possible that larger acute care healthcare facilities might encounter one or more anaphylactic events each year.

Preference and values

Recording adverse reactions to chlorhexidine in an organisational risk register should not impact on patient values and preferences, nor health equity.

Resources and other considerations

It is suggested that an existing register within a healthcare facility is used, so this practice should not impact on resourcing besides possible extra training for staff.

Rationale

This advice is based on limited empirical evidence, but on sound theoretical principles and supported by expert advice. Including chlorhexidine in a chemical register is justified to reduce healthcare associated infection.

Summary

Research question

- **Population:** Patients
- **Intervention:** Risk register for chlorhexidine
- **Comparator:** No risk register for chlorhexidine
- **Outcome:** Documented use of chlorhexidine and incidence of anaphylaxis

4.1.5 Taking an organisational systems approach to infection prevention quality and safety

Addressing infection prevention and control issues requires a multi-component, facility-wide program and is everybody's responsibility. This section gives an outline of a systematic approach that has been shown to be effective, care bundles, together with examples of the organisational support required at a facility level to address two crucial areas of infection prevention and control—reducing sharps injuries to healthcare workers and, in patients, lowering the incidence of bloodstream infections associated with intravascular devices. Sections 4.2 to 4.6 discuss the separate aspects of a systems approach to infection prevention and control.

Care bundles

'Care bundling' is an approach developed by the United States Institute of Healthcare Improvement to improve consistency of practice in healthcare facilities, particularly for conditions and procedures known to increase patients' risk of healthcare associated infections.

Care bundles can be used to monitor care, and care bundle results can provide feedback to clinical staff in order to decrease the rate of healthcare associated infections related to that condition or that procedure. It is important that bundles are designed, implemented and evaluated with measurement designed for quality improvement rather than research or judgment.

Examples of some procedural care bundles are given in Sections 4.4, 3.5.2.2, & 3.5.2.3.

Reducing sharps injuries

Safe handling of sharps is discussed in more detail in Section 3.1.2. A systems approach can support reducing sharps injuries through[349]:

Clinical governance

- Champion a culture of safety underpinned by concepts of patient-centred care.

Staff health and safety

- Adopt and evaluate the use of safety engineered devices as an alternative to sharps without safety engineered features.
- Standardise changes to work practices that will reduce risks (e.g. using instruments, rather than fingers, to grasp needles, retract tissue, and load/unload needles).

Education and training

- Provide education on the use of new devices and work practices.

Surveillance

- Ensure comprehensive reporting of injuries and preventive strategies.

Facility design

- Apply engineering controls (e.g. sharps disposal containers and sharps devices with integrated engineered sharps injury prevention features).

Lowering the incidence of intravascular device (IVD)-related bloodstream infections

Section 3.5.2 outlines infection prevention and control guidance for healthcare workers to follow when inserting an invasive medical device such as a central venous catheter—with the first consideration being whether the device is necessary.

The care bundle (see also Section 3.5.1) for central venous catheter insertion stipulates the use of hand hygiene, maximal barrier protection, optimal intravascular catheter site selection, topical chlorhexidine for skin disinfection, and daily review to ensure that catheters are removed as soon as they are no longer necessary. Support and infrastructure requirements to facilitate implementation of these measures include:

Clinical governance

- Champion a culture of safety underpinned by the concepts of patient-centred care.
- Utilise peer networks to promote and increase compliance with best practice techniques.

Education and training

- Develop orientation programs for staff including rigorous grounding in facility policies for infection prevention standard precautions.
- Develop and promote an education program that addresses facility procedures for the insertion, maintenance and removal of IVDs.
- Provide staff with ongoing education to maintain high levels of compliance with facility policy.
- Engage patients so they have the knowledge and skills to be actively involved in their own care.

Surveillance

- Implement a quality adherence tool for best practice IVD insertion, maintenance and removal.
- Measure and evaluate performance through formal and informal audits of clinical practice.
- Provide feedback to staff.
- Measure bloodstream infection rates to monitor performance.

Facility design and equipment

- Ensure appropriate equipment is provided, such as IVD-insertion kits with standardised content to enable a competent healthcare professional to perform the procedures.
- Ensure ready access to handwashing basins and alcohol-based hand rub.

4.2 Staff health and safety

Summary

- Infection protection for healthcare workers should be an integral part of the infection prevention and control and occupational health and safety programs of every healthcare facility.
- This includes implementing a staff health screening policy, promoting immunisation, instituting extra protection for healthcare workers in specific circumstances (e.g. pregnant healthcare workers) and having processes for minimising and managing risk exposure.
- While the organisation has a duty of care to healthcare workers, staff members also have a responsibility to protect themselves and to not put others at risk.

Roles and responsibilities

Healthcare facilities

Workplace health and safety acts for the various states and territories place a duty of care on employers to ensure workplace health and safety, including where occupational infectious disease hazards exist.

All healthcare workers and students should be informed of their facility's or training institution's policy on health screening. Counselling should be provided to any individuals whose ability to undertake work or complete study may be impacted due to transmissible-infections.

Healthcare workers and student's privacy and civil rights should always be respected and not breached. The five measures of protection for infection prevention are:

- health status screening (see Section 4.2.1)
- education on safe work practices that minimise the transmission of infection (see Section 4.3)
- safe systems of work, with workplaces that are designed to minimise the transmission of infection (see Section 4.6)
- physical protection, including the use of personal protective equipment (see Section 3.3) and immunisation (see Section 4.2.1)
- reporting systems for compliance and identifying breaches of infection prevention and control protocols.

Healthcare workers

Healthcare workers can become exposed to infectious agents in a number of ways, including through direct contact with an infectious patient, as a result of a sharps injury, or through eating or drinking in a patient care area. Healthcare workers may also put patients at risk of infection if they have an infectious condition.

Healthcare workers are obligated to follow specific established infection prevention and control policies as part of their contact or employment. Failure to follow policies and procedures may be grounds for disciplinary action.

Healthcare workers with infections need to manage their condition including through seeking medical care, and receiving counselling where appropriate about their work options.

Information about exclusion periods for healthcare workers with acute infections is in Section 4.2.2.

Information for healthcare workers in specific circumstances (e.g. pregnant healthcare workers) is in Section 4.2.4.

Information about healthcare workers who carry a blood borne virus and how this impacts on their ability to perform exposure-prone procedures is in Section 4.2.5.

4.2.1 Health status screening and immunisation

Staff health screening policies

Healthcare facilities should specify a framework for the assessment, screening and vaccination of healthcare workers to minimise the risk of transmission of vaccine preventable diseases. This must align with relevant state and territory policies and/or legislation.

Before beginning employment, all staff and students undertaking clinical placements should be assessed and offered testing and/or vaccination for specific infectious diseases before being allowed to work in high-risk areas. Particular attention should be paid to immune status, skin conditions, pregnancy in staff, as well as risk factors for specific groups of patients. These conditions may vary according to state/territory specific requirements and recommendations.

Routine screening and assessment

Routine screening at the start of employment occurs in three forms:

- personal assessment of disease and immune status—a questionnaire (with recording of information gained) should check for details of medical history, particularly for rubella, measles (rubeola), mumps, chickenpox (varicella), hepatitis B, immune disorders, skin conditions, and for prior exposure to tuberculosis (including working in high-risk settings and high-risk demographic background)
- immunisation
- laboratory and other testing—this may include a tuberculin skin test.

These principles for screening and immunisation also apply to any healthcare students, work experience students and volunteers who are likely to be exposed to potential risks.

Immunisation

Pre-vaccination screening

Pre-vaccination screening steps and procedures are outlined in the *Australian Immunisation Handbook*, including a pre-vaccination screening checklist. Healthcare facilities should have education programs to support their immunisation policy and reinforce the need for compliance.

Occupational vaccination program

Employers should take all reasonable steps to ensure that staff members are protected against vaccine-preventable diseases. Where healthcare workers may be at significant occupational risk of acquiring or transmitting a vaccine-preventable disease, a comprehensive occupational vaccination program should be implemented. Such a program should include:

- a vaccination policy
- maintenance of current staff vaccination records
- provision of information about the relevant vaccine-preventable diseases
- the management of vaccine refusal (which should, for example, include reducing the risk of a healthcare worker transmitting disease to a vulnerable patient).

Healthcare facilities should advise healthcare workers of the potential consequences if they refuse reasonable requests for immunisation. Such advice and refusal to comply should be documented. Duties may be modified if healthcare workers have a confirmed infection that may directly affect the risk of transmission of infection during exposure-prone procedures.

This is determined at the local facility level.

Vaccine refusal, contraindication to vaccination and vaccine non-response may be managed by ensuring appropriate work placements, work adjustments and work restrictions.

Recommended vaccinations

The most recent edition of the *Australian Immunisation Handbook*[350] provides detailed information on immunisation schedules and vaccines. Staff vaccination programs should comply as much as possible with these schedules, which acknowledge that some circumstances may require special consideration before vaccination.

Healthcare workers should be up to date with routinely recommended vaccines for adults, such as dTpa (diphtheria-tetanus-acellular pertussis)–containing, MMR (measles-mumps-rubella) vaccines and catch-up vaccinations.

Healthcare workers should check which vaccines their state or territory guidelines require them to have and what documentation they need to support this. Contact your state or territory health authority for more details regarding mandatory vaccination programs for healthcare workers.

Table 31. Recommended vaccinations for all healthcare workers[350]

Healthcare workers	Disease/Vaccine
All healthcare workers: including all workers and students directly involved in patient care or the handling of human tissues, blood or body fluids.	Hepatitis B Influenza Pertussis (dTpa) MMR (if non-immune) Varicella (if non-immune)
Healthcare workers who work with remote Indigenous communities in Northern Territory, Queensland, South Australia and Western Australia; and other specified healthcare workers in some jurisdictions.	Vaccines listed for 'All healthcare workers', plus hepatitis A
Healthcare workers who may be at high risk of exposure to drug-resistant cases of tuberculosis (dependent on state or territory guidelines).	Vaccines listed for 'All healthcare workers', plus consider Bacillus Calmette-Guérin (BCG) vaccine

Workforce immunisation risk matrix

A risk assessment can be used to estimate the specific infection risks that may impact upon a particular type of healthcare facility or setting. When calculating the risk to inform the scope of workforce immunisation, the following risk factors should be considered:

1. History of vaccination or disease/infection:

- confirmed past history of vaccination or specific vaccine preventable disease or infection
- unsure of previous vaccination or disease status
- unvaccinated or no known history of disease or infection.

2. Workforce assessment:

- pre-employment
- on commencement of employment
- existing employee.

3. Opportunity for exposure:

- no direct contact with patients or clients
- contact with patients or clients but no contact with blood or body substances
- contact with patients or clients, with possibility of direct or indirect contact with blood or body substances.

4. Consequences of exposure:

- occupational acquisition of specific vaccine preventable disease or infection
- healthcare associated infection of a specific vaccinate preventable disease or infection
- increased risk of acquisition of vaccine preventable disease or infection
- no increased risk of specific vaccine preventable disease or infection
- corporate risk including not meeting duty of care, litigation, workers compensation claims, risk of regulatory breach etc.

Workforce immunisation			
1. History of vaccination or infection/disease			
2. Workforce assessment			
From Step 1	Confirmed past history of vaccination or disease	Unsure of previous vaccination or disease	Unvaccinated or no known history of vaccination or disease
Pre-employment	1 = Low	4 = Medium	6 = Medium
On commencement of work	1 = Low	6 = Medium	8 = High
Existing employee	2 = Low	8 = High	10 = Very High

3. Opportunity for exposure		
No direct contact with patients or clients	Contact with patients or clients— No contact with blood or body substances	Contact with patients or clients— direct or indirect contact with blood or body substances
1 = Low	4 = Medium	8 = High

4. Consequences of exposure to a specific vaccine preventable disease or infection				
Occupational acquisition	Health care associated infection	Increased risk of acquisition of disease	No increased risk of disease or infection	Corporate risk
9 = High	8 = High	6 = Medium	1 = Low	10 = Very high

Figure 11. Calculating the level of risk

Risk factors	Score
1,2. History of vaccination and workforce assessment	X
3. Opportunity for exposure	X
4. Consequences of exposure	X
Risk rating (score)	X

Figure 12. Risk score

Risk factors	Score
Low Risk	1-8
Medium Risk	9-16
High Risk	17-24
Very High Risk	25-28

Figure 13. Overall risk rating

Workforce immunisation risk matrix adapted from the *Australian Commission on Safety and Quality in Health Care*[353].

Staff records

Employers and healthcare facilities need to retain details of screening results and immunisations provided, including vaccine preventable disease history, date and results of serology, record of immunisations consented/refused, date given, batch number, type and brand name of vaccine.

Records need to be secure and accessible by authorised personnel when needed, updated when relevant events occur and maintained in accordance with confidentiality and privacy laws.

Statutory Requirement

27. It is recommended that all healthcare workers to be vaccinated in accordance with the recommendations for healthcare workers in the *Australian Immunisation Handbook*.

Note: The advice reflects recommended practice supported by strong evidence. Healthcare facilities must also consider relevant state, territory and/or Commonwealth legislation regarding mandatory vaccination programs for healthcare workers.

Practical Info

Healthcare facilities must consider relevant state, territory and/or Commonwealth legislation regarding mandatory vaccination programs for healthcare workers.

Healthcare facilities should maintain a record of healthcare workers who choose not to vaccinate in accordance with the *Australian Immunisation Handbook*[350].

For further information on health status screening and immunisation see Section 4.2.1.

Key Info

Benefits and harms

The benefits of vaccination programs clearly outweigh the harms.

The benefits of adhering to recommendations for healthcare workers in the *Australian Immunisation Handbook*[350] include reduced risk of infection and transmission of vaccine-preventable disease to other healthcare workers and to patients.

Certainty of the Evidence

This practice is supported by strong clinical and epidemiologic studies. Full details of the review of all relevant information from the latest medical literature can be found in the appendices of the most recent edition of the *Australian Immunisation Handbook*[350]. This also provides detailed information on immunisation schedules and vaccines. Staff vaccination programs should comply as much as possible with these schedules.

Healthcare facilities must also consider relevant state, territory and/or Commonwealth legislation regarding mandatory vaccination programs for healthcare workers.

Preference and values

Regardless of cultural, social and economic background, all healthcare workers should be offered protection against vaccine- preventable diseases.

If vaccinations are refused, contraindications to vaccination are present and/or if vaccine non-response occurs, this should be managed by ensuring appropriate work placements, work adjustments and work restrictions in healthcare facilities.

Resources and other considerations

Vaccination has been demonstrated to be one of the most effective and cost-effective public health interventions.

Rationale

Vaccination not only protects individuals, but also protects others in the community by increasing the overall level of immunity in the population and thereby minimising the spread of infection[350].

Australia has one of the most comprehensive publicly funded immunisation programs in the world. All vaccines marketed in Australia are manufactured according to strict safety guidelines and are evaluated by the Therapeutic Goods Administration, to ensure they are efficacious and are of adequate quality and safety, before marketing approval is granted[350].

Healthcare facilities must also consider relevant state, territory and/or Commonwealth legislation regarding mandatory vaccination programs for healthcare workers.

Summary

Research question

- **Population:** Healthcare workers
- **Intervention:** Exclusion period
- **Comparator:** Different periods of time
- **Outcome:** Rates of transmission of infection to healthcare worker or patient

Summary

Research question

- **Population:** Healthcare workers
- **Intervention:** Education programs
- **Comparator:** Other education programs
- **Outcome:** Changes in healthcare worker behaviour

4.2.2 Exclusion periods for healthcare workers with acute infections

Every healthcare facility should have comprehensive written policies regarding disease-specific work restriction and exclusion, which include a statement of authority defining who can implement such policies.

Any employee who has an infectious disease has a responsibility to:

- consult with an appropriate medical practitioner to determine that they are capable of performing their tasks without putting patients or other workers at risk
- undergo regular medical follow-up and comply with all aspects of informed clinical management regarding their condition.

These policies should encourage healthcare workers to seek appropriate preventive and curative care and report their illnesses, medical conditions, or treatments that can render them more susceptible to opportunistic infection or exposures. They should not penalise healthcare workers with loss of wages, benefits, or job status.

The overarching principle for exclusion periods is that staff members should not come to work if they have signs or symptoms of a potentially infectious disease.

The Communicable Diseases Network Australia (CDNA) provides specific guidance on the management of staff infected with a range of diseases. For more information, see *CDNA's Series of National Guidelines*[356].

Table 32. Staff exclusion periods for infectious illnesses

Acute infection	Exclusion period
Conjunctivitis	Must not provide patient care for the duration of symptoms (i.e. while eye discharge is present).
Gastroenteritis* (except norovirus)	Must not come to work while symptomatic (e.g. diarrhoea and/or vomiting) and until 24 hours after symptoms have resolved. If the cause is unknown, possible exclusion for 48 hours until the cause is identified. Healthcare staff who have a food handling role should always be excluded for until 48 hours after symptoms have resolved.
Glandular fever	No need for exclusion, even if having direct patient contact, provided staff members are well enough to return to work and employ standard precautions.
Hand, foot and mouth disease	Healthcare workers should be excluded until all blisters have dried. Those who may have been in contact with someone who has hand, foot and mouth disease do not need to be excluded from work however consideration should be given to those who care for patients who are more susceptible to infection.

Acute infection	Exclusion period
Herpes Simplex (cold sores)	Must not provide direct care to neonates, newborns, patients in delivery suites, severely immunocompromised patients, burns patients, patients with extensive eczema, or patients in operating room if there is an exposed herpetic lesion. May provide direct patient care to other patients and do not need to wear a mask. However, sores should be covered with a dressing where possible, and hygiene practices to minimise the risk of transmission need to be maintained.
Herpes Zoster (Shingles)	Must not provide ANY direct patient care if lesions cannot be covered (e.g. ophthalmic zoster). If active lesions can be covered, can provide care to all patients except for pregnant women, neonates, severely immunocompromised patients, burns patients and patients with extensive eczema.
Influenza	Healthcare workers should remain off work until at least 24 hours since the resolution of fever, provided: • they have received 72 hours of anti-influenza medication; or • five days have elapsed since onset of respiratory symptoms. If healthcare workers are involved in the care of patients who are more susceptible to infection (such as hematopoietic stem cell transplant patients) then exclusion from those patients/areas should be for 7 days from the onset of symptoms or until symptoms have completely resolved, whichever is longer.
Norovirus	Must not come to work for at least 48 hours after symptoms have stopped (e.g. diarrhoea and/or vomiting) (see practice statement 41).
Pertussis (Whooping Cough)	Remain away from work until at least 5 days after commencement of appropriate antibiotic therapy; or for 21 days after the onset of symptoms if not receiving antibiotic treatment; or 14 days after the onset of paroxysmal cough (if the onset is known).
Scabies and Lice	Healthcare workers should remain off work until 24 hours after first treatment started.
Staphylococcal infection	Any staphylococcal lesions (e.g. boils, wound infections) must be covered with an occlusive dressing while at work. If lesions cannot be covered, must not perform patient care or prepare hospital food until they have received appropriate antibiotic therapy and the infection has resolved.
Streptococcal infection	Any healthcare worker with streptococcal lesions (e.g. impetigo, streptococcal tonsillitis) must ensure that lesions are covered with an occlusive dressing while at work. If lesions cannot be covered, healthcare workers must not provide direct patient care nor prepare hospital food until 24 hours after commencement of appropriate antibiotic therapy. Healthcare workers with pharyngitis/tonsillitis should avoid patient contact for at least 24 hours after starting appropriate antibiotic therapy.
Tuberculosis (TB)	If TB disease is suspected or is present, TB Services are to be notified of the staff, and the staff treated. Any personnel with pulmonary TB is to be excluded from the workplace until cleared by TB Services. Any active TB must be monitored by TB Services.

Acute infection	Exclusion period
Viral rashes	Before starting employment, personnel should be screened by completing a pre-employment health assessment for measles, mumps, rubella and varicella. Non immune healthcare workers should be offered vaccination unless contraindicated. **Measles (rubeola)**—If suspected, must remain off of work until appropriate test results are known. May return to work if they have serological evidence of immunity (i.e. are IgG sero-positive and IgM sero-negative); but must be excluded until 4 days after the appearance of the rash if they develop measles. **Mumps**—If suspected, must remain off work until appropriate test results are known. May return to work if they have serological evidence of immunity (i.e. are IgG sero-positive and IgM sero-negative). If mumps develop, they must be excluded from work for 9 days after the onset of parotid gland swelling or until the swelling goes down. **Rubella (German Measles)**—If suspected, must remain off of work until appropriate test results are known. May return to work if they have serological evidence of immunity (i.e. are IgG sero-positive and IgM sero-negative). If they develop Rubella, they must be excluded for at least 4 days after the appearance of the rash. **Chickenpox (Varicella)**— if healthcare worker develops Varicella, they must be excluded until all blisters have dried (this usually takes at least 5 days). **Human Parvovirus B19 (Slapped Face)**—does not require exclusion from work, non-infectious once rash develops.
Viral respiratory tract infections (e.g. common cold)	Healthcare workers should be excluded from contact with susceptible persons, until they are no longer symptomatic. Healthcare workers with viral respiratory tract infections should stay at home until they feel well.

*Includes Giardiasis, Shigella infection, Salmonella infection, Campylobacter infection.

Source: Adapted from *NHMRC Staying Healthy in Child Care: Preventing infectious diseases in early childhood education and care services (Fifth Edition)*[357] and *CDNA National Guidelines For Public Health Units: Influenza Infection*[359] *& Pertussis*[360] and *CDC Guidelines and Recommendations: Prevention Strategies for Seasonal Influenza in Healthcare Settings*[361]

Practice Statement

28. It is good practice for healthcare workers and visitors to adhere to norovirus exclusion periods.

Healthcare workers should not be at work from symptom onset until 48 hours after symptom resolution. On returning to the healthcare facility, healthcare workers should adhere to appropriate hand hygiene practices.

Practical Info

Norovirus infections generally have a shorter incubation period and are characterised by acute onset of nausea, vomiting, abdominal pain and diarrhoea[94]. The mean duration of symptoms is two-three days.

Maximum viral shedding occurs between 24 and 48 hours after exposure, so it is good practice for healthcare workers to be excluded for 48 hours after the resolution of symptoms. Clearance of norovirus is not practical or beneficial as viral excretion can persist for multiple days.

There is evidence to suggest that shedding of norovirus may continue to occur for more than 21 days after the resolution of symptoms. However, no data has been reported on ongoing transmission or secondary cases.

Norovirus epidemiology

Norovirus is the most frequently occurring cause of community-acquired acute gastroenteritis in people of all ages. It is one of the most common causes of outbreaks in healthcare settings, affecting both long-term care facilities and acute care hospitals[115].

Norovirus belongs to the family *Caliciviridae* and are a single-stranded RNA, non-enveloped virus that can cause gastroenteritis in humans[116]. Noroviruses are divided into at least six genogroups (GI-GVI) and further subdivided into more than 38 genotypes based on phylogenetic analysis of the major capside protein[116][120]. Currently, human noroviruses belong to one of three norovirus genogroups which are further divided into more than 25 genetic clusters[117].

Human noroviruses cannot be grown in cell culture[121], therefore, diagnostic methods focus on detecting viral RNA or antigen.

Transmission pathways

Transmission for norovirus infections in healthcare settings mainly occur by the faecal–oral route, either through person to person contact or through exposure to contaminated food. Whilst some observational studies have suggested there is a possibility of viral transmission via aerosols, there is no data or determination criteria to support this assumption. It appears that Genotype GII.4 is more often associated with transmission mediated by person-to-person contact than with other types of transmission.

Individuals may shed norovirus more than 21 days after the resolution of symptoms, possibly acting as a possible source for nosocomial transmission. However no data has been reported on ongoing transmission or secondary cases.

Key Info

Benefits and harms

The benefits of adhering to norovirus exclusion periods includes reduced risk of transmission of the virus to other healthcare workers and to patients.

Preference and values

It is expected that all patients and staff of healthcare facilities would highly value the implementation of exclusion periods for healthcare workers infected with norovirus.

Certainty of the Evidence

The Communicable Diseases Network Australia Guidelines recommend that workers be excluded for 48 hours after symptoms have stopped, and the Centres for Disease Control and Prevention Guidelines provide evidence that ill personnel should be excluded for a minimum of 48 hours after symptom resolution.

Evidence from observational studies (n=4) also shows that individuals may shed norovirus for more than 21 days after symptoms resolve, which may act as a source of nosocomial transmission[94].

Resources and other considerations

The exclusion of healthcare workers may impact upon resourcing and staffing.

Rationale

Maximum viral shedding of norovirus is thought to occur 24-48 hours after exposure.

There is evidence suggesting shedding of Norovirus for more than 21 days, possibly being a source for nosocomial transmission. However there is no evidence to suggest that ongoing shedding equates to transmission or secondary cases. Despite the virus being present, provided the infected person can maintain appropriate hygiene practices, there is no reason for exclusion once the physical symptoms have resolved. However, it would be good practice to ensure that health professionals who may be shedding are not caring for high risk populations e.g. immunosuppressed.

Summary

Research question

- **Population:** Healthcare workers
- **Intervention:** Exclusion period
- **Comparator:** Different periods of time
- **Outcome:** Rates of transmission of infection to healthcare worker or patient

4.2.3 Managing exposures to occupational hazards

Exposures that might place a healthcare worker at risk of hepatitis B virus, hepatitis C virus, HIV or human T-cell lymphotropic virus type I (HTLV-I) are percutaneous injury (e.g. needlestick or cut with sharp object) or contact of a mucous membrane or non-intact skin (e.g. exposed skin that is chapped, abraded, or affected by dermatitis) with blood, tissue or other potentially infectious body substances.

Each healthcare facility requires a policy on the management of needlestick injuries, and on providing immediate post-exposure advice for sharps injuries and other blood or body substance incidents involving healthcare workers. This is because generic policies may not be relevant to individual settings (e.g. access to care, especially after hours).

Managing exposures

Some general components relevant to all occupational exposures to blood-borne viruses include[363]:

- The healthcare worker should receive immediate care and treatment at the site of exposure.
- A risk assessment of the exposure should be taken—including the type of exposure, type and amount of fluid involved, infectious status of the source, and susceptibility of the exposed healthcare worker.
- If the source of exposure can be identified, they should be tested for HBV surface antigen, HCV antibody and HIV antibody.
- The healthcare worker should have baseline testing, as required.
- Counselling and follow-up should be provided to the healthcare worker.

Treatment protocols include removal of contaminated clothing, thorough washing of the injured area with soap and water; and flushing of affected mucous membranes with large amounts of water.

Post-exposure prophylaxis

Post-exposure prophylaxis (PEP) is the medical response given to prevent the transmission of blood borne pathogens following a potential exposure to HIV. The decision to prescribe PEP should be made on a case-by-case basis and include consideration of the need for first aid, counselling including the assessment of risk of exposure to the infection, testing, and depending on the outcome of the exposure assessment, the prescription of antiretroviral drugs, with appropriate support and follow-up[362].

When PEP is recommended, it should be prescribed and started as close to the time of exposure as possible, and within 72 hours. Eligibility for PEP and the type of regime prescribed is individualised and determined by a number of factors, including the transmission risk associated with the exposure[362].

A 28-day course of PEP is recommended.

Specific guidance on PEP can be found in the Australian Society of HIV Medicine Guidelines (second edition)[362].

Management of possible exposure to other conditions[362]

- **Hepatitis B**—Healthcare workers with evidence of previous immunity to hepatitis B require no follow up. Non-immune individuals require immunisation and follow up.
- **Hepatitis C**—Healthcare workers potentially at risk require baseline and follow-up testing for hepatitis C. Patients should be informed about the symptoms of hepatitis C and advised to seek medical advice if any are displayed.
- **Tetanus**—Tetanus status should be assessed for any healthcare workers who sustain abrasions or wounds.

Consult the current edition of the *Australian Immunisation Handbook*[350] for further advice and guidance.

4.2.4 Healthcare workers with specific circumstances

Healthcare workers with specific circumstances

Healthcare facilities need to assist healthcare workers who experience circumstances that place them at greater risk of infection to develop management plans that ensure their well-being.

Where a healthcare worker is known to be particularly susceptible to healthcare associated infections, work duties are assessed to ensure that the welfare of that person, patients and other healthcare workers is safeguarded. This may involve appropriate work

placements, adjustments or restrictions, or deployment to a role involving less risk. Healthcare workers in this situation may require counselling on what tasks they can perform, what they should avoid and the possible impact of their work on their health.

Pregnant healthcare workers

Employers should provide information on the risks associated with pregnancy and should assist pregnant healthcare workers to avoid infectious circumstances that may present a risk to her or the baby. It is the responsibility of pregnant healthcare workers to advise their doctor and employer of their pregnancy; this information must remain confidential.

All pregnant healthcare workers should adhere to standard and transmission-based precautions and ensure that they are appropriately vaccinated. However, pregnant healthcare workers should be given the opportunity to avoid patients with specific infections.

For more information, refer to the Australian Immunisation Handbook.

Immunocompromised healthcare workers

Healthcare workers with immune deficiencies are more at risk of acquiring infections. The type of employment they can undertake should include only duties that will minimise their exposure to infections. Predisposing conditions include neutropenia, disseminated malignancy and infections that produce immunodeficiency (e.g. HIV).

Refer to the Australian Immunisation Handbook for guidance on the immunisation of immunocompromised healthcare workers.

Healthcare workers with skin conditions

Skin integrity is the ultimate barrier to transmission of infectious agents. When staff members have damaged skin or weeping skin conditions (e.g. allergic eczema, psoriasis, exfoliating dermatitis), they may be readily colonised by healthcare associated microorganisms and may become a vehicle for disseminating these organisms. Healthcare workers in this situation should be identified by personal history screening when they start employment, and need to be informed of the risks they may pose to patients. Any damaged skin must be appropriately covered before healthcare workers carry out procedures. Consideration must be given to providing these staff members with appropriate, individual PPE such as specific types of gloves, hand hygiene products and moisturising lotion.

Healthcare workers with cystic fibrosis

Healthcare workers with cystic fibrosis may be at greater risk of cross-infection than healthcare workers without cystic fibrosis. They may also pose an infection risk to patients; however, this will vary according to the severity of their disease, the frequency of coughing and the type of cystic fibrosis pathogens evident[366].

It is recommended that healthcare workers with cystic fibrosis do not work with patients or other healthcare workers with cystic fibrosis. Healthcare workers are encouraged to disclose their diagnosis during pre-employment screening to determine the safest workplace arrangements.

Healthcare workers living with a blood-borne virus (BBV)

Healthcare workers living with a BBV, including hepatitis B, hepatitis C and HIV, must be under the care of a treating doctor and must be tested for the respective BBV viral load levels, as well as for other BBVs, in accordance with the Australian National Guidelines for the Management of Health Care Workers known to be infected with blood-borne viruses 2018[352].

Healthcare workers living with a BBV deserve a supportive work environment, including retraining if required, counselling and appropriate infection control measures[352].

4.2.5 Exposure-prone procedures

Non-exposure prone procedures (non-EPPs) are procedures where the hands and fingers of the healthcare worker are visible and outside of the body at all times and procedures or internal examinations that do not involve possible injury to the healthcare worker 's hands by sharp instruments and/or tissues, provided routine infection prevention and control procedures are adhered to at all times e.g. routine oral examination with appropriate personal protective equipment, insertion and maintenance of intravenous or central lines[352].

Exposure prone procedures (EPPs) are invasive procedures where there is potential for direct contact between the skin, usually finger or thumb of the healthcare worker, and sharp objects or surgical instruments—such as needles, sharp body parts (e.g. fractured bones), spicules of bone or teeth—in body cavities or in poorly visualised or confined body sites, including the mouth of the patient. During EPPs there is an increased risk of transmitting blood borne viruses (BBVs) between healthcare workers and patients.

There are two major risks related to healthcare workers that arise out of EPPs:

1. Healthcare workers can become infected with a BBV.

2. Healthcare workers who already have a BBV may transmit the virus to the patient.

Some procedures that are generally considered not to be EPP may have the potential to escalate to EPPs. These procedures include:

- *Minimally invasive procedures* including laparoscopy, endovascular procedures, thoracoscopic procedures, Natural Orifice Transluminal Endoscopic Surgery, cystoscopic procedures, arthroscopic procedures and robotic surgery.
- *Trauma/emergency situations* where a previously non-EPP may escalate into an EPP.

Table 33 provides advice on EPPs in specific areas of clinical care as well as general procedures that are not considered to be EPPs.

Table 33. EPPs and non-EPPs in specific areas of clinical care

Area of Clinical Care	Exposure Prone Procedure	Non-Exposure Prone Procedure
General		• Routine non trauma related vaginal or rectal examination in the absence of a sharp. • Insertion and maintenance of arterial or intravenous cannulae whether inserted centrally or peripherally. • Open incision and drainage of superficial abscesses or haematomas. • Percutaneous drainage of abscesses, fluid collections or hematomas under radiation or ultrasound guidance. • Suturing of uncomplicated skin lacerations.
Cardiothoracic	• Generally all cardiothoracic procedures.	
Dentistry	• All maxillofacial surgery. • All oral surgical procedures. • The extraction of teeth (with some exceptions). • Periodontal surgical procedures. • Endodontic surgical procedures. • Implant surgical procedures.	• Extraction of highly mobile or exfoliating teeth. • Assessment and management of removable dentures and mouthguards. • Taking impressions of teeth. • Apply decay preventive agents. • Removing dental plaque, calculus and stains.
Emergency/ trauma	• Open head injuries resulting from trauma. • Insertion of intercostal catheter, where the procedure requires insertion of the finger into the pleural cavity in a trauma situation. • Reduction of facial or jaw fractures from within the oral cavity. • Rectal or vaginal examination in the presence of suspected pelvic trauma. • Placement of Thoracic Aortic clamp, packing a deep wound in a body cavity, or deep suturing to arrest haemorrhage. • Internal cardiac massage.	• Percutaneous insertion of intercostal catheter (e.g. via Seldinger technique), where the procedure does not require insertion of the finger into the pleural cavity). • Insertion of intercostal catheter, where the procedure requires insertion of the finger into the pleural cavity in a non-trauma situation. • Endotracheal intubation. • Bag-valve-mask ventilation. • Simple suturing under direct vision.

Area of Clinical Care	Exposure Prone Procedure	Non-Exposure Prone Procedure
General surgery	• Open abdominal or thoracic procedures.	• Excision of skin lesions. • Breast surgery, where hands remain in view.
Gynaecology	• Perineal surgery. • Trans-vaginal surgery. • Open abdominal gynaecological surgery. • Local anaesthetic administered to the cervix other than under direct vision (i.e. with fingers concealed in the vagina).	• Vaginal examination in absence of a sharp. • Laparoscopy. • Colposcopy. • Surgical insertion of depot contraceptive implant/ devices. • Fitting intrauterine contraceptive devices (coils). • Cone biopsy. • Dilation and curettage (D&C).
Neurosurgery	• Any surgical procedures that involve exposure to sharp bone fragments (e.g. trauma and some spinal surgery).	
Obstetric or midwifery	• Caesarean birth. • Instrumental birth. • Infiltration of the perineum with local anaesthetic. • Episiotomy. • Repair of an episiotomy or perineal/ vaginal tear. • Application of fetal scalp electrodes. • Fetal blood sampling.	• Vaginal examination, in absence of a sharp. • Vaginal egg collection provided fingers remain visible at all times when sharp instruments are in use. • Suction termination of pregnancy.
Ophthalmology	• Orbital surgery. • Oculoplastic and lacrimal surgery where bony reconstruction and bone fragments are involved.	• Routine ocular surgery.

Orthopaedic	• Cutting or fixation of bones or the distant transfer of tissues from a second site (such as in a thumb reconstruction).
	• Open procedures where there is the possibility of:
	  • bone fragments and/or bone spicules
	  • mechanical drilling involved
	  • deep tunnelling using sharp instruments.
		• Closed fracture reduction.
		• Diagnostic arthroscopy.
		• Endoscopic carpal tunnel decompression.

Otolaryngology, head and neck	• Bony facial reconstructive surgery (elective or after trauma).	• Otological procedures e.g. stapedectomy/ stapedotomy, insertion of ventilation tubes, insertion of a titanium screw for a bone anchored hearing aid. • Most head and neck cancer operations except where fingers are not visible at all times. • Most rhinological procedures. • Functional endoscopic sinus surgery (FESS).

Area of Clinical Care	Exposure Prone Procedure	Non-Exposure Prone Procedure
Paediatric surgery	• Extensive cosmetic procedures that involve bony reconstruction. • Free tissue transfer involving bone or in the thorax.	• Herniorrhaphy. • Orchidopexy. • Superficial procedures.
Plastic surgery	• Extensive cosmetic procedures that involve bony reconstruction. • Free tissue transfer involving bone or in the thorax.	• Excision of superficial lesions. • Superficial skin excision and reconstruction.
Podiatry	• Procedures undertaken by podiatric surgeons including open surgical procedures on bones and soft tissue of the foot and lower leg. • See also Orthopaedics.	• Routine procedures undertaken by podiatrists (including nail avulsion performed in the clinic setting).
Urology	• Open urological procedures.	• Image guided biopsies. • Scrotal procedures.
Vascular surgery	• Open abdominal or thoracic vascular surgery.	• Carotid endarterectomy. • Percutaneous dilatation, stenting or recanalisation of arteries. • Percutaneous treatment of varicose veins. • Diagnostic angiography. • Peripheral embolectomy/ thrombectomy.

Adapted from the *Australian National Guidelines for the Management of Healthcare Workers Living with Blood Borne Viruses and Healthcare Workers who Perform Exposure Prone Procedures at Risk of Exposure to Blood Borne Viruses (2018)*[352].

National Guidelines

The *Australian National Guidelines for the Management of Healthcare Workers Living with Blood Borne Viruses and Healthcare Workers who Perform Exposure Prone Procedures at Risk of Exposure to Blood Borne Viruses (2018)* (National Guidelines)[352] provide detailed information about the required BBV testing for healthcare workers, and the criteria to be met that allow a healthcare worker with a BBV to return to work. The advice in the National Guidelines reflects the effectiveness of antiviral treatment for hepatitis B virus (HBV), hepatitis C virus (HCV) and HIV. The National Guidelines allow healthcare workers living with a BBV to perform EPPs, provided they comply with the National Guidelines[352].

Responsibilities of healthcare workers

As stated in the National Guidelines, all healthcare workers (including students) who are performing EPPs are required to take reasonable steps to know their BBV status and should be tested for BBVs at least once every three years and are required to have appropriate and timely testing after potential BBV exposures, both occupational and non-occupational[352].

Healthcare workers living with a BBV who are performing EPPs must be under the care of a medical practitioner with relevant expertise, and are expected to comply with the requirements stated in the National Guidelines and relevant legislation in their jurisdiction[352].

Responsibilities of employers

The National Guidelines do not prescribe additional responsibilities on employers of healthcare workers or students living with a BBV. However, employers should support employees who perform EPPs with access to appropriate information, testing, training, counselling and vaccination programs[352].

Healthcare facilities should aim to achieve voluntary compliance and self-disclosure by providing an environment in which healthcare workers know their confidentiality will be maintained. Employers of healthcare workers must consider the relevant public health, antidiscrimination, privacy, industrial relations and equal employment opportunity legislation in their jurisdiction[352].

Depending upon the jurisdiction and/or employment arrangements, employers may need to request evidence of viral clearance from the treating medical practitioner[352]. Similarly, the protection of public health may require that health monitoring information (including viral load and relevant clinical information) may need to be released to a designated person in the workplace in the event of a potential exposure incident to assess the requirement for further public health action[352].

Responsibilities of treating doctors

The treating medical practitioner may be required to inform the appropriate registration board and the relevant area of the jurisdictional health department if the healthcare worker is not in compliance with the National Guidelines[352].

A summary of key requirements is provided below:

All healthcare workers and healthcare students[352]:
All healthcare workers should be encouraged to undertake regular testing for BBVs.
All healthcare workers have the right to access confidential testing, counselling, support and treatment.
All healthcare workers should be vaccinated against hepatitis B virus.

Healthcare workers who perform EPPs[352]:
Healthcare workers who undertake EPPs must take reasonable steps to know their BBV status and should be tested for BBVs at least once every three years.
All registered healthcare workers who undertake EPPs must declare when applying for renewal of registration that they are complying with, and have been tested in accordance with the National Guidelines[352].
All Healthcare workers who undertake EPPs should understand their obligation to report their BBVs status, if required, under jurisdictional legislation and/or policies.
Healthcare workers should understand their obligation to report all sharps injuries, whether or not there was a risk of patient exposure.
Healthcare workers ust also be tested for BBVs after the occurrence of any potential occupational exposure incident. In addition, healthcare workers who are exposed to risks for BBV transmission in non-occupational settings should be aware of national recommendations for testing frequencies that sit outside of the National Guidelines.
Healthcare workers must cease performing all EPPs if diagnosed with a BBV until the criteria in the National Guidelines are met.

Healthcare workers living with a BBV[352]:
All healthcare workers with a BBV must be under the care of a treating doctor with relevant expertise.
All healthcare workers living with one or more BBVs must be tested for the respective BBV viral load levels, in accordance with the National Guidelines[352].
Healthcare workers living with one or more BBVs are permitted to perform EPPs providing the criteria set out in the National Guidelines and specific viral load criteria are met.

For further information on EPPs and BBVs, including compliance requirements and occupational exposure, *see the National Guidelines*[352].

4.3 Education and training

Summary

- Education and training underpin efforts to integrate infection prevention and control practices into practice at all levels of every healthcare facility.
- Essential education for all healthcare workers should cover infection prevention and control work practices and their role in preventing the spread of infection. This should be a part of undergraduate education, staff orientation and any continuing professional development.
- Specific postgraduate education of infection control professionals is strongly recommended.
- Engaging patients, their carers and families in their own healthcare is integral to effective infection prevention and control. All healthcare workers should be informed about the rights and responsibilities of patients and learn how to apply this understanding in the way that they deliver care.

Practice Statement

29. It is good practice for infection control professionals to partake in ongoing professional development in order to gain the necessary expertise to fulfil their role. Infection prevention and control staff at all levels should be supported to access formal and informal education and training relevant to their role.

Practical Info

Postgraduate education

While some states in Australia have requirements for practising as an infection control professional, there is currently no minimum or standardised educational requirement to practice as an infection control professional, or to coordinate an organisational infection prevention and control program. A range of postgraduate education programs are currently available for nurses seeking or establishing a career in infection control in Australia, although the content of these courses is variable. These courses include Graduate Certificates and Masters degrees in Infection Prevention and Control.

Compliance and credentialing

The Australasian College for Infection Prevention and Control is the peak body for infection prevention and control professionals in the Australasian region. The College was formed in 2012 and brought together the state and territory infection control associations formerly in the Australian Infection Control Association. The College recommends that healthcare workers apply for credentialing in infection prevention and control. This is a self-regulatory process to determine and acknowledge that an individual has demonstrated

the prescribed competence of the relevant specialist role.

Mentoring, support and networking

While there are no formal mentoring programs in place, many infection control professionals provide mentoring to less experienced staff. Mentoring requires the support of health facility administrators, so that it is recognised as being part of healthcare worker core time, but additional to their workload.

Some healthcare facilities have successfully established linked-nurse programs to support their infection prevention and control programs and to facilitate mentoring of healthcare professionals at varying levels of expertise in infection prevention and control.

Auditing

Auditing of healthcare worker behaviour is important for surveillance and accreditation, and to reinforce positive signs of culture change within the facility. Auditing to measure compliance with infection prevention and control policies and procedures can occur through:

- direct observation
- examining logs and registers of specific activities (e.g. sterilisers)
- monitoring use of personal protective equipment or hand hygiene products.

Timely feedback is a critical aspect of auditing. In acute-care settings, measurement and feedback generally occurs at ward level.

Key Info

Benefits and harms

The benefits of having educated infection control professionals clearly outweighs the harms.

Certainty of the Evidence

This practice is supported by suggestive clinical or epidemiologic studies, and based on sound theoretical principles.

Preference and values

It is expected that all patients and staff in healthcare facilities would value effective training and education for healthcare workers as part of a multimodal strategy to reduce healthcare associated infection.

Resources and other considerations

There are resources and costs associated with professional development for healthcare professionals, however the benefits outweigh the costs.

Rationale

This advice is based on limited empirical evidence, but on sound theoretical principles and supported by expert advice. Providing infection control professionals with appropriate formal and informal learning is justified to reduce healthcare associated infection.

Summary
Research question

Population: Healthcare workers

Intervention: Education programs

Comparator: Other education programs

4.3.1 Education strategies

On-the-job training

All healthcare workers need to understand the basis and importance of infection prevention and control. This information should be provided to healthcare workers and students by the healthcare facility where they work. The basis for this teaching should be the information contained in these Guidelines (see Section 1: Introduction for a summary), ensuring that healthcare workers understand standard and transmission based precautions. This information should be tailored specifically to the healthcare facility, and where necessary, to a healthcare workers specific role in the workplace.

Job-specific training should be provided as: part of orientation, when new procedures affect the employee's occupational exposure, and before rostering to a hazardous area. Healthcare workers competency should be assessed and records should be maintained of their participation in education programs.

University education

Up-to-date information on infection prevention and control basics, policy, procedures, quality assurance and incident monitoring should be included in the curriculum of all undergraduate and postgraduate courses in health-related areas.

Universities and training colleges also have an obligation to inform prospective students about the impact that particular infections may have on their ability to complete the course and engage in the full spectrum of clinical practice after graduation (see Section 4.2, in particular Section 4.2.2). This information should include advice about specific measures, including immunisation, that reduce the risk of acquiring infection.

Effective educational strategies

There are a variety of educational strategies that can be used in healthcare settings to improve knowledge and understanding of infection prevention and control.

These include:

- Multifaceted strategies, which consider the needs of the target group, potential barriers and facilitators and the context in which educational strategies are applied. These are likely to be more effective than single strategies as learning is reinforced through repetition and variation.
- Active educational interventions that are repeated with some frequency have a greater chance of changing behaviour than a single, didactic session. Repetition and interactivity have both been shown to be important factors in achieving behaviour change that is sustained.
- The use of multiple forms of media including printed materials and videos.
- Educational outreach visits have been found to be an effective method, especially when combined with other strategies such as interactive education and printed materials, but are costly to implement. They seem to be most effective when related to prescribing practices of moderate complexity.

Education activities can be integrated into staff orientation programs, credentialing packages, annual training and competency testing, implementation of policy and procedure manuals, and in decision support tools available on the facility intranet. The infection control professionals' contact details should be readily available to all staff and included in all resources.

E-learning (e.g. interactive web-based training) is being used in some states and territories, and may be a useful addition to other education strategies.

Local programs for education, audit and feedback should be refined regularly and promoted widely in healthcare facilities by senior staff members[272].

4.4 Healthcare associated infection surveillance

Summary

- Appropriate surveillance can substantially reduce healthcare associated infections, morbidity and mortality.
- Both outcome and process measures are used for surveillance in large health facilities; process measures alone can provide a useful alternative, particularly in smaller facilities.
- Timely targeted feedback is critical for effective surveillance.
- All staff involved in surveillance should be appropriately trained in data collection techniques.

4.4.1 Role of surveillance in reducing healthcare associated infection

Many infections can be prevented using approaches based on quality and safety theories such as:

- quality improvement methodologies
- creating a safety culture (individuals taking responsibility for ensuring safety and quality of themselves and others)
- application of systems thinking (i.e. understanding the factors in the system that allow errors to occur).

To be successful, all these approaches need to be based on comprehensive information obtained through surveillance—the ongoing, systematic collection, analysis, interpretation, and dissemination of data regarding a health-related event, for use in public health action to reduce morbidity, mortality and to improve health.

Surveillance is important for wider systems of quality management, but the main purpose of collecting reliable data are to improve quality within a service or facility. Collecting such data can provide the impetus for change and make it possible to evaluate the effectiveness of an intervention[374][373]. For example, monitoring both hand hygiene compliance and the rate of bloodstream infections, and disseminating this information within the facility, can improve hand hygiene practices.

Surveillance of healthcare associated infections (HAI) draws information about the agent, host, environment and risk factors from a number of data sources and:

- provides baseline information on the frequency and type of HAI
- enables breakdowns in infection prevention and control to be identified

- allows for timely investigation and appropriate infection prevention and control measures to be instituted.

All healthcare facilities, including small acute-care facilities and office practices, should collect data on HAIs, infection prevention and control breaches, outbreaks of infectious disease and antibiotic resistance. Post-discharge surveillance by community-based healthcare practices should also be considered. The surveillance system used by a healthcare facility depends on the type and size of the facility, its case mix, and the resources available.

It is important that the collection of surveillance data are guided by a clear purpose that is understood by all relevant stakeholders[372].

A recent study identified that only half of those involved in collecting and analysing HAI surveillance data had been trained, which subsequently led to poor agreement when identifying HAIs[371]. To drive the success of surveillance, relevant staff members need appropriate training to ensure consistency in the application of definitions and data collection[372].

4.4.2 Types of surveillance programs

It is not feasible to conduct facility-wide surveillance for all events; therefore, surveillance is often targeted with a focus on specific events, processes, organisms, medical devices or high-risk patient populations. Healthcare associated infections surveillance programs may focus on:

- specific sites of infection (e.g. bloodstream, surgical sites)
- specific populations (e.g. neonates, healthcare worker occupational exposure to blood and body substances)
- specific organisms or types of organisms (e.g. multi-resistant organism [MRO], *C. difficile*, respiratory syncytial virus [RSV], rotavirus)
- specific locations in the healthcare facility or community (e.g. intensive care unit, neonatal intensive care unit, long-term care facility).

For further information and nationally-consistent definitions, see the Australian Commission on Safety and Quality in Health Care's National Surveillance Initiative website —https://www.safetyandquality.gov.au/our-work/healthcare-associated-infection/national-hai-surveillance-initiative/.

There are two main methods of surveillance —process and outcome. Process measurements are usually easier to measure, less ambiguous and more widely applicable than outcome indicators. Process surveillance may be an adjunct to outcome surveillance; alternatively, it can entirely replace outcome surveillance for practices or locations that have too few adverse outcomes for statistical analysis (e.g. small facilities where the number of patients at risk of infection may be too small to calculate valid infection rates).

Process surveillance

Process surveillance involves auditing practice against a certain standard, guideline or policy [377].

As no single intervention will prevent every healthcare associated infection, packages of evidence-based interventions have been developed and are increasingly being used in process surveillance (e.g. care bundles, see also Sections 3.5.1 and 4.1.5).

Process measures that are linked by evidence to important outcomes:

- do not require risk adjustment
- can predict outcomes
- can easily be acted on because potential improvements are usually the responsibility of the clinical service
- can be captured quickly

- are sensitive because many episodes of inappropriate care do not cause harm.

Examples of published process indicators of high value include:

- aseptic insertion and management of peripheral or central intravascular devices
- healthcare workers' compliance with hand hygiene and the techniques they used
- perioperative and intraoperative practice such as antibiotic prophylaxis, normothermia, normoglycaemia and appropriate hair removal
- healthcare workers' uptake of immunisation.

Outcome surveillance

Outcome surveillance involves measuring adverse events, a proportion of which are preventable. The sensitivity and specificity of event definitions and the reliability of data collection need to be considered when developing methods to detect adverse events. It is important to create a balance between avoiding false positives (specificity) and picking up true positives (sensitivity), given that true positives are rare events in the overall patient population.

Certain outcome measures — for example, the incidence of healthcare associated methicillin-resistant Staphylococcus aureus (MRSA) bacteraemia — appear to be reliable and have driven practice change, leading to significant improvements in patient safety.

Australia currently has no system-wide approach to measurement of patient mortality caused by or associated with healthcare associated infection (HAI). These deaths are unlikely to be reported using existing mechanisms such as adverse event reporting systems. Mortality from infection may be seen as 'anticipated' even though the occurrence of the infection that led to the death was unanticipated.

A further challenge in measuring patient deaths is differentiating between patients who die with a HAI and those who die from a HAI or suffer serious injury due to a HAI (i.e. attributable injury or death). One new approach is to evaluate such patient deaths to determine whether mortality was unexpected, and then analyse the contributing factors to determine preventable root causes that might be modified in future. In this approach, infection events (usually deaths or BSI) are considered and investigated individually. Although mandated by the UK's National Health Service, evidence of the value of this approach is lacking.

Critical incidents

If there has been a breakdown in an infection prevention and control procedure or protocol, a 'lookback' investigation may be necessary to identify, trace, recall, counsel and test patients or healthcare workers who may have been exposed to an infection, usually a blood borne virus.

Lookback investigations must be managed with due regard to ethical and legal considerations. In the event of such an incident (e.g. failure of sterilisation or disinfection), the local public health unit should be advised immediately.

Monitoring of critical incidents and other sentinel events is an important part of surveillance. Root cause analysis of sentinel events is a structured process for identifying the process and contributing factors, exploring and identifying risk reduction strategies and implementing solutions.

4.4.3 Data collection and management

Surveillance involves:

- defining surveyed events precisely
- systematic collection and validation of data
- analysis and interpretation
- communication of findings to relevant people.

The following epidemiologic principles should be applied during healthcare associated infection (HAI) surveillance:

- Use standardised definitions of infection.
- Use laboratory-based data (when available).
- Collect epidemiologically important variables (e.g. clinical service in hospitals and other large facilities, population-specific risk factors, underlying conditions that predispose to serious adverse outcomes).
- Analyse data to identify trends that may indicate increased rates of transmission.
- Feedback information on trends in the incidence and prevalence of HAI, probable risk factors and prevention strategies and their impact, to the appropriate healthcare workers, administrators, and as required by local and state/territory health authorities.

Surveillance data for quality improvement must be of high quality. The characteristics that qualify data as evidence for action include[375]:

- Representativeness—the data fairly represent the thing measured.
- Accuracy—the data reflect what is intended to be measured.
- Precision—the data and the target of measurement correspond closely.
- Authoritativeness—the data are appropriate for drawing a meaningful conclusion.
- Clarity—the data are presented in a form that the target audience can understand.

Data of this nature are more likely to arise from surveillance processes:

- that involve all stakeholders in design and implementation
- for which there are agreed organisational objectives, and processes that are relevant to the population served
- that use trained staff to collect and manage data, and that provide them with appropriate information technology support
- that use definitions of surveillance events that are unambiguous, practical, specific and can be validated
- that have reliable and practical methods for detecting events
- for which the processes that determine an outcome are thoroughly understood
- for which appropriate denominators are collected for risk adjustment
- for which reporting links measurement to prevention efforts, and meets the needs of both clinicians and managers.

For further information on surveillance, refer to the Australian Commission on Safety and Quality in Health Care's National Healthcare Associated Infection Surveillance initiative[379].

4.4.4 Outbreak surveillance

An outbreak may be defined as the occurrence of infections at a rate greater than that expected within a specific geographical area and over a defined period of time.

Ideally, surveillance systems should facilitate the early detection of outbreaks. Increasingly, microbiological data are being relied on for this purpose, although outbreaks may be detected using other sources such as pharmacy records.

In some instances, the occurrence of an outbreak is obvious, such as in an episode of food poisoning that affects both healthcare workers and patients. It is more usual, however, for the outbreak to have an insidious onset that is not immediately apparent. When an outbreak is detected, the infection prevention and control committee should be informed and an outbreak team formed. Depending on the size and severity of the outbreak, it may be necessary to

involve occupational health and safety staff, facility administrators, engineers and public health officials. Details on the steps involved in the management of an outbreak are provided in Section 3.4.2.

Legislation requires that the relevant public health authority be informed of outbreaks related to notifiable infections. It may also be prudent to involve public health officers at an early stage if an outbreak is likely to come to the attention of the media.

4.4.5 Disease surveillance in office-based practice

All staff members in office-based practices need to be aware of the possibility that patients will present with suspected or confirmed infectious diseases.

For certain diseases, timely notification to the relevant authority will be required, sometimes by telephone. Systems need to be in place so that authorities are able to trace those with whom infectious patients have been in contact. A staff member should be responsible for checking national and state websites for relevant guidelines[376].

In most office-based practices, there will not be enough procedures performed to undertake outcome surveillance. Process surveillance can be used to evaluate processes and procedures and to monitor sentinel events. Systems should be in place for monitoring for threats of outbreaks (e.g. chickenpox [varicella], measles [rubeola]) and emerging diseases (e.g. Candida auris and Hendra virus).

Office-based practices can also play an important role in supporting the surveillance undertaken in acute care facilities by enabling post discharge surveillance[377]. Many surgical site infections, for example, will be identified up to 30 days after surgery, however patients are often discharged during this period. Office-based practices can participate in post-discharge surveillance case findings and report on these findings in order to maintain accurate data on surgical site infections.

4.4.6 Notifiable diseases

Communicable disease surveillance in Australia operates at the national, state/territory and local levels, with the states and territories having primary responsibility for the public health response to events identified by that surveillance.

National notifiable diseases

The Communicable Diseases Network Australia (CDNA) has agreed to a list of communicable diseases which are to be notified nationally and provided to the Commonwealth's National Notifiable Diseases Surveillance System (NNDSS).

See the *CDNA Australian national notifiable diseases and case definitions*[380] for further information.

Human biosecurity

Human biosecurity identifies the pests and communicable diseases that pose the most serious risk to public health in Australia.

The *Biosecurity Act 2015* provides for the management of biosecurity threats posed by people, goods, vessels and aircraft at Australia's international borders. The departments of Health and Agriculture and Water Resources have joint responsibility for administration of the Act, which commenced on 16 June 2016 and fully replaced the *Quarantine Act 1908*.

Under the *Biosecurity Act 2015*, provides for the concept of 'listed human disease'. This identified communicable diseases which require a range of powers and measures to become available to effectively manage significant human health risk.

Listed Human Diseases under the *Biosecurity Act 2015* include:

- human influenza with pandemic potential
- plague
- severe acute respiratory syndrome (SARS)
- Middle East respiratory syndrome
- smallpox
- viral haemorrhagic fevers
- yellow fever.

State and territory health department

Public health legislation in each state and territory mandates the reporting of certain diseases by medical practitioners, hospitals, and/or laboratories to the relevant state or territory Communicable Diseases Unit. Notifications are collected at the state/territory level, and computerised, de-identified records are sent to the Australian Government Department of Health for collation into the NNDSS for analysis at a national level. NNDSS was established in consultation with the CDNA.

- Links to state and territory public health legislation can be found at: http://www.health.gov.au/internet/main/publishing.nsf/Content/cda-state-legislation-links.htm
- In addition to those diseases which are notifiable nationally, a list of diseases which are notifiable in Australian states and territories can be found at: http://www.health.gov.au/internet/main/publishing.nsf/Content/cda-surveil-nndss-casedefs-statedis.htm

4.5 Antimicrobial Stewardship

Summary

- Resistance to antimicrobials is commonly found in Australian hospitals and increasingly so in the community. This resistance can have a significant impact on morbidity, mortality and treatment costs.
- A significant driver of antimicrobial resistance is the unnecessary or inappropriate use of antimicrobials. Around one third of all
- antimicrobial use in healthcare is unnecessary or inappropriately prescribed[381].
- Antimicrobial stewardship is a suite of coordinated strategies which together aim to promote the appropriate use of antimicrobials to maximise their benefit, while causing the least harm.
- Appropriate antimicrobial use occurs when antimicrobials are prescribed according to evidence-based guidelines, with drug choice, indication, dose and duration selected to optimise clinical outcomes and minimise adverse consequences (including antimicrobial resistance, toxicity and unnecessary costs).
- Surveillance of antimicrobial usage and resistance can be used to identify areas for improvement and measure the impact of antimicrobial stewardship programs.
- Infection prevention and control is recognised as an essential part of an effective response to antimicrobial resistance.

4.5.1 Antimicrobial resistance in Australia

Antimicrobial resistance

Antimicrobial resistance is recognised as a significant global health priority. The relationship between the unrestrained use of antimicrobials in all human health settings, agriculture and animal husbandry and the emergence of bacterial resistance is well documented.

The drivers of antimicrobial resistance are interlinked, with the use of particular antimicrobial classes associated with the emergence and amplification of specific multi-resistant pathogens, particularly *C. difficile*, methicillin-resistant Staphylococcus aureus (MRSA), vancomycin-resistant enterococci (VRE) and multi-resistant Gram negative (MRGN) organisms. If unchecked, high levels of antimicrobial usage increases the number of patients who are colonised or infected with resistant organisms, both in healthcare facilities and in the community[382][385].

Whilst the impact of antimicrobial resistance in Australia is yet to be quantified, in the United States it is expected to be responsible for at least 23,000 deaths and more than two million illnesses per year[384]. The World Health Organization (WHO) has called for governments to commit to a comprehensive national plan against antimicrobial resistance and has developed a Global Action Plan (2015) on antimicrobial resistance—http://www.who.int/antimicrobial-resistance/global-action-plan/en/.

The additional costs of infections caused by resistant organisms include:

- the need for more expensive and broader spectrum antimicrobials to treat the infections
- the need to isolate patients colonised with resistant organisms in order to minimise cross-infection
- the need for additional requirements such as personal protective equipment etc.

The role of infection prevention and control

Infection prevention and control practices are recognised in Australia and internationally as a key part of an effective response to antimicrobial resistance. Preventing infection reduces the need for antimicrobials and the opportunity for organisms to develop resistance. Vaccination (as discussed in Section 4.2, in particular Section 4.2.1) can also reduce antimicrobial resistance through preventing infectious diseases and reducing the prevalence of primary viral infections, which are often inappropriately treated with antimicrobials.

Antimicrobial use in Australia

Although Australia has seen a decline in antimicrobial use in the community since 2015, Australia remains in the top quarter of countries for antimicrobial use, as measured by defined daily doses (DDD) per 1,000 inhabitants, compared with European countries and Canada[386]. Australian antimicrobial use continues to be above the average of these countries, particularly compared with Scandinavian countries and the Netherlands, which are often seen as benchmark countries for antimicrobial use and resistance[386].

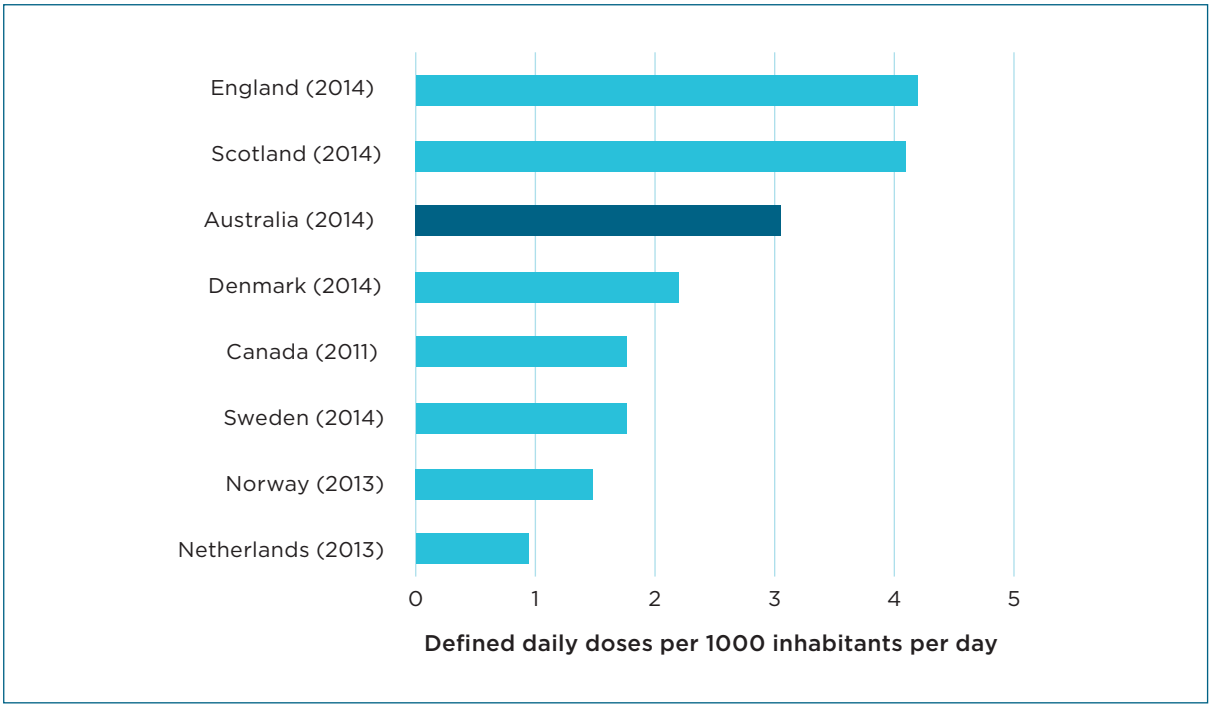


Figure 14. Antimicrobial use in Australian hospitals and other countries[381]

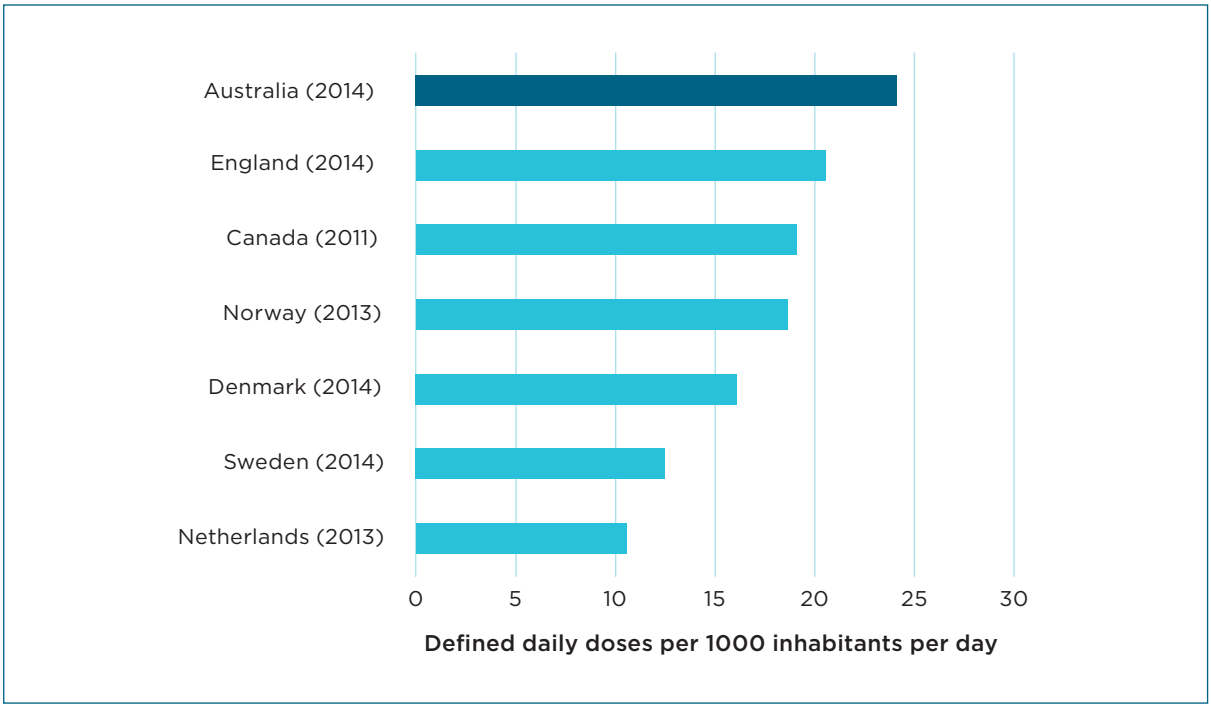


Figure 15. Antimicrobial use in the community in Australia and in other countries[381]

In 2017, 41.5% (n = 10,215,109) of the Australian population had at least one antibiotic dispensed under the Pharmaceutical Benefits Scheme/Repatriation Pharmaceutical Benefits Scheme[386].

The overall rate of inappropriate prescribing in hospitals that participated in the National Antimicrobial Prescribing Survey (a voluntary survey that assesses the appropriateness of antimicrobial use in hospitals) has been static since 2013. In 2017, 23.5% of prescriptions assessed were found to be inappropriate[386]. The conditions for which the highest proportions of prescriptions were assessed as inappropriate were surgical prophylaxis, infective exacerbation of chronic obstructive pulmonary disease and trauma[386].

Antibiotic use in hospitals, measured by voluntary participation in the National Antimicrobial Utilisation Surveillance Program, varied among states and territories, and among peer groups[386]. Antimicrobial use in aged care homes is a persistent concern with almost 1 in 10 residents of aged care homes that participated in the Aged Care National Antimicrobial Prescribing Survey being prescribed at least one antimicrobial; more than half of those were for residents with no signs or symptoms of infection[386].

4.5.2 Antimicrobial stewardship programs

What is antimicrobial stewardship?

Antimicrobial stewardship is a suite of coordinated strategies which together aim to promote the appropriate use of antimicrobials to maximise their benefit, whilst causing the least harm. Antimicrobial stewardship programs should be implemented across the entire spectrum of healthcare facilities - including in community and residential care.

Antimicrobial stewardship programs in hospital/acute settings

Successful antimicrobial stewardship programs have been associated with reduced facility resistance rates as well as reduced morbidity, mortality and associated costs. Some Australian hospitals have also demonstrated significant cost savings through a reduction in drug costs. Antimicrobial stewardship programs require a multidisciplinary approach which utilises the expertise and resources of infectious diseases physicians, clinical microbiologists and pharmacists. Antimicrobial stewardship programs should reside within the hospital's quality improvement and patient safety governance structure. They should be tailored depending on the organisational context and factors such as size of the facility, staffing and resourcing[387]. The literature demonstrates that the success of antimicrobial stewardship programs depends on the support of the hospital administration, the allocation of adequate resources, and the cooperation and engagement of prescribers[383].

The density of antimicrobial use within specialised units such as intensive care units, haematology and oncology units, and solid-organ transplant units is several-fold higher than in other hospital settings. This increased use has been shown to generate high rates of antimicrobial resistance; therefore, these areas should be a particular focus for surveillance and intervention.

Key requirements of a healthcare facility antimicrobial stewardship program[383][387]

Essential strategies for all hospitals:

- Implement clinical guidelines that comply with the latest version of the *Therapeutic Guidelines: Antibiotic* and that take into account local microbiology and resistance patterns.
- Develop, review and maintain antimicrobial prescribing policies. This should include formulary restriction and approval systems that cover restriction of broad-spectrum antibiotics to those patients where use is clinically justified.
- Review individual antimicrobial prescribing with intervention and direct feedback to the prescriber.
- Monitor antimicrobial prescribing and report on antimicrobial use and outcomes.
- Ensure selective reporting of susceptibility testing results that is consistent with hospital antimicrobial treatment guidelines by the clinical microbiology laboratory.
- Ensure ongoing education and training for health professionals and consumers about antimicrobial stewardship, antimicrobial resistance and safe and appropriate antimicrobial use.
- Use information technology such as electronic prescribing with clinical decision-support or online approval systems.
- Use point-of-care interventions, including streamlining or de-escalation of therapy, dose optimisation, parenteral to oral conversation.
- Annually publish antimicrobial usage and antimicrobial susceptibility data.

The Australian Commission on Safety and Quality in Health Care website has a range of resources and materials to support appropriate antimicrobial prescribing and use, and implementation of antimicrobial stewardship programs in Australian healthcare - see: https://www.safetyandquality.gov.au/our-work/healthcare-associated-infection/antimicrobial-stewardship/.

Antimicrobial stewardship in other healthcare settings

There is a strong need to implement Antimicrobial Stewardship Programs in other healthcare settings, particularly in residential aged care facilities where the infection risk for elderly patients is high. There is increasing concern about the widespread use of antimicrobials in aged care settings, with many prescriptions deemed unnecessary or inappropriate[389].

Whilst there may be barriers to implementing antimicrobial stewardship programs in aged care settings including resourcing issues and lack of access to laboratories, Antimicrobial Stewardship activities that are tailored to this setting can be very ef fective.

Some strategies which may be feasible to implement in aged care settings include[388]:

- educating healthcare staff on appropriate antimicrobial prescribing and antimicrobial resistance and providing feedback on their prescribing practices
- implementing facility wide tracking and reporting on antimicrobial use and resistance
- designating staff members, such as a medical director or director of nursing, to be accountable for promoting and overseeing antimicrobial stewardship activities
- implementing policies that support optimal antimicrobial use.

Further information on antimicrobial stewardship strategies and interventions can be found in *Antimicrobial Stewardship In Australian Health Care 2018*[390].

4.5.3 Antimicrobial stewardship surveillance methods

Healthcare facilities

Continuous surveillance of the appropriateness of antimicrobial prescribing should be the ultimate aim of any stewardship program. There are two main methods of antimicrobial data collection in healthcare facilities, patient level surveillance and population surveillance:

- ***Patient level surveillance*** involves collecting data about the dose, dosage interval, indication, antimicrobial choice and duration of therapy for individual patients, usually collected as a point prevalence survey. This approach can be used to measure the appropriateness of the use of antimicrobials. Such information is usually only available through reviews of patient records, although electronic prescribing and recording of drug administration will make patient level surveillance more practical in the future.
- ***Population surveillance*** involves aggregating antimicrobial use data, mostly supplied through pharmacy reports, and summarised at the level of a hospital or unit. Currently, this type of surveillance is the only realistic alternative for ongoing and systematic monitoring of antimicrobial use. In most Australian hospitals, data from issues confronted in wards combined with individual patient dispensing records are used. Another data collection method is to use pharmacy purchase data; however, this is less accurate than ward issues and individual inpatient supplies.

Participation in jurisdictional or national data collection programs allows for healthcare facilities to monitor antimicrobial use against similar hospitals and access auditing tools. The *National Antimicrobial Utilisation Surveillance Program* (NAUSP) provides hospitals with a method to report on the volume of hospital inpatient antimicrobial usage and reports to the Australian Commission on Safety and Quality in Health Care on an aggregated and Australian Institute for Health and Welfare (AIHW) peer group basis. In excess of 200 hospitals from all states and territories currently contribute to NAUSP; including all principal referral hospitals.

Similarly, the *National Antimicrobial Prescribing Survey (NAPS)* can be used to measure the appropriateness of antimicrobial prescribing practices within Australian healthcare settings. NAPS is a standardised data collection tool that collects data from healthcare facilities on their prescribing behaviours and allows for the audit and review of antimicrobial use. NAPS is a component of the Antimicrobial Use and Resistance in Australia (AURA) Surveillance System.

Community

Measurement of community antimicrobial use is generally based on prescription data. In Australia, this is collected from two sources: Australian Government Department of Human Services pharmacy claim records of prescriptions submitted for payment under the Pharmaceutical Benefits Scheme (PBS) and Repatriation Pharmaceutical Benefits Scheme (RPBS); and Drug Utilisation Subcommittee database. These data also include antimicrobials dispensed to outpatients and discharged patients in most states. NPS MedicineWise MedicineInsight program collects and reports on the appropriateness of antimicrobial use in general practice.

Further information on antimicrobial stewardship strategies and interventions can be found in *Antimicrobial Stewardship In Australian Health Care 2018*[390].

4.6 Influence of facility design on healthcare associated infection

Summary

The design of a healthcare facility can influence the transmission of healthcare associated infections by air, water and contact with the physical environment. Whilst there is little high quality evidence relevant to the effects of specific design features on health outcomes, data from case reports and published literature relating to outbreaks shows that the design of buildings can have an impact on rates of healthcare associated infections. Infection prevention and control requirements need to be taken into account during the planning, design and construction of all healthcare facilities.

Key design features that minimise the transmission of infection include:

- surface finishes that are easy to maintain and clean (floors, walls, benches, fixtures and fittings)
- ventilation, air conditioning, cooling towers and water systems that meet Australian standards for the facility they are to service
- the ability to isolate patients:
  - in a single room (infectious patients)
  - in a negative pressure room (to prevent transmission of airborne pathogens)
  - triaging of patients in waiting rooms with separation of infectious patients
- positive pressure rooms for immunocompromised patients
- appropriate workplace design:
  - separation of procedural and cleaning areas
  - movement of work flow systems
  - ready access to hand hygiene facilities
  - adequate storage for all patient-care items
  - easily accessible storage for personal protective equipment
  - adequate waste management procedures and linen handling
- involvement in demolition, construction and renovation projects of a multidisciplinary team that includes infection prevention and control staff to coordinate preventive measures.

Information about infection prevention and control during construction or renovation of a healthcare facility is at Case Study 5.15 and further information is available in the *Australasian Health Facility Guidelines (2016)*[391].

4.6.1 Mechanisms for influencing healthcare associated infection through environmental design

Many studies indicate that infection rates are lower when there is very good air and water quality, greater physical separation of patients and greater space per patient (with isolation where appropriate).

Reducing airborne transmission

Reservoirs for airborne pathogens include[415]:

- dust (e.g. spores of *Aspergillus*)
- aerosols (e.g. tuberculosis [TB], severe acute respiratory syndrome [SARS], influenza, chickenpox)

- skin scales shed by patients infected or colonised with methicillin-resistant Staphylococcus aureus (MRSA).

Approaches to airborne transmission

Approaches to reducing airborne transmission include:

- installation of effective air filtration
- specifying appropriate ventilation systems and air change rates (e.g. negative airflow pressure)
- employing monitoring and control measures during construction or renovation
- using single-bed instead of multi-bed rooms
- the use of anterooms.

Specific examples

In dental practices, engineering rules state there must be separation between inlet air for compressors and air conditioning outlets[396].

Gastrointestinal endoscopy suites should be organised and planned carefully to ensure endoscopes are not re-contaminated or damaged. Endoscopy suites also need good ventilation to minimise staff inhalation of biological aerosols[403].

Filtration

An effective way to prevent infections is to control the source of pathogens. Heating, ventilation and air-conditioning systems control the concentration of airborne particulates in high risk areas, to minimise the risk of infection by means of air pressure, flow control and air filtration (the physical removal of particulates from air). The level of control should be proportional to the risk.

In acute healthcare settings, a commonly used approach to filtration is the high efficiency particulate air (HEPA) filter[414]. There is evidence that there is a lower incidence of infection when immunocompromised and other high-acuity patients are housed in HEPA-filtered isolation rooms. HEPA filters must comply with **Standard AS 1324.1: 2001, Standard AS 1324.2: 2003 and Standard AS 4260.** For further information on HEPA filters, see the current *Australasian Health Facility Guidelines*[391].

Ventilation systems and airflow control

Optimal ventilation rates, airflow patterns and humidity can help to minimise the spread of infection.

The ventilation rate is a measure used to control indoor air quality, and in healthcare facilities is usually expressed as room air changes per hour (ACH). The peak efficiency for particle removal in the air space often occurs between 12 ACH and 15 ACH. **Standard AS 1668.2: 2012 and Amendment 2: 2016** states that isolation rooms should have a minimum of 15 ACH; however, there is a lack of consistency in the minimum ventilation requirements needed for effective prevention of infections. A study of 17 Canadian hospitals found that the risk of healthcare workers acquiring TB was strongly linked with exposure to infected patients in rooms with low ACH rates, such as waiting areas[407].

Airflow direction is also important:

- **Negative airflow pressure** is preferred for rooms housing infectious patients to prevent the dispersion of pathogen-laden aerosols (e.g. measles [rubeola], TB, chickenpox [varicella]), dust and skin scales from the locus of the infected patient to other spaces. A review of 40 studies concluded that there is strong evidence to support and recommend the use of negatively pressurised isolation rooms[406].
- **Positive airflow pressure** is desirable in the care of immunocompromised patients (e.g. surgical patients, patients with underlying chronic lung disease, or dialysis patients) and immunosuppressed patients (e.g. transplant patients or cancer patients) to safeguard them from aerial pathogens entering from adjacent spaces.

Maintenance systems

Ventilation and airflow control systems need to be maintained regularly by suitably qualified staff according to an agreed maintenance plan, and accurately documented in a maintenance record.

Maintaining air quality during construction or renovation

Effective control and prevention measures are necessary during construction and renovation within a healthcare facility, because such activities have been frequently implicated in outbreaks of airborne infection. The key to eliminating infections is to minimise the dust generated during the construction activity and to prevent dust infiltration into patient-care areas near the construction. Examples of such measures include installing barriers between patient-care areas and construction/renovation areas, generating negative air pressure for construction/renovation areas relative to patient-care areas, using portable HEPA filters and sealing patient windows.

For more information, refer to the Centers for Disease Control and Prevention Guidelines for Environmental Infection Control in Health- Care Facilities (2004)[411] and Australasian Health Facility Guidelines (2016)[393].

Reducing infections spread through the physical environment

The prevention of contact-spread infections is of paramount importance in healthcare settings. Contact contamination is generally recognised as the principal transmission route of healthcare acquired infections, including pathogens such as MRSA, *C. difficile* and vancomycin-resistant enterococci (VRE), which survive well on environmental surfaces and other reservoirs.

Environmental routes of contact-spread infections include direct person-to-person contact and indirect transmission via environmental surfaces.

Reducing surface contamination through hand-hygiene compliance

Healthcare workers' hands play a key role in both direct and indirect transmission (see Section 3.1.1). Given the importance of maximising hand-hygiene compliance, it is absolutely essential that all areas of the facility are designed to facilitate compliance with hand-hygiene requirements.

Accessibility

Conveniently located alcohol-based product dispensers, sinks and basins can facilitate healthcare worker compliance with hand-hygiene requirements[56].

Hand-hygiene compliance can be increased by providing a greater number of alcohol-based product dispensers, particularly if they are placed in appropriate locations (where clinical care is provided [e.g. bedside] or where indirect care tasks are performed). Other aspects of design that may increase compliance include automated dispensers of hand-hygiene products, electronic monitoring and computerised voice prompts.

Alcohol-based hand rub dispensers need to be suitably located out of the reach of children, or in supervised locations. Placement of dispensers must be carefully considered in mental health facilities and alcohol withdrawal units. Further guidance is available from the *National Hand Hygiene Initiative* (www.safetyandquality.gov.au/NHHI).

Consideration needs to be given to ensuring availability of basins for healthcare workers that are separate from patient bathrooms.

As well as being installed in all patient-care areas, hand-hygiene facilities should be placed in all areas where careful attention to hygiene is essential, such as kitchens, laundries, pharmacies, laboratories and staff amenities areas (e.g. bathrooms, toilets and change rooms). This also includes in specific settings such as treatment/procedure rooms[396].

Personal protective equipment

It is also essential that all areas of the facility are designed to facilitate appropriate use of PPE. All rooms should have dedicated and accessible areas for storage of gowns, aprons, gloves, masks and protective eyewear.

Separation of procedural and cleaning areas

The instrument reprocessing area also requires sufficient physical space to allow separation of soiled instruments from those that have been cleaned or sterilised. Ideally, the area where instruments are cleaned will be physically separated from the areas where cleaned instruments are packaged and sterilised.

Control of surface contamination through material selection

Ease of cleaning should be a key consideration in selecting appropriate floor and furniture coverings. Several design-related factors should be considered to minimise the risk of infection stemming from contaminated surfaces:

- the nature and type of contamination that is likely to occur
- if a suitable cleaning method for that surface can be performed.

Areas that may be in direct contact with blood and body substances (e.g. surfaces such as floors and bench tops) need to be made of impervious material that is smooth and easy to clean.

Healthcare flooring

A wide range of floor covering materials is used in healthcare settings. These include but are not limited to: ceramic tiling, linoleum, rubber, textile floor covering, vinyl, sheet terrazzo, cork, timber laminates, mats and matting, cementitious toppings, seamless coatings and outdoor flooring.

When selecting floor covering for a health care setting consideration needs to be given to the following:

- Who is at risk of acquiring infection?
- What is the risk of exposure to the infectious agents?
- What is the nature of the possible infectious agents?
- How can the agent be transmitted?—for example, airborne; through cleaning techniques; through contact, especially in environments in which there are young children.

Floor coverings should be clean and easy to repair. In areas subject to frequent wet cleaning, floor materials must be able to tolerate the use of disinfectants. In areas where sterilizing services take place, flooring should be non-slip and have smooth surfaces for cleaning[410].

Carpeting should be avoided in clinical areas where patient care and treatments are undertaken, including areas where[411]:

- spills are likely to occur (e.g. around sinks or in isolation or soiled utility/holding areas)
- patients may have direct contact with contaminated carpets (e.g. children/babies crawling on the floor)
- patients are at greater risk of airborne infections.

However, carpeting may offer advantages unrelated to infection prevention and control, including noise reduction[410]. Carpet may be used in areas within clinical zones such as interview rooms and office areas. Textile floor finishes should not be considered unless there is a comprehensive maintenance and replacement program in place complying with **Standard AS/NZS 3733:2018.** Manufacturer's recommendations need to be considered in the care and maintenance of floor covering.

Furnishings

It has been identified that fabric-covered furniture can be a source of VRE infection in hospitals and suggested the use of easily cleanable, non-porous material is preferable[409].

A study comparing the performance of a variety of furniture upholstery types with respect to VRE and *Pseudomonas aeruginosa* (PSAE) contamination[416] found that performance was similar across different furniture coverings in terms of reductions in VRE and PSAE after

cleaning and the transfer of VRE and PSAE to hands through contact. However, while there were no differences in the ability of different upholstery types to harbour PSAE, the VRE pathogen survived less well or for shorter periods on vinyl[416].

Requirements for finishes of items may vary depending upon the location used e.g. fabric upholstery on chairs may not be permitted in clinical areas.

Blinds and curtains should be easy to clean and discourage the accumulation of dust.

For further information on furniture and fittings, see the current *Australasian Health Facility Guidelines*[391].

Reducing water-borne transmission

Compared with airborne and contact transmission of infection, fewer studies were identified on waterborne transmission in relation to healthcare facility design factors. The literature nonetheless is clear that waterborne infections can be a serious threat to patient safety. Many bacterial and some protozoal microorganisms can proliferate or remain viable in moist environments or aqueous solutions in healthcare settings[411].

Contaminated water systems in healthcare settings (such as inadequately treated wastewater) may lead to the pollution of municipal water systems, enter surface or ground water, and affect people in the community[405].

Sources of water contamination

The CDC/Healthcare Infection Control Practices Advisory Committee (HICPAC) guidelines[411] identify the following categories of environmental routes or sources of waterborne transmission:

- direct contact, such as hydrotherapy[394]
- ingestion of water, such as drinking water[400][413]
- inhalation of aerosols dispersed from contaminated water sources, such as improperly cleaned or maintained cooling towers, showers[408], respiratory therapy equipment and room air humidifiers
- aspiration of contaminated water.

Approaches to reducing waterborne transmission

Water supply system

The water supply system should be designed and maintained with proper temperature and adequate pressure; stagnation and back flow should be minimised and dead-end pipes should be avoided.

To prevent the growth of *Legionella* and other bacteria, the CDC/HICPAC guidelines[411] recommend that healthcare facilities maintain cold water at a temperature below 20°C, store hot water above 60°C, and circulate hot water with a minimum return temperature of 51°C.

When the recommended standards cannot be achieved because of inadequate facilities that are unable to be renovated, other measures such as chlorine treatment, copper-silver ionisation, or ultraviolet lights are recommended to ensure water quality and prevent infection[411].

Point-of-use fixtures

Water fixtures such as sinks, faucets, aerators, showers, and toilets have been identified as potential reservoirs for pathogenic microorganisms[398][400][408][413]. Such fixtures produce aerosols that can disperse microbes and they have wet surfaces on which moulds and other microorganisms can proliferate. However, empirical evidence linking these fixtures to HAIs is still limited; no consensus has been reached regarding the disinfection or removal of these devices for general use[411].

Regular cleaning, disinfection and preventative maintenance programs should be provided, especially in areas housing immunocompromised patients.

Ice machines

Ice storage receptacles and ice-making machines should be properly maintained and regularly cleaned. Ice and ice-making machines may be contaminated through improper handling of ice by patients and/or staff. Ice for human consumption should be differentiated from ice for first aid or storage of clinical specimens. Pharmaceuticals or medical solutions should not be stored on ice intended for consumption.

Machines that dispense ice are preferable to those that require ice to be removed from bins or chests with a scoop. Ice machines and their dispensers should be flushed and cleaned if they have not been disconnected before anticipated lengthy water disruptions.

All ice-storage chests should be cleaned, disinfected, and maintained on a regular basis as per manufacturers' instructions. Suggested steps to avoid improper handling of ice include[411]:

- avoiding handling ice directly by hand
- washing hands before obtaining ice
- using a smooth-surface ice scoop to dispense ice
- keeping the ice scoop on a chain short enough that the scoop cannot touch the floor, or keeping the scoop on a clean, hard surface when not in use
- avoiding storing the ice scoop in the ice bin.

Water features

Despite the absence of empirical documentation linking properly maintained fountains to healthcare-acquired infections, it is suggested that fountains not be installed in enclosed spaces in healthcare facilities.

5. APPENDIX 1: Case studies and examples

Summary

The following risk-management case studies and examples provide practical guidance on how to implement infection control recommendations and practice statements in practice.

This section covers:

- **5.1** — Risk-management: Case study for hand hygiene in a neonatal intensive care unit
- **5.2** — Risk-management: Case study for glove use, hand hygiene and seasonal influenza vaccination in an office-based practice
- **5.3** — Example: Education in practice—hand hygiene
- **5.4** — Risk-management: Case study for the prevention of needle-stick injury during surgery at a tertiary referral hospital
- **5.5** — Risk-management: Case study for spills management in a busy paediatric ward
- **5.6** — Risk-management: Case study for reprocessing of instruments in a dental practice
- **5.7** — Risk-management: Case study for Klebsiella pneumoniae sepsis in a neonatal unit
- **5.8** — Risk-management: Case Study for influenza in a long-term care facility
- **5.9** — Risk-management: Case study for M. tuberculosis
- **5.10** — Risk-management: Case study for M. tuberculosis among immunocompromised patients attending outpatient services
- **5.11** — Examples of how to perform aseptic technique
- **5.12** — Risk-management: Case study for norovirus outbreak in a long-term care facility
- **5.13** — Risk-management: Case study for management of confirmed case of CPE
- **5.14** — Risk Management: Case study for VRE outbreak in a large tertiary-care referral hospital
- **5.15** — Risk-management: Case study for infection prevention during renovation of emergency department

5.1 Risk-management: Case study for hand hygiene in a neonatal intensive care unit

The neonatal intensive care unit in a large regional hospital identifies colonisation or infection with Pseudomonas aeruginosa in a number of infants. Surveillance cultures from other infants in the unit, from the hands of staff on the unit and from possible environmental reservoirs are assessed. The cultures show that an additional three infants are colonised. Cultures of environmental specimens are negative but cultures of three of twenty-four healthcare workers are positive. Of these, two have recently joined the unit and received no education on hand hygiene in orientation and the third has artificial fingernails.

Table A1.1. Case study for hand hygiene in a neonatal intensive care unit

Eliminating risks In this situation, it is not possible to eliminate risk, so it must be managed.
Identifying risks In this case, the risk has been identified as cross-transmission of *Pseudomonas aeruginosa*. Ongoing surveillance would assist in identifying other infectious agents that may be present in the neonatal intensive care unit.
Analysing risks One source of the risk is the lack of appropriate hand hygiene practices by some staff members. Each time these staff members are involved in the care of an infected or colonised infant, there is potential for spread of the infectious agent (to other infants and to staff members), with the risk continuing until appropriate hand hygiene practices are performed. Further, neonates are at a greater risk of infection than an average patient because their immune system has not properly developed yet. There is no mention in the case study of existing controls to counter the risk (e.g. use of gloves) but these would need to be included in the analysis, as would other possible causes of the risk (e.g. line setup, type of hand hygiene products available, reprocessing of equipment).
Evaluating risks The balance of likelihood and consequences identify this as a 'very high risk' situation requiring immediate response including daily observations by clinical managers.
Treating risks Immediate measures may include the provision of alcohol-based hand rub next to each incubator, introducing clustering of patient-care activities to reduce contact and providing staff education sessions. In the longer term, improvements could be made to facility orientation processes. Banning the use of artificial fingernails in neonatal intensive care units may also be considered.
Monitoring Hand hygiene compliance could be audited through direct observation by trained observers.

5.2 Risk-management: Case study for glove use, hand hygiene and seasonal influenza vaccination in an office-based practice

As part of an audit of hand hygiene practices during influenza season in a general medical practice, a general practitioner (GP) identifies a poor rate of compliance with the 5 Moments for Hand Hygiene in her practice when the results are compared with Primary Health Networks benchmarks. The practice comprises five GPs and two part-time practice nurses. Practice policy is that staff members use gloves for patient contact, changing gloves between patients. There is no recommendation in the policy for hand hygiene between different care activities for the same patient or after removing gloves. There is no policy on vaccination of the workforce for annual seasonal influenza vaccination to be offered or assessed.

Table A1.2. Case study for glove use, hand hygiene and seasonal influenza vaccination in an office-based practice

Eliminating risks

Patients with influenza may be infectious both before and after they present with symptoms. In this situation it is not possible to eliminate risk, so it must be managed.

Staff in the general practice who have not been vaccinated for seasonal influenza may be at increased risk of contracting influenza from patients or transmitting it to patients if they are at work whilst infectious. This situation is possible and needs to be managed in the general practice. The risk can be minimised by offering or assessing annual seasonal influenza to staff and having a policy where staff who are unvaccinated limit contact with possible cases and use appropriate personal protective equipment (PPE).

Identifying risks

The risk has been identified as cross-transmission of influenza, with higher than usual rates occurring. An audit of the healthcare workers to determine who has received annual seasonal influenza vaccination.

An audit of cases of other infections that may be transmitted in the healthcare environment would assist in identifying other infectious agents that may also be occurring at high rates in the practice.

Analysing risks

Wearing gloves does not replace the need for hand hygiene. One source of the risk has been identified as the lack of hand hygiene before and after use of gloves.

Each time a patient carrying influenza is examined, there is potential for the spread of the infectious agent directly to the unvaccinated healthcare worker or from the glove to the healthcare worker's hand and to the gloves worn for subsequent patients. The same applies for other infectious agents spread by contact or droplet routes.

Existing controls such as availability of alcohol-based hand rub or hand washing facilities, and other sources of risk such as environmental surfaces would also need investigation.

Evaluating risks

The balance of likelihood and consequences identify this as a 'very high risk' situation requiring immediate response.

5.3 Example: Education in practice - hand hygiene

Although the concept of hand hygiene is straightforward, improving hand hygiene practices involves changing attitudes and behaviour among healthcare workers. Numerous barriers to appropriate hand hygiene have been reported, several of which reflect a lack of understanding and knowledge, including the following[61]:

- all hand hygiene agents being thought to cause skin irritation and dryness
- patient needs being perceived to take priority over hand hygiene
- perception that glove use dispenses with the need for additional hand hygiene
- belief that there is insufficient time for hand hygiene, due to high workload
- inadequate knowledge of guidelines or protocols for hand hygiene
- lack of role models
- lack of recognition of the risk of cross-transmission of microbial pathogens.

National Hand Hygiene Initiative

The National Hand Hygiene Initiative aims to implement a national approach to improving hand hygiene and monitoring its effectiveness. In the initiative, healthcare worker education is a key component of a multi-modal intervention strategy, involving basic educational sessions for all healthcare workers, including:

- definition, impact and burden of healthcare associated infection
- common pathways for disease transmission - specifically the role of hands
- prevention of HAIs and the role of hand hygiene
- 5 Moments for Hand Hygiene - with key messages
- when to perform hand hygiene
- use of alcohol-based hand rubs
- use at point of care.

As well as introductory educational sessions, a program of formal regular sessions and updates is recommended, taking the form of specific orientation programs, in-service lectures and/or special workshops. All education sessions are supported by an online training package, DVD, video demonstrations of each of the five moments, and slide presentations.

Other opportunities for education include:

- informal education opportunities in day-to-day activities such as nursing ward rounds, clinical unit meetings, increased presence on the ward by infection prevention and control staff, and prompt feedback of compliance results
- promotional activities to raise awareness, with promotional products (e.g. stickers) or incentives for staff who attend education sessions
- regular scientific presentations at surgical and medical meetings
- a multi-modal approach has also found to be effective, led by hand hygiene champions.

All healthcare workers should be regularly assessed for their hand hygiene compliance and be provided with rapid feedback of results (see 3.5.1).

Since data was first collected in 2009, the national compliance rate for hand hygiene in Australian hospitals has risen from 63.5% to 84.6% in 2017.

Other measures to increase compliance with hand hygiene are discussed in Section 4.6.

5.4 Risk-management: Case study for the prevention of needlestick injury during surgery at a tertiary referral hospital

As part of the revision of infection control policies at a tertiary referral hospital, an analysis of the risk of percutaneous blood and body substance exposure during surgical procedures was undertaken. Separate analyses were conducted for different device types and for different members of the surgical team. Surgeons and first assistants were at highest risk for injury, suffering more than half of injuries in the operating room, followed by scrub nurses and technicians, anaesthetists and circulating nurses. Rates of needle-stick injury increased with estimated blood loss and surgery duration. Suture needle injuries were the most common and mostly occurred during wound closure.

A considerable number of injuries also occurred while passing sharp instruments hand-to-hand. As many as one-third of devices that caused injuries came in contact with the patient after the injury to the healthcare worker. However, only a small proportion of injuries to surgeons (0.5%) involved hollowbore vascular access needles, which are defined as 'high risk'.

Table A1.3. Case study for the prevention of needlestick injury during surgery at a tertiary referral hospital

Eliminating risks Although the risk of injury varies for different healthcare team members, it is never zero and must be managed.
Identifying risks In this case, the risk has been identified as exposure of healthcare workers to blood and body substances (and potential infection) through suture needle injury. Risks associated with sharps injuries can be increased when the sharp is hollowbore needle (e.g. hypodermic needle) compared to a solid needle or sharp (e.g. suture needle) due to the increased risk of exposure to blood. As a high proportion of devices causing injury came into contact with the patient after injury to the healthcare worker, there could also be a risk of transmission of blood-borne infection to the patient.
Analysing risks The fundamental source of risk is the need to use sharps coupled with the potential for a patient to be a source of infection. The level of risk increases with duration of procedure and amount of blood lost. Other factors that may contribute to the risk are levels of staff training and experience, staffing levels, the existence of a hospital policy for safe use of sharps and compliance with the policy. Other factors that would need to be included in the analysis are existing controls to mitigate risk (e.g. double gloving) and other possible causes (e.g. poor surgical technique increasing blood loss and procedure duration).
Evaluating risks The balance of likelihood and consequences identify this as a 'very high risk' situation requiring immediate response.

Treating risks

All healthcare workers should understand their obligation to report all sharps injuries, whether or not there was a risk of patient exposure. Comprehensive reporting is required to enhance surveillance of possible blood-borne virus (BBV) transmission.

Healthcare workers who are BBV positive and who undertake exposure-prone procedures must be familiar with the current standards of infection prevention and control and have an action plan in place in the event of a potential transmission event that includes reporting the event according to local policies.

Immediate measures to treat the risk may include providing staff education, use of blunt suture needles and a neutral zone for passing surgical equipment, and double gloving during long surgery.

In the longer term, reviewing local policy on the prevention of needlestick injury and raising awareness of measures to reduce injury among staff members might also be considered.

Monitoring

Changes in adverse events could be evaluated by repeating the analysis after implementation of changes.

5.5 Risk-management: Case study for spills management in a busy paediatric ward

A visitor to the paediatric ward in a small regional hospital notices that the child in the next bed is vomiting and has diarrhoea. The ward is extremely busy and the two nurses on duty are fully occupied. The child's mother has cleaned up any spills, but there are still traces of vomit on the bedside table. Later the visitor notices that equipment is being placed on this table. When there is a lull in activity in the ward, the visitor approaches one of the nurses and mentions what she has noticed. The nurse is grateful for the advice and the quiet period is used for more thorough cleaning of surfaces around the vomiting child. The nurse thanks the mother for her assistance and explains to her the importance of thorough cleaning and hand hygiene in the prevention of transmission of infection.

Table A1.4. Case study for spills management in a busy paediatric ward

Eliminating risks

Ideally, this risk can be eliminated through immediate removal and cleaning of spills. However, in many situations it is more likely that the risk will be managed.

Identifying risks

The risk has been identified as potential cross-transmission of Norovirus through environmental contamination.

Analysing risks

One source of the risk has been identified as inadequate environmental cleaning by a visitor resulting in potential contamination of equipment placed on environmental surfaces (bedside table) or hands touching this surface.

There is then potential for direct or indirect spread of infection to other patients, visitors and healthcare workers.

There are likely to be other infectious agents that could be transmitted in the same way (e.g. rotavirus).

Evaluating risks

The balance of likelihood and consequences identify this as a 'high risk' situation requiring immediate response.

Treating risks

Immediate measures may include raising patient and visitor awareness of hygiene measures (including hand hygiene as well as environmental cleaning). This could be done through posters and/or discussion with patients and carers on admission.

Longer-term measures could include revision and implementation of environmental cleaning policies and involvement of patients/visitors in this review.

Retrospectively, a review would be undertaken to determine why the patient was or wasn't placed in a single room as per contact precautions.

Monitoring

Changes in practice could be monitored through observation of patient/visitor behaviour.

5.6 Risk-management: Case study for reprocessing of instruments in a dental practice

A patient attends a dental practice for a scaling and cleaning of his teeth. He has moderate periodontal disease with inflamed gingiva (gums). The dentist uses both an ultrasonic scaler (which creates aerosol) and very sharp hand scalers and curettes. Neither the dentist nor the assistant wears a mask. To protect the tongue and cheeks of the patient from being injured by the sharp instruments, a dental mirror is used to retract them. The mirror consists of a handle into which a mirror head is screwed. The handle of the mirror has a corrugated surface so that it doesn't slip. During this procedure the mirror gets covered in blood from the bleeding of the inflamed diseased gums.

Table A1.5. Case study for reprocessing of instruments in a dental practice

Eliminating risks

Proper reprocessing of the instrument, operator and assistant care in the use of sharp instruments and protecting against possible aerosol exposure has the potential to eliminate the risk.

Identifying risks

There is a risk of exposure of other patients to blood borne viruses if the mirror is not reprocessed properly. There is also a risk of exposure of staff to aerosol infectious agents (influenza in particular) and a risk of staff exposure to blood borne viruses through sharps injury (either during the treatment or during reprocessing).

Analysing risks

Sources of the risk are difficulties in reprocessing the mirror, the use of multiple sharp instruments in a bloody field and aerosolisation caused by the treatment.

Evaluating risks

The balance of likelihood and consequences identify this as a 'medium risk' situation requiring management by specific monitoring or audit procedures.

Treating risks

Immediate measures include: making sure that mirror handles are clean before sterilisation, operator care in the use of sharp instruments, use of high volume evacuation to reduce aerosolisation caused by this treatment and, wearing of protective eyewear and face masks by operator and assistant.

Longer-term measures could include revising practice, personal protective equipment (PPE) and instrument cleaning and reprocessing policies.

Monitoring

Repeated checking of reprocessed instruments, audits of staff sharps injuries and monitoring of PPE use would assist in assessing the level of risk on an ongoing basis.

5.7 Risk-management: Case study for Klebsiella pneumoniae sepsis in a neonatal unit

During a 7-month period, seven infants in a neonatal unit developed septicaemia from multi-resistant extended spectrum β lactamase producing Klebsiella pneumoniae, and two babies died. Molecular typing revealed that four of the strains were identical; not all isolates were available for typing. Screening of all babies was not carried out, as it was expected that many would already be colonised, and that babies whose gut was colonised by the bacteria would be the source of infection through the hands of healthcare workers. The outbreak was brought under control by in-service education and improvement of hand hygiene compliance, and wearing of single-use gloves when babies' nappies were being changed. Nurses were declared to be the advocates for the babies, and the nurse caring for each baby was responsible for ensuring that all attending personnel perform hand hygiene before and after handling the baby, with non-compliance being reported to the infection control team.

Table A1.6. Case study for Klebsiella pneumoniae sepsis in a neonatal unit

Eliminating risks

In this situation it is not possible to eliminate the risk entirely, so it must be managed.

Identifying risks

In this case, the risk has been identified as cross-transmission of *Klebsiella pneumoniae.*

Analysing risks

The major source of the risk is transmission between neonates by healthcare workers' hands, with failure to wear gloves when changing nappies and a lack of appropriate hand hygiene practices by some staff members.

In addition, review of the cleaning of frequently touched surfaces in the neonatal intensive care unit to minimise the risk of environmental contamination.

Evaluating risks

The balance of likelihood and consequences identify this as a 'very high risk' situation requiring immediate response.

Treating risks

Immediate measures include review of the application of standard precautions and the implementation of contact precautions, with strict enforcement of hand hygiene, appropriate wearing of personal protective equipment (e.g. gloves), changing of gloves between tasks with the same patient and performing hand hygiene after gloves are removed, and provision of in-service education on hand hygiene.

Longer-term measures might include review of increased frequency of environmental cleaning especially of frequently touched surfaces, performance of surveillance cultures, and cohorting of colonised babies if the outbreak could not be brought under control by immediate measures.

Monitoring

Changes in rates of infection could be monitored through ongoing surveillance.

5.8 Risk-management: Case study for influenza in a long-term care facility

A cluster of cases of confirmed influenza occurred in a long-term care facility, which were observed after a group activity involving dancing was held in the dining room prior to the midday meal. It was observed that a number of residents who had been unwell had attended the group activity and had sat at the dining tables. Due to the lack of waste receptacles in the dining room, used tissues were placed on the dining room tables. It was also noticed that a number of residents remained in the vicinity of the dining room post activity as their rooms were a short distance from the dining room. The shared bathrooms were at the other end of the corridor so it was not known whether hand hygiene was performed prior to meals or the event. Residents reported signs and symptoms consistent with influenza at least two days following the event, which was later confirmed by rapid diagnostic test from four patients and two staff members. The vaccination coverage of the staff was 41.7%.

None of the staff members with influenza symptoms who had assisted in the group activities had been immunised.

Table A1.7. Case study for influenza in a long-term care facility

Eliminating risks

In this situation it is not possible to eliminate the risk entirely, so it must be managed.

Identifying risks

In this case, the risk has been identified as cross-transmission of influenza.

Analysing risks

One opportunity for transmission is the assembling of large numbers of residents in a confined area in which close contact and droplet transmission occurred such as sneezing, coughing or talking.

In addition, the lack of waste receptacles available would have hindered immediate disposal of infectious waste material. Healthcare workers or other residents may have had indirect contact with influenza droplets from the dirty tissues lying on the table, particularly if any of the people other than the ones who used the tissues disposed of them later and surfaces were not cleaned.

The lack of hand hygiene facilities in the immediate vicinity could have resulted in poor hand hygiene compliance, with staff or residents not decontaminating their hands prior to eating, after sneezing or coughing. Low levels of staff immunisation also contributed to the spread of the infection.

Evaluating risks

The balance of likelihood and consequences identify this as a 'very high risk' situation requiring immediate response.

Treating risks

Immediate measures may include:

- waste receptacles being made available in a common area, so people can dispose of tissues immediately after use
- the provision of alcohol-based hand run so residents (and staff) can decontaminate their hands prior to eating, handling food or coughing and sneezing
- restricting access to the common areas or group activities for anyone who has signs and symptoms of an influenza-like illness.

Other measures may include:

- education of staff and residents on the importance of hand hygiene, respiratory hygiene and cough etiquette
- immunisation of residents and staff, and asking sick staff members to stay at home
- education of residents in that if they feel unwell, to avoid participating in group activities until they feel better
- displaying posters and signage on hand hygiene and respiratory hygiene around the facility on an ongoing basis.

Monitoring

Staff should continue to monitor residents for influenza-like illness (ILI) and ongoing ILI surveillance should be heightened during the influenza season.

Immunisation rates among staff and residents could be monitored, as well as monitoring the difference in case numbers from previous influenza outbreaks and outbreaks after the measures have been put in place.

For further guidance see Guidelines for the Prevention, Control and Public Health Management of Influenza Outbreaks in Residential Care Facilities in Australia[417]

5.9 Risk-management: Case study for M. tuberculosis

A young male patient (patient A) is admitted to a medical ward in a small metropolitan hospital with signs and symptoms of pneumonia. He is placed in a 2 bed room with another patient (patient B) who also has pneumonia. Patient A has just returned from an extended working holiday in Central America, spending time in Mexico, Panama and Bolivia. When he was admitted to hospital via the emergency department, he had a recent history of lower respiratory infection and had a non-productive cough that had been treated overseas with antibiotics and had improved but not resolved. When the antibiotics had been completed, he continued to be tired and still had the cough. He was reported to be a thin young man, with an insignificant medical history who was normally fit but his respiratory infection had made him tired and breathless.

When Patient A is seen by the medical officer in the ward, they ordered a chest x-ray and morning sputum culture for atypical bacterial and viral screening as the patient had a cough. Patient A is taken to x-ray for his chest x-ray and the nursing staff collect the sputum culture the following morning and send it to laboratory. Standard precautions are used for all care provided and Patient A mobilises freely around the clinical area. The laboratory contacts the medical officer that afternoon, to advise the patient's sputum has shown high count of Acid Fast Bacilli (AFBs) when the sputum was examined by microscopy. The provisional diagnosis was pulmonary tuberculosis and the medical officer notified the ward to place the patient in a single room with negative pressure and apply airborne precautions.

The ward notify Infection Control Team who review the patient, their history, their placement since admission and implement the plan for management of an exposure to a case of tuberculosis (TB) by staff and patients.

Table A1.8. Case study for M. tuberculosis

Eliminating risks In this situation it is not possible to eliminate the risk entirely, so it must be managed.
Identifying risks In this case, the risk has been identified as possible exposure of healthcare workers and patients to a case of *M. tuberculosis* from a single patient attending the emergency department and a number of areas within the hospital.
Analysing risks The sources of risk are a failure to consider the possibility of pulmonary tuberculosis and drug resistant pulmonary tuberculosis that occurs in any parts of the world today. Delays in reviewing the placement of the patient when history is taken and tests are requested. These resulted in a lack of transmission-based precautions applied to Patient A, and a source of risk to subsequent patients and healthcare workers who had contact with Patient A. Placing like diagnoses in the same room occurs but it is important to consider that not all pneumonia like illnesses are the same. With cases such as this, it is possible that if this patient had a drug resistant pulmonary tuberculosis this could take an extended time to identify and they could be hospitalized for many months and the social and psychological risks also need to be addressed for the patient being kept in airborne precautions for extended periods. The laboratory reported the microscopy result as smear positive. Culture will take an extended period and should not be waited for to evaluate and respond to the risk for identification of contacts.

Evaluating risks

The balance of likelihood and consequences identify this as a 'very high risk' situation requiring an immediate response.

Treating risks

Immediate measures may include advising the patient of their probable diagnosis and what measures are required to care for them and protect other patients and healthcare workers. This includes placing Patient A in a negative pressure single room with airborne precautions applied in addition to standard precautions. Implementing a care plan to minimise risk of exposure to other patients and healthcare workers when tests or other department (x-ray) visits are required. State/ territory TB services would also need to be notified, as they would assist in the development of a management plan including to identify contacts outside the hospital.

Longer-term measures could include implementation of baseline risk factors that may need to have TB screening for and protocols to assist with early diagnosis of active disease. Further measures would include increasing awareness of tuberculosis generally, educating staff about identifying the high-risk patients for a particular facility, and development of specific protocols, such as 'cough protocols'.

Monitoring

Ongoing surveillance would assist in reducing the risk of subsequent outbreaks. Retrospective review and screening of other contacts and laboratory typing of *M. tuberculosis* isolates to identify unrecognised, linked transmission could also inform future actions.

5.10 Risk-management: Case study for M. tuberculosis among immunocompromised patients attending outpatient services

An investigation into the healthcare-associated transmission of M. tuberculosis followed reports of two epidemiologically linked patients (Patient 1 and Patient 2) with haematologic malignancies and active pulmonary tuberculosis (TB). Subsequently it was found that four oncology patients had spent more than an hour in the same room as Patient 1. Patient 1's pulmonary TB was not diagnosed for 3 months as clinical findings were attributed to lower respiratory tract infection from other infectious agents or adverse effects of oncology treatments. Patient 1 was not placed on airborne precautions during this period. The investigation found that delayed TB diagnosis in Patients 1 and 2 ultimately resulted in the transmission of M. tuberculosis to 19 patients and staff at three hospitals and a residential facility.

Source: Based on Malone et al (2004)

Table A1.9. Case study for M. tuberculosis among immunocompromised patients attending outpatient services

Eliminating risks

In this situation it is not possible to eliminate the risk entirely, so it must be managed.

Identifying risks

In this case, the risk has been identified as cross-transmission of *M. tuberculosis* from a single patient attending a number of outpatient facilities.

Analysing risks

The sources of risk are a failure to consider the possibility of tuberculosis and delays in screening and diagnostic tests. These resulted in a lack of transmission-based precautions applied to Patient 1, and a source of risk to subsequent patients.

Evaluating risks

The balance of likelihood and consequences identify this as a 'very high risk' situation requiring immediate response.

Treating risks

Immediate measures may include avoidance of potential exposures in outpatient settings, implementation of airborne precautions and treatment of febrile, coughing patients with pulmonary TB. State/territory TB services would also need to be notified, as they would assist in the development of a management plan.

Longer-term measures could include implementation of baseline TB screening for immunocompromised patients and protocols to assist with earlier diagnosis of active disease. Further measures would include increasing awareness of tuberculosis generally, educating staff about identifying the high-risk patients for a particular facility, and development of specific protocols, such as 'cough protocols'.

Monitoring

Ongoing surveillance would assist in reducing the risk of subsequent outbreaks. Retrospective review and screening of other contacts and laboratory typing of *M. tuberculosis* isolates to identify unrecognised, linked transmission could also inform future actions.

5.11 Examples of how to perform aseptic technique

Aseptic technique for peripheral and central access intravenous therapy (IV)

Typically, IV maintenance procedures will be assessed as requiring aseptic technique with the employment of a main general aseptic field and critical micro aseptic fields.

Table A1.10. Aseptic technique for peripheral and central access IV

1. Perform hand hygiene This will interrupt any potential transmission of infection from the clinical ward environment to the clean preparation area/room. Effective hand hygiene is vital to reduce the risk of contaminating key parts/sites.
2. Use a clean tray or trolley Such a tray or trolley provides a sufficiently large, robust and controlled working area. Reprocess re-usable trays according to local policy.
3. While the tray is drying, gather equipment Hands are contaminated when gathering equipment from storage cupboards etc. It's important therefore to gather all equipment before performing hand hygiene at Step 4. Gathering equipment at this point also allows the tray to dry properly and saves a little time.
4. Perform hand hygiene This occurs immediately before assembly of equipment and the preparation of drugs. This way, hands are optimally clean prior to glove application and aseptic technique key part manipulation.
5. Apply non-sterile gloves (use sterile gloves if you must touch key parts) Primarily, gloves are worn to protect the user from drug exposure and blood products. All peripheral and central access IV procedures should be performed without touching key parts. Therefore, non-sterile gloves will nearly always be the logical and efficient glove choice. In the event the healthcare worker unknowingly touches a key part, non-sterile gloves also act as a safety net as they are typically cleaner than skin. Refer to jurisdictional or organisation policy for the type of gloves required when inserting, accessing or managing IV devices.
6. Assemble equipment and prepare medications—protect key parts using aseptic technique Aseptic technique is the most important component of aseptic practice because a key part cannot be contaminated directly if it is not touched. Key parts should be protected throughout the procedure when they are not in use. This can be achieved by using sterilised IV bungs or the inside of syringe packets. Both systems provide critical micro aseptic fields around the key part.

7. User assessment:

If gloves become contaminated – remove gloves – decontaminate hands and re-glove

This is necessary when it is not possible to proceed from preparation to administration without contaminating gloved hands (e.g. due to prepping a patient).

If gloves remain uncontaminated between steps 6 & 7 proceed directly to step 7

Where it is possible to retain the asepsis of gloved hands between preparation and administration, the user does not need to decontaminate hands between administration and preparation.

This will promote compliance and save time.

8. Clean key parts

70% alcohol wipes are the application of choice[272]. In addition, the benefit of using friction and allowing key parts to dry has been demonstrated[410].

Method:

A large 70% alcohol wipe should be fully unfolded to provide a suitable working surface area.

One side of the wipe should be exposed to the user's gloved hand, the other side should be introduced to the hub. The port tip should be thoroughly wiped hard for 5 seconds—to create friction.

This should be repeated 4 times using different parts of the tissue (to remove dirt from the tip). After cleaning the hub clean the sides of the port and line, working away from the port tip.

Allowing the hub to air dry promotes asepsis.

This technique provides the required level of friction. Using different parts of the wipe ensures any dirt is transferred from the hub to the wipe. The hub must dry before use otherwise it won't be aseptic (if organisms have remained, a wet tip will facilitate their transportation into the patient on injection).

9. Administer medication using aseptic technique

Key parts cannot be contaminated by contact if they are not touched. Aseptic technique should therefore be used even if the user is wearing sterile gloves (because once sterile gloves are open to air they are no longer sterile, and can also be inadvertently contaminated by touch). If necessary, a small sterilised towel can be placed under a patient's line to promote safe handling.

10. Dispose of sharps and equipment then dispose of gloves

Sharps are best disposed of at the bedside if possible (on the basis that the quicker they are disposed of the less chance there is of an accident).

11. Clean tray

Re-usable trays are reprocessed at the end of the procedure to prevent cross infection between patients and staff. Trays are reprocessed according to local policy.

12. Perform hand hygiene

It is essential that the post-procedure hand hygiene is performed immediately after glove removal, i.e. before contact with the environment (because gloves encourage the hands to sweat-out organisms from the skin).

Aseptic technique for wound care

Wound care procedures are highly variable. Typically, a critical main aseptic field is employed and practice is dictated accordingly.

Table A1.11. Aseptic technique for wound care

1. With clean hands clean trolley surfaces Clean surface according to local policy to reduce the risk of aseptic field contamination.
2. Gather dressing pack and equipment, place on bottom shelf Hands are contaminated when gathering equipment from storage cupboards etc. It's important therefore to gather all equipment before the next performance of hand hygiene. Gathering equipment at this point also allows the trolley to dry properly and saves a little time.
3. Perform hand hygiene This occurs immediately before assembly of the aseptic field drape and equipment etc. in order to promote asepsis.
4. Open pack, place drape on top shelf and position waste bag.
5. Assemble equipment and position onto top shelf, protecting key parts.
6. Apply non-sterile gloves Non-sterile gloves are indicated because Steps 7 and 8 do not involve the touching of key sites or key parts.
7. Position a paper towel or drape under the wound This will promote asepsis and help protect the surrounding environment from contamination.
8. Remove dressing, expose wound and dispose of dressing into waste bag Disposing of the dressing here limits the movement of contaminated waste, helping to protect the wider clinical or community environment.
9. Perform hand hygiene Steps 7 and 8 are 'dirty' procedures and hand hygiene will promote asepsis.
10. Apply sterile gloves Although not essential for some small, minor dressings, sterile gloves at this stage will help promote asepsis of the wound. NB: Sterile gloves are essential at this stage if the wound requires direct touching with gloved hands.
11. Clean wound To help protect the wound from colonisation or infection.
12. Dress wound To help protect the wound from colonisation or infection.

13. Dispose of equipment, waste and gloves

Folding the used equipment and waste into the aseptic field drape and disposing of it in the attached waste bag will minimise the movement of waste and protect the wider working environment.

14. Clean trolley surfaces

Cleaning according to local policy will prevent cross infection.

15. Perform hand hygiene

This will help break any chain of potential cross infection.

5.12 Risk-management: Case study for norovirus outbreak in a long-term care facility

A resident in an aged care home where high and low care residents live reports they have been unwell for over 24 hours with diarrhoea and during this time they have attended the communal dining room as well as group activities. The infectious agent involved is identified as norovirus. The aged care home has a policy in place which requires the immediate implementation of contact precautions in addition to standard precautions. When residents are symptomatic and may have an increased risk of generating airborne droplets, carers should use a mask to minimise risk of contact with droplets generated. The issue for the aged care home is that they only have a communal dining area for meals and do not have the staff to monitor residents' meals in their rooms. The aged care home assesses al the residents and identifies a further two residents who have diarrhoea and/or vomiting. All residents who are symptomatic are confined to their rooms with ensuite facilities.

Healthcare workers from the aged care home pay particular attention to hand hygiene and appropriate use of personal protective equipment. No further cases are identified. Investigation reveals low levels of hand hygiene among residents in aged care facilities. An education program is developed and provided to assist in preventing further infections. Cleaning staff, food services and general care staff are notified to report any signs and symptoms of gastroenteritis. Increased cleaning of frequently touched surfaces is implemented to reduce environmental contamination and risk of transmission.

Table A1.12. Case study for norovirus outbreak in a long-term care facility

Eliminating risks

In this situation, it is not possible to eliminate risk, so it must be managed.

Identifying risks

In this case, the risk has been identified as cross-transmission of norovirus by contact (faecal-oral) transmission or by the droplet route if droplets are generated during the symptomatic stage.

Analysing risks

One source of the risk is the lack of appropriate hand hygiene practices by some residents. Each time there is social contact between these and other residents, there is potential for cross-transmission. Depending upon hand hygiene practices among residents more broadly, there is potential for the infection to spread through the aged care home. Healthcare workers and visitors are also at risk of cross-contamination.

Evaluating risks

The balance of likelihood and consequences identify this as a 'very high risk' situation requiring immediate response.

Treating risks

Immediate measures may include:

- ensure all hand washing facilities have soap, water and disposable hand towel available and encourage hand washing
- raising residents' awareness of the highly transmissible nature of norovirus infection, its modes of transmission and the particular need for hand hygiene practices
- for healthcare workers, the following hand hygiene practices are recommended:
- If gloves have not be worn, use soap and water to facilitate the mechanical removal of spores. After washing, hands should be dried thoroughly with a single-use towel
- If gloves have been worn, a lower density of contamination of the hands would be expected and alcohol-based hand rub remains the agent of choice for hand hygiene
- exclude any symptomatic residents from the common dining area and group activities until they are recovered
- implement contact precautions for the residents who are symptomatic. Closely monitor the other residents for signs and symptoms of norovirus.

Longer-term measures may include:

- providing education to residents and visitors on hand hygiene and other infection control measures
- education for healthcare workers to raise awareness of the high transmissibility of norovirus, and its capacity to spread very rapidly within aged care homes where there are poor or inadequate hygiene practices among residents and staff
- visitors should be requested not to enter the facility if they are unwell.

Monitoring

Changes in practice could be evaluated by surveying residents on hand hygiene practice and reviewing the availability and use of soap and/or alcohol-based hand rubs.

5.13 Risk-management: Case study for management of confirmed case of carbapenemase-producing *Enterobacterales* (CPE)

A liver transplant patient residing in a two-bed room at a large tertiary hospital is screened for CPE as part of the hospital's CPE surveillance program. The local infection control team was notified by the laboratory that the patient had CPE, and the patient was transferred immediately to a single room. The date of likely acquisition of CPE for the patient could not be determined and as such, the period of transmission risk was considered to be from one month prior to the date of isolation of CPE, until the patient was identified and placed into the single room.

Adapted from the *Victorian guideline on carbapenemase-producing Enterobacteriaceae*[418] and the Australian Commission on Safety and Quality in Health Care *Recommendations for the control of carbapenemase-producing Enterobacteriaceae*[229].

Table A1.13. Case study for management of confirmed case of CPE

Eliminating risks

In this situation, it is not possible to eliminate risk, so it must be managed.

Identifying risks

In this case, the risk has been identified as a known case of CPE that may have been transmitted to other patients in the healthcare facility.

Analysing risks

One source of the risk is that the patient was sharing a room with multiple other patients. The infected patient is identified as high-risk due to faecal incontinence and wandering behaviours.

Evaluating risks

The balance of likelihood and consequences identify this as a 'very high risk' situation requiring immediate response.

Treating risks

Immediate measures include: placing the patient in a single patient room with their own bathroom; implementing contact precautions including the appropriate wearing of PPE; where possible, allocate clinical equipment to this patient for the duration of the admission or if not possible, ensuring shared clinical equipment is appropriately cleaned and disinfected before re-use; and limiting patient movement and intensifying routine environmental cleaning, including daily disinfection of the patient room and bathroom and twice daily disinfection of frequently-touched surfaces. All healthcare workers should be provided with education about infection prevention and control strategies for CPE.

Other measures include conducting a lookback investigation to identify all patients who had shared a room, bathroom or toilet facilities with the infected patients for more than 24 hours. Any patient who is still in the healthcare facility should be placed into single rooms with contact precautions, screened for CPE and provided with information about CPE. Any patient who has since been discharged or transferred to another facility should be sent a letter advising them to seek screening for CPE, and the facility or general practitioner should be notified. An alert should be placed in their medical history so they can be placed into contact precautions and screened if they are readmitted within 12 months.

Monitoring

The healthcare facility should implement a surveillance program to monitor the development of transmission of CPE. Healthcare workers adherence to infection prevention strategies should also be monitored.

The healthcare facility can also review and monitor their antimicrobial prescription/use trends and use audit systems to identify inappropriate antimicrobial use.

5.14 Risk Management: Case study for vancomycin-resistant enterococci (VRE) outbreak in a large tertiary-care referral hospital

Two months after the first index case of VRE was detected in the intensive care unit of a large teaching hospital, 68 patients had become either infected or colonised with an epidemic strain of vanB vancomycin-resistant Enterococcus faecium, despite standard infection control procedures. Subsequently, 169 patients in 23 wards were found to be colonised with a single strain of vanB vancomycin-resistant E. faecium. Introducing additional control measures rapidly brought the outbreak under control. Hospital-wide screening found 39 previously unidentified colonised patients, with only 7 more non-segregated patients being detected in the next 2 months. The outbreak was terminated within 3 months due to a well-resourced, multifaceted approach.

Source: Based on Christiansen et al[230]

Table A1.14. Case study for VRE outbreak in a large tertiary-care referral hospital

Eliminating Risks

In this situation, it is not possible to eliminate risk immediately, so it must be managed.

Identifying Risks

In this case, the risk has been identified as cross-transmission of VRE.

Analysing Risks

The source of the risk is multidrug resistance coupled with a vulnerable patient population (intensive care unit). Each time there is contact with an infected patient there is potential for cross-transmission to the healthcare workers and/or other patients.

Evaluating Risks

The balance of likelihood and consequences identify this as a 'very high risk' situation requiring immediate response.

Treating Risks

Immediate measures to control the outbreak may include:

- formation of a VRE executive group
- rapid laboratory identification (30 to 48 hours) using culture and polymerase chain reaction detection of vanA and vanB resistance genes
- screening of hospitalised patients with isolation of patients and cohorting of contacts
- increased cleaning
- electronic flagging of medical records of contacts
- antibiotic restrictions (third-generation cephalosporins and vancomycin).

In the longer-term, hospital policies may be changed to restrict antibiotic use, institute targeted screening and increase environmental cleaning efficiency and frequency.

These measures are relevant to a recent outbreak in an area of low endemicity. Some of these approaches may also be relevant in an area of high endemicity.

Monitoring

Repeated screening would identify whether the outbreak recurred.

5.15 Risk-management: Case study for infection prevention during renovation of emergency department

An emergency department in a state healthcare facility requires renovation. The work involves construction of new walls and major cabling activities, so will result in a moderate to high level of dust generation.

Source: based on the *Australasian Health Facility Guidelines*[391]

Table A1.15. Case study for infection prevention during renovation of emergency department

Eliminating risks

In this situation, it is not possible to completely eliminate risks, so they must be managed.

Identifying risks

In this case, the risk will be varied and the activities where there is interruption of ceiling space will have higher risks that others. Use a risk matrix for determining the risk for each activity in renovation and construction. The risk has been identified as invasive Aspergillosis which may be increased by the renovation activities and infect immunosuppressed patients.

Analysing risks

The extent of the risk may depend upon the nature of the renovation, the location of the patient population in relation to the renovation site, the type of ventilation systems in place and the identification of possible contaminants (ceiling dust, service shafts etc.) and their locations.

Evaluating risks

The balance of likelihood and consequences identify this as a 'very high risk' situation requiring action to mitigate risk being implemented during the planning phase of this project and a system for immediate response to any risks identified during the work.

Treating risks

Measures to prevent infections during the renovation period include:

- establishing a multidisciplinary team including infection control experts and project staff who should be consulted early in the planning phase and then during all stages of the project
- induction program to address infection risks for all contractors
- ensure all healthcare and construction staff are aware of the necessary contact and airborne precautions as well as relevant workplace health and safety requirements for training and personal protective equipment
- completing all renovation barriers before the renovation begins
- wet mop or vacuum frequently during periods of renovation activity to minimise tracking
- place a dust-mat at the entrances and exits to all work areas
- monitoring dust levels in work area and in adjacent areas and where high risk patient services are located
- monitor movement of materials and workers into and out of the construction/renovation area.

Monitoring risks

Construction workers compliance with procedures can be monitored. Air and water sampling can occur.

6. APPENDIX 2: Supplementary information

Summary

The following supplementary information provides further background information on infection prevention and control in healthcare.

This section covers:

- **6.1** — Recommended routine cleaning frequencies
- **6.2** — Checklist of standard precautions for procedures
- **6.3** — Use of standard and transmission-based precautions
- **6.4** — Type and duration of precautions for specific infections and conditions
- **6.5** — Collection of pathology specimens
- **6.6** — Allowing animals into healthcare facilities
- **6.7** — Mechanisms of antibacterial action of antiseptics and disinfectants
- **6.8** — Summary table of relevant infection prevention and control resources
- **6.9** — Research gaps

6.1 Recommended routine cleaning frequencies

The following table outlines the recommended minimum frequencies for routine cleaning of various items in healthcare facilities. It is applicable to all settings (although some items may not be relevant to all settings) and is presented by level of risk as per the key below. The table has been developed to provide a benchmark guide to best-practice cleaning schedules. Facilities should develop and implement a local cleaning schedule and policy that suits their environment, and consider regular monitoring and mechanisms to deal with specific organisms and outbreak situations. For guidance on cleaning of spills, see Section 3.1.3 *Recommendation 12* practical information.

Table A2.1. Level of risk

Risk rating	Settings
Very high risk	Outbreak in high-risk area.
High risk	Intensive care unit, high dependency unit, burns unit, renal units, operating suite, emergency departments.
Significant Risk	General wards.
Low Risk	Rehabilitation, long-term care, office-based, domiciliary nursing services.

Table A2.2. Minimum cleaning frequency

Note: The choice of disinfectant is dependent upon the local epidemiology and a local risk assessment.

Element	Very high risk	High risk	Significant Risk	Low risk	Method
Alcohol-based hand rub dispenser, bedside	Clean daily	Clean daily	Clean daily	Clean weekly	Detergent
Alcohol-based hand rub dispenser, not in patient/ treatment rooms	Clean daily	Clean daily	Clean daily	N/A	Detergent
Bath	Clean daily & spot/ check clean once daily	Clean daily & spot/check clean once daily	Clean daily & spot/check clean once daily	Clean daily & spot/check clean once daily	Detergent
Bed	Clean frame daily Clean underneath weekly Clean whole on discharge	Clean frame daily Clean underneath weekly Clean whole on discharge	Clean frame daily Clean underneath weekly Clean whole on discharge	When visibly soiled & whole on discharge	Detergent Detergent + disinfectant for multi- resistant organism (MRO)
Bed rails	Clean twice daily & after discharge	Clean daily & after discharge	Clean daily & after discharge	Clean weekly & after discharge	Detergent Detergent + disinfectant for MRO
Bedside table	Clean twice daily & after use	Clean daily & after use	Clean daily	Clean weekly	Detergent Detergent + disinfectant for MRO
Bidet	Clean three times daily	Clean three times daily	Clean daily	Clean daily	Detergent and disinfectant
Blood pressure cuff	Clean after use	Clean after use	Clean after use	Clean after use	Detergent
Call bell	Clean Daily Clean after discharge	Clean Daily Clean after discharge	Clean Daily Clean after discharge	Clean Weekly Clean after discharge	Detergent
Carpet (soft floor)	Clean twice daily	Clean daily	Clean daily	Clean weekly	Vacuum with high efficiency particulate air filter
	Clean 6-monthly	Clean 6-monthly	Clean annually	Clean annually	Steam clean (or shampoo)
Catheter stand/ bracket	Clean daily & after use	Clean daily & after use	Clean before initial use, after use & monthly	Clean before initial use, after use & monthly	Detergent
Ceiling	Spot clean daily & wash yearly	Spot clean daily & wash yearly	Spot clean weekly & wash yearly	Spot clean monthly & wash every 3 years	Detergent/Damp dust

Element	Very high risk	High risk	Significant Risk	Low risk	Method
Chair	Clean twice daily	Clean twice daily	Clean daily	Clean weekly	Detergent Detergent + disinfectant for MRO
Chair, dental and surrounds	N/A	N/A	N/A	Clean daily & when visibly soiled	Detergent
Cleaning equipment	Clean after use	Clean after use	Clean after use	Clean after use	Detergent Detergent + disinfectant for MRO
Clipboard	Clean daily & between patient use	Clean daily & between patient use	Clean daily & between patient use	Clean weekly	Detergent
Commode	Clean contact points after use Clean whole daily	Clean contact points after use Clean whole daily	Clean contact points after use Clean whole daily	Clean contact points after use Clean whole weekly	Detergent Detergent + disinfectant for MRO
Computer & keyboard (general ward use, non-mobile, located outside patient area)	Clean twice daily or when visibly soiled	Clean daily or when visibly soiled	Clean daily or when visibly soiled	Clean weekly or when visibly soiled	Manufacturer's recommendations Install keyboard covers or washable keyboards where feasible Detergent
Computer & keyboard (used and/ or located in close proximity to patient e.g. patient bay or room)	Clean twice daily or when visibly soiled Clean between patients Clean after discharge	Clean daily or when visibly soiled Clean between patients Clean after discharge	Clean daily or when visibly soiled Clean between patients Clean after discharge	Clean weekly or when visibly soiled Clean between patients Clean after discharge	Manufacturer's recommendations Install keyboard covers or washable keyboards where feasible Detergent
Curtains and blinds	Bed curtains—change or clean weekly and upon discharge Patient with MRO or other infectious disease—change bed curtains or clean upon discharge Clean, change or replace early	Bed curtains—change or clean monthly Patient with MRO—change bed curtains or clean upon discharge Clean, change or replace yearly	Bed curtains—change or clean biannually Patient with MRO—change bed curtains or clean upon discharge Clean, change or replace bi-annually	Bed curtains—change or clean annually Patient with MRO—change bed curtains or clean upon discharge Clean, change or replace bi-annually	Replace with laundered curtains or steam clean while in place. Follow manufacturer's recommendations
Door knob/ handle, general	Clean twice daily	Clean daily	Clean daily	Clean weekly	Detergent

Element	Very high risk	High risk	Significant Risk	Low risk	Method
Door knob/ handle, patient room	Clean twice daily	Clean daily	Clean daily	Clean daily	Detergent Detergent + disinfectant for MRO
Drip/ intravenous stands	Clean contact points after use	Clean contact points after use	Clean contact points after use	Clean contact points after use	Detergent Detergent + disinfectant for MRO
Fan, patients	Clean daily & between patient use	Clean daily & between patient use	Clean daily & between patient use	Clean weekly & between patient use	Detergent
Floor, non-slip	Damp mop twice daily	Damp mop twice daily	Damp mop daily	Damp mop daily	Detergent Detergent + disinfectant for MRO
Floor, polished	Dust removal & clean twice daily	Dust removal & clean daily	Dust removal & clean daily	Dust removal & clean weekly	Detergent for routine Consider electrostatic mops Detergent + disinfectant for MRO
Fridges	Weekly & defrost as required Three times daily spot check—clean when necessary	Weekly & defrost as required Daily spot check—clean when necessary	Monthly & defrost as required Daily spot check—clean when necessary	Monthly & defrost as required Daily spot check—clean when necessary	Detergent
Fridge (drug)	Clean weekly	Clean weekly	Clean weekly	Clean weekly	Detergent
Glazing, internal (incl. partitions)	Spot clean daily & full clean weekly	Spot clean daily & full clean weekly	Spot clean daily & full clean weekly	Clean weekly	Detergent
Hoist, bathroom	Clean contact points after use	Clean contact points after use	Clean contact points after use	Clean contact points after use	Detergent
Drip/IV stand & poles	Clean daily & clean contact points after use	Clean daily & clean contact points after use	Clean contact points after use	Clean contact points after use	Detergent + disinfectant for MRO
Light switch	Clean daily	Clean daily	Clean weekly	Clean weekly	Detergent
Bedside locker	Clean contact points twice daily	Clean contact points twice daily	Clean contact points daily	Clean contact points weekly	Detergent + disinfectant for MRO
Manual handling (I.e. hoists)	Clean contact points after use	Clean contact points after use	Clean contact points after use	Clean contact points after use	Detergent + disinfectant for MRO

Element	Very high risk	High risk	Significant Risk	Low risk	Method
Mattress	Clean when visibly soiled/ bodily fluids & after discharge	Clean when visibly soiled/ bodily fluids & after discharge	Clean when visibly soiled/ bodily fluids & after discharge	Clean when visibly soiled/ bodily fluids & after discharge	Detergent + disinfectant for MRO Preferable that entire mattress has waterproof cover
Medical equipment (e.g. IV infusion pumps, pulse oximeters) NOT connected to a patient	Clean daily (when in use) between patient use	Clean daily (when in use) & between patient use	Clean daily (when in use) & between patient use	Clean weekly (when in use) & between patient use	Detergent Detergent + disinfectant for MRO
Medical gas equipment	Clean daily	Clean daily	Clean daily	Clean weekly	Detergent Detergent + disinfectant for MRO
Microwave	Clean daily	Clean daily	Clean daily	Clean daily	Detergent
Nebuliser, portable (when in use)	Clean daily & after use	Clean daily & after use	Clean monthly & after use & before initial use	Clean bi-monthly & after use & before initial use	Detergent
Notes folder	Clean daily	Clean daily	Clean weekly	Clean weekly	Detergent
Over bed tray table (overway table)	Twice daily	Daily	Daily	Weekly	Detergent Detergent + disinfectant for MRO
Oxygen equipment	Clean daily & after use	Clean daily & after use	Clean monthly & after discharge & before initial use	Clean monthly & after discharge & before initial use	Detergent
Patient slide/ board	Clean daily & after use	Clean daily & after use	Clean monthly & after use	Clean monthly & after use	Detergent + disinfectant for MRO
Pillow (waterproof cover)	Clean when visibly soiled/ bodily substances & after discharge	Clean when visibly soiled/ bodily substances & after discharge	Clean when visibly soiled/ bodily substances & after discharge	Clean when visibly soiled/ bodily substances & after discharge	Detergent + disinfectant for MRO
Sharps bin trolley	Clean daily	Clean twice weekly	Clean weekly	Clean monthly	Detergent
Shower	Clean daily & one spot check clean daily	Clean daily & one spot check clean daily	Clean daily	Clean daily	Detergent + disinfectant for MRO
Sink (hand washing)	Clean twice daily & after use	Clean twice daily & after use	Clean daily	Clean daily	Detergent

Element	Very high risk	High risk	Significant Risk	Low risk	Method
Surfaces (general horizontal) in patient room e.g. ledges	Clean twice daily & spot clean after use	Clean twice daily & spot clean after use	Clean daily & after discharge	Clean weekly & after discharge	Detergent + disinfectant for MRO
Telephone	Clean daily & spot clean after use	Clean daily & spot clean after use	Clean daily	Clean weekly	Detergent
Toilet	Clean twice daily & spot clean after use	Clean twice daily & spot clean after use	Clean daily	Clean weekly	Detergent + disinfectant
Toilet seat, raised	Clean twice daily & spot clean after use	Clean twice daily & spot clean after use	Clean monthly & before initial use & spot clean after use	Clean monthly & before initial use & spot clean after use	Detergent for routine Detergent + disinfectant for MRO
Trolley, dressing	Clean utilised surfaces before & after use Clean whole trolley weekly	Clean utilised surfaces before & after use Clean whole trolley weekly	Clean utilised surfaces before & after use Clean whole trolley weekly	Clean utilised surfaces before & after use Clean whole trolley monthly	Detergent + disinfectant for MRO
Trolley, linen	Clean contact points daily Clean whole trolley weekly	Clean contact points daily Clean whole trolley weekly	Clean contact points daily Clean whole trolley weekly	Clean contact points weekly Clean whole trolley monthly	Detergent
Trolley, resuscitation	Clean daily	Clean twice weekly	Clean weekly	Clean monthly	Detergent
TV, fixed (out of patient reach)	Clean weekly	Clean weekly	Clean weekly	Clean weekly	Detergent
TV, patient bedside (mobile and within patient reach)	Clean daily & between patients	Clean daily & between patients	Clean weekly and between patients	Clean monthly & between patients	Detergent/damp dust
Walls	Spot clean daily & dust weekly & full clean yearly	Spot clean daily & dust weekly & full clean yearly	Spot clean weekly & full clean yearly	Spot clean weekly & full clean yearly	Detergent/damp dust
Washbowl, patient	One full clean daily and between patient use	One full clean daily and between patient use	One full clean daily and between patient use	One full clean daily and between patient use	Detergent + disinfectant for MRO
Waste receptacle	Clean weekly & spot clean when visibly soiled/bodily substances	Clean weekly & spot clean when visibly soiled/ bodily substances	Clean weekly & spot clean when visibly soiled/ bodily substances	Clean weekly & spot clean when visibly soiled/ bodily substances	Detergent
Wheelchair	Clean daily & after use	Clean daily & after use	Clean monthly & after use	Clean monthly & after use	Detergent

Source: Adapted from National Health Service National Specifications for Cleanliness[419]

6.2 Checklist of standard precautions for procedures

This table outlines the use of standard precautions for a range of example procedures. It is assumed that there is no known or suspected infection. Decision-making about the level of protection required involves a risk assessment of the procedure to be performed; for example, usual wound irrigation is unlikely to require surgical mask and eye protection in primary care, but may be required more often in the hospital setting.

Table A2.3. Standard precautions for procedures

Procedure	Hand hygiene	Gloves	Sterile gloves	Surgical mask	Eye protection	Gown
Activities of daily living (washing, toilet etc.)	✓	–	–	–	–	–
Routine observations (e.g. blood pressure measurement)	✓	–	–	–	–	–
General medical examination	✓	✓ For contact with broken skin/rash/ mucous membrane	–	✓ If splash risk likely	✓ If splash risk likely	✓ If splash risk likely
Wound examination/ dressing	✓	✓ For contact with body substances	✓ For direct contact with wound	✓ For wound irrigation if splash likely	✓ For wound irrigation if splash likely	✓ For grossly infected wounds
Blood glucose and haemoglobin monitoring	✓	✓	–	–	–	–
Vaginal delivery	✓	–	✓	–	✓	✓
Intravenous cannula insertion	✓	✓	–	–	✓ If splash risk likely	–
Intravascular access device insertion	✓	–	✓	✓	✓	✓ Where max. barrier precautions are used
Intravascular access device care	✓	–	✓	–	–	–
Surgical aseptic technique procedure (e.g. lumbar puncture)	✓	–	✓	✓	✓	✓
Insertion of urinary catheter	✓	–	✓	✓ If exposure risk likely	✓ If exposure risk likely	✓ If exposure risk likely

Procedure	Hand hygiene	Gloves	Sterile gloves	Surgical mask	Eye protection	Gown
Urinary catheter care	✓	✓	–	–	✓ When emptying drainage bag	✓ If exposure risk likely
Suctioning: endotracheal tube, tracheostomy	✓	–	✓ Dominant hand (open suction system)	✓	✓	✓ If exposure risk likely
Major dental procedure	✓	–	✓	✓	✓	✓
Routine intra-oral dental procedures	✓	✓	–	✓	✓	✓ If exposure risk likely

6.3 Use of standard and transmission-based precautions

Transmission-based precautions are applied in addition to standard precautions. Depending on the infectious organism and its mode of transmission, one or more types of precautions may be required. See Section 6.4 for further information.

Table A2.4. Use of standard and transmission-based precautions

Type of precautions	Examples of infectious agents	Single room or cohort	Gloves	Gown	Mask	Eye protection	Handling of equipment	Visitors
Standard	Standard precautions apply for all work practices to prevent the likelihood of transmission of infection.							Hand hygiene Respiratory hygiene Cough etiquette
Contact	Mulit-resistant organisms, *C. difficile*, norovirus	✓	✓	✓	♣	☆	Single use or reprocess	Same precautions as staff
Droplet^	Norovirus, pertussis, meningococcus	✓	☆	☆	✓ Surgical mask	☆	Single use or reprocess	Restrict visitor numbers precautions staff
Airborne	Pulmonary TB, rubeola#	✓ Negative pressure	☆	☆	✓ P2 (N95) respirator	☆	Single use or reprocess	Restrict visitor numbers precautions staff

*Notes:

✓ Essential component of transmission-based precautions

♣ Surgical mask required if infectious agent located in sputum

☆ Standard Precaution (as required)—gloves & gowns to be worn when there is potential of contact with blood or body substances. Mouth and eye protection to be worn when there is potential of exposure to splashes or sprays to mucosa.

* Visitors should be given instruction about correct procedures when transmission-based precautions are applied and given appropriate resources to support them in meeting these requirements.

^ Droplets can contaminate horizontal surfaces close to the source patient, and the hands of healthcare workers can become contaminated through contact with those surfaces. For this reason consideration should be given to the need for additional personal protective equipment (PPE).

For vaccine preventable disease, where possible, only staff and visitors who have confirmed immunity (evidenced by serological immunity or vaccination history) to the specific infectious agent should enter the room, see Section 4.2.1 for further information. While appropriate PPE should be worn by all staff and visitors, those with unknown immunity or non-immune healthcare workers should be extra vigilant.

Environmental cleaning has not been addressed in this table but it is an essential component of infection prevention and control. For further guidance please refer to Section 3.1.3 and *Practice Statement 9* practical information.

6.4 Type and duration of precautions for specific infections and conditions

The information in the table below provides a summary of diseases and the precautions which may be required by healthcare workers. Decisions regarding precautions should be based on a risk assessment performed by the Infection Control Team, and in the context of locally agreed policy relating to management of patients with specific diseases.

REMINDER: Transmission-based precautions are applied in addition to standard precautions.

S = Standard C = Contact D = Droplet A = Airborne

Table A2.5. Precautions for specific infections and conditions

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Abscess Draining, major	Bacterial	Endogenous; contact	S + C	Duration of illness - until drainage stops or can be contained by dressing.	No dressing or containment of drainage.
Abscess Draining, minor or limited	Bacterial	Endogenous; contact	S	Duration of illness	Dressing covers and contains drainage.
Actinomycosis (*Actinomyces* spp)	Bacterial	Not transmitted person-to-person	S	Duration of illness	-
Adenovirus infection	*see agent-specific guidance under gastroenteritis, conjunctivitis, pneumonia*				
Amoebiasis (*Entamoeba histolytica*)	Protozoan	Ingestion; person-to-person transmission rare	S	Duration of illness	Person-to-person transmission is rare. Transmission in settings where people have an intellectual disability and in a family group has been reported. Use care when handling nappied infants and people who have an intellectual disability.

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Anthrax (*Bacillus anthracis*) Cutaneous	Bacterial	Inoculation; person-to- person transmission rare	S (+ C as per additional comments)	Duration of illness	Transmission through non-intact skin contact with draining lesions possible, therefore use Contact Precautions if large amount of uncontained drainage. Hand washing with soap and water preferable to use of waterless alcohol-based antiseptics since alcohol does not have sporicidal activity.
Anthrax (*Bacillus anthracis*) Pulmonary	Bacterial	Inhalation; not transmitted person-to-person	S	Duration of illness	-
Antibiotic-associated colitis			*see Clostridium difficile*		
Arthropod-borne (arboviruses) • viral encephalitides (eastern, western, Venezuelan equine encephalomyelitis; St Louis, California encephalitis; West Nile Virus) and • viral fevers (dengue, yellow fever, Colorado tick fever)	Viral	Not transmitted from person-to- person except rarely by transfusion, and for West Nile virus by organ transplant, breastmilk or transplacentally	S	Duration of illness	Install screens in windows and doors in endemic areas. Use DEET- containing mosquito repellents and clothing to cover extremities.
Ascariasis (*Ascaris lumbricoides)*	Helminth	Ingestion; not transmitted person-to-person	S	Duration of illness	-
Aspergillosis (*Aspergillus* spp)	Fungal	Inhalation; not transmitted person-to-person	S	Duration of illness	Contact Precautions and Airborne if massive soft tissue infection with copious drainage and repeated irrigations required.
Babesiosis	Parasitic	Tick bite; not transmitted from person-to- person, except rarely by transfusion.	S	Duration of illness	-
Botulism	Bacterial	Ingestion; not transmitted person-to-person	S	Duration of illness	-

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Bronchiolitis	Viral, bacterial	Contact; droplet	S + C + D	Duration of illness	Use mask according to Standard Precautions. Avoid contact between the person who is ill and infants, young children, frail and elderly people, or immunocompromised patients until the person is feeling well.
Burkholderia cepacia	Bacterial	Contact; droplet	S + C + avoid exposure to other persons with cystic fibrosis	Duration of illness	-
Brucellosis (*Brucella* spp)	Bacterial	Inoculation; ingestion; person-to- person transmission rare (sexual); airborne transmission in laboratory accidents	S	Duration of illness	-
Campylobacter **gastroenteritis**	Bacterial	Ingestion	S (+ C as per additional comments)	24 hours after symptoms cease	Use Contact Precautions for nappied or incontinent persons for the duration of illness or to control institutional outbreaks for gastroenteritis caused by all of the agents below.
Candidiasis (*Candida* spp) All forms including mucocutaneous	Fungal	Usually endogenous	S	Duration of illness	-
Carbapenemase-producing *Enterobacterales* **(CPE)**	*see Enterobacterales, carbapenem-resistant*				
Cat-scratch Fever (*Bartonella* spp)	Bacterial	Inoculation; not transmitted person-to-person	S	Duration of illness	-
Cellulitis	Bacterial, Fungal	Endogenous; Inoculation; not transmitted person-to-person	S	Duration of illness	-
Chancroid (*H. ducreyi*)	Bacterial	Transmitted sexually	S	Duration of illness	-

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Chickenpox *(Varicella Virus)*	Viral (enveloped)	Airborne droplets; direct contact with fluid in blisters or nasopharyngeal secretions	S + C + A	Until all lesions dry and crusted over	Screen by history and serology; pre-employment Varicella vaccine. Post-exposure prophylaxis (vaccination, or zoster immunoglobulin (ZIG) in high risk cases and late pregnancy) may be indicated. Susceptible healthcare workers should not enter room if immune caregivers are available
Chlamydia trachomatis Conjunctivitis	Bacterial	Contact	S	Duration of illness	-
Chlamydia trachomatis Genital	Bacterial	Transmitted Sexually	S	Duration of illness	-
Chlamydia trachomatis Pneumonia (infants <=3 months)	Bacterial	Contact (vertical)	S	Duration of illness	-
Chlamydophila pneumoniae	Bacterial	Contact; droplet	S	Duration of illness	-
Cholera (*Vibrio cholerae*)	Bacterial	Ingestion	S (+ C as per additional comments)	Duration of illness	Use Contact Precautions for nappied or incontinent persons for the duration of illness or to control institutional outbreaks.
Clostridium difficile	Bacterial	Contact	S + C	Duration of illness	Alcohol-based hand hygiene products are less effective than hand washing with soap and water for this infectious agent.
Clostridium perfringens Food poisoning	Bacterial	Ingestion; not transmitted from person-to-person.	S	Duration of illness	-
Clostridium perfringens Gas gangrene	Bacterial	Contact	S (+ C as per additional comments)	Duration of illness	Transmission from person to person rare; 1 outbreak in a surgical setting reported. Use Contact Precautions if wound drainage is extensive.
Coccidioidomycosis (valley fever) Draining lesions	Fungal	Inhalation of spores in contaminated dust/soil	S	Duration of illness	Not transmitted from person to person except under extraordinary circumstances, because the infectious arthroconidial form of *Coccidioides immitis* is not produced in humans.

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Coccidioidomycosis (valley fever) Pneumonia	Fungal	Inhalation of spores in contaminated dust/soil	S	Duration of illness	Not transmitted from person to person except under extraordinary circumstances, (e.g., inhalation of aerosolized tissue phase endospores during necropsy, transplantation of infected lung) because the infectious arthroconidial form of *Coccidioides immitis* is not produced in humans.
Conjunctivitis Acute bacterial	Bacterial	Contact	S	Duration of illness	-
Conjunctivitis *Chlamydia*	Bacterial	Contact	S	Duration of illness	-
Conjunctivitis Gonococcal	Bacterial	Contact	S	Duration of illness	-
Conjunctivitis Acute viral (haemorrhagic)	Viral	Contact	S + C	Duration of illness	Adenovirus, enterovirus, Coxsackie A24 most common. Highly contagious; outbreaks in eye clinics, paediatric and neonatal settings, institutions. Eye clinics should follow Standard Precautions when handling patients with conjunctivitis.
Creutzfeldt-Jakob disease (CJD)	Prion	Iatrogenic (CNS, instruments); grafts, hormones; zoonotic (vCJD)	S	Duration of illness	Use disposable instruments or special sterilisation/ disinfection for surfaces, objects contaminated with neural tissue if CJD or vCJD not ruled out.
Cryptosporidium	Protozoan	Ingestion	S (+ C as per additional comments)	Duration of illness	Use Contact Precautions for nappied or incontinent persons for the duration of illness or to control institutional outbreaks.
Cysticercosis (*Taenia solium*)	Helminth	Ingestion; not transmitted person-to-person	S	Duration of illness	-
Cytomegalovirus (CMV) infection	Viral (enveloped)	Contact (mucosal)	S	Duration of illness	No additional precautions for pregnant healthcare workers.

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Dengue Fever	Viral	Female mosquito bite; not transmitted person-to-person	S	Duration of illness	-
Diphtheria (*Corynebacterium diphtheriae*) Cutaneous	Bacterial	Contact	S + C	Until off antimicrobial treatment and culture negative	Until 2 cultures taken 24 hours apart are negative.
Diphtheria (*Corynebacterium diphtheriae*) Pharyngeal	Bacterial	Droplet	S + D	Until off antimicrobial treatment and culture negative	Until 2 cultures taken 24 hours apart are negative.
Echinococcosis (hydatids) (*Echinococcus granulosis)*	Helminth	Ingestion; not transmitted person-to-person	S	Duration of illness	-
Enterobacterales, carbapenem-resistant	Bacterial	Contact	S + C	Duration of illness	Single room with ensuite for faecally incontinent patients is preferred.
Enterobiasis (*Enterobius vermicularis*)	Helminth	Ingestion; not transmitted person-to-person	S	Duration of illness	-
Enterococcus, vancomycin-resistant (VRE)	Bacterial	Contact	S + C	Duration of illness	Single room with ensuite for faecally incontinent patients is preferred.
Enteroviral infections (i.e. Group A and B Coxsackie viruses and Echo viruses) (excludes polio virus)	Viral (non-enveloped)	Contact	S	Duration of illness	Use Contact Precautions for nappied or incontinent children for duration of illness and to control institutional outbreaks.
Epiglottitis *due to Haemophilus influenzae type b*	Bacterial	Droplet; contact (rare)	S + D	Until 48 hours after initiation of effective therapy	See specific disease agents for epiglottitis due to other etiologies.
Escherichia coli (if STEC)	Bacterial	Contact	S (+ C as per additional comments)	Duration of illness	Use Contact precautions for nappied or incontinent persons for the duration of illness or to control institutional outbreaks.
Escherichia coli *Other strains*	Bacterial	Contact	S (+ C as per additional comments)	Duration of illness	Use Contact precautions for nappied or incontinent persons for the duration of illness or to control institutional outbreaks.

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Extended-spectrum beta-lactamase producing Enterobacteriaceae	Bacterial	Contact	Standard	Duration of symptomatic illness	*The use of additional precautions, such as contact precautions, may be required for some organisms and should be determined locally based on a risk assessment of factors including: • the bacterial species (particularly ESBL- Klebsiella pneumoniae) • antimicrobial susceptibility patterns • local endemicity of the organism (including local clonality) • outbreak potential.
Furunculosis *staphylococcal*	Bacterial	Contact	S (+ C as per additional comments)	Duration of illness	Contact precautions if drainage not controlled. Follow institutional policies if MRSA.
Furunculosis *staphylococcal* Infants and young children	Bacterial	Contact	S + C	Duration of illness (with wound lesions, until wounds stop draining)	-
Gastroenteritis *Adenovirus*	Viral (non-enveloped)	Ingestion; contact	S (+ C as per additional comments)	Duration of illness	Use Contact Precautions for nappied or incontinent persons for the duration of illness or to control institutional outbreaks.
Gastroenteritis *C. difficile*	Bacterial	Ingestion; contact	S + C	Duration of illness	Discontinue antibiotics if appropriate. Do not share electronic thermometers; ensure consistent environmental cleaning and disinfection. Hypochlorite solutions may be required for cleaning if transmission continues. Hand washing with soap and water preferred because of the absence of sporicidal activity of alcohol in waterless antiseptic hand rubs.

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Gastroenteritis *Cryptosporidium*	Protozoan	Ingestion	S (+ C as per additional comments)	Duration of illness	Use Contact Precautions for nappied or incontinent persons for the duration of illness or to control institutional outbreaks.
Gastroenteritis - bacterial (*Salmonella, Shigella, Campylobacter*)	Bacterial	Ingestion; contact	S (+ C as per additional comments)	24 hours after symptoms cease	Use Contact Precautions for nappied or incontinent persons for the duration of illness or to control institutional outbreaks for gastroenteritis caused by all of the agents below.
Gastroenteritis *Vibrio parahaemolyticus*	Bacterial	Ingestion	S (+ C as per additional comments)	Duration of illness	Use Contact Precautions for nappied or incontinent persons for the duration of illness or to control institutional outbreaks.
Gastroenteritis *Yersinia enterocolitica*	Bacterial	Ingestion; contact	S (+ C as per additional comments)	Duration of illness	Use Contact Precautions for nappied or incontinent persons for the duration of illness or to control institutional outbreaks.
Giardia	Protozoan	Ingestion	S	Duration of illness	Use Contact precautions for nappied or incontinent persons for the duration of illness.
Gonococcal ophthalmia neonatorum (acute conjunctivitis of newborn)	Bacterial	Contact	S	Duration of illness	-
Gonorrhoea *Neisseria gonorrhoeae*	Bacterial	Sexual; contact	S	Duration of illness	-
Granuloma inguinale (Donovanosis, granuloma venereum) *Klebsiella granulomatis*	Bacterial	Sexual; contact	S	Duration of illness	-
Guillain-Barré syndrome	Autoimmune; not an infectious condition	Not an infectious condition	S	Duration of illness	Not an infectious condition.
Haemophilus influenzae (type b only) meningitis	Bacterial	Droplet; contact (rare)	S + D	Until 24 hours after initiation of effective therapy	-
Haemophilus influenzae (type b only) pneumonia—adults	Bacterial	Droplet; contact (rare)	S	Until 24 hours after initiation of effective therapy	-

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Haemophilus influenzae (type b only) pneumonia—children	Bacterial	Droplet; contact (rare)	S + D	Until 24 hours after initiation of effective therapy	-
Helicobacter pylori	Bacterial	Exact route of transmission uncertain, contact most likely important	S	Duration of illness	-
Hendra virus *(paramyxovirus)*	Viral	Direct contact with respiratory secretions and bodily substances; Flying foxes (fruit bats) to horses then horse to human	S + C + D (+ A as per additional comments)	Duration of illness	Current evidence does not support airborne exposure as a recognised mode of transmission; however, employ airborne precautions for aerosol- generating procedures.
Hepatitis A	Viral (non-enveloped)	Ingestion; Contact	S (+ C as per additional comments)	For 7 days after onset of jaundice; for duration of hospitalisation for children <3 years	Immunise if at high risk; provide hepatitis A vaccine or normal human immunoglobulin (NHIG) post-exposure as recommended. Use Contact Precautions for nappied or incontinent persons for the duration of illness.
Hepatitis B	Viral (enveloped)	Bloodborne	S	Duration of illness	Immunise and test all healthcare workers. Occupational exposure protocol for bloodborne viruses.
Hepatitis C	Viral (enveloped)	Bloodborne	S	Duration of illness	Occupational exposure protocol for bloodborne viruses.
Hepatitis D	Viral (enveloped)	Bloodborne, cannot occur without hepatitis B coinfection	S	Duration of illness	Immunise and test all healthcare workers for hepatitis B. Occupational exposure protocol for bloodborne viruses.
Hepatitis E	Viral (non-enveloped)	Ingestion; contact	S (+ C as per additional comments)	Period of communicability unknown, probably at least 14 days after onset of jaundice	Use Contact Precautions for nappied or incontinent individuals for the duration of illness.
Hepatitis G (GB virus C)	Viral (enveloped)	Bloodborne; sexual	S	Duration of illness	-
Herpes simplex virus infection	Viral (enveloped)	Contact (droplet, fomites, lesions)	S	Duration of illness	-
Herpes simplex virus infection encephalitis	Viral (enveloped)	Contact (droplet, fomites, lesions)	S	Duration of illness	-

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Herpes simplex virus infection mucocutaneous, disseminated or primary, severe	Viral (enveloped)	Contact (droplet, fomites, lesions)	S + C	Until lesions dry and crusted	-
Herpes simplex virus infection mucocutaneous, recurrent (skin, oral, genital)	Viral (eveloped)	Contact (droplet, fomites, lesions)	S	Duration of illness	-
Herpes simplex virus infection neonatal	Viral (enveloped)	Contact (droplet, fomites, lesions)	S + C	Until lesions dry and crusted	Also, for asymptomatic, exposed infants delivered vaginally or by C-section and if mother has active infection and membranes have been ruptured for more than 4 to 6 hours until infant surface cultures obtained at 24-36 hours of age negative after 48 hours incubation.
Herpes zoster (disseminated shingles) disseminated disease generally in those with suppressed immune function, characterised by skin lesions outside the affected dermatome and dermatomes directly adjacent to the affected dermatome, with potential involvement of other organs	Viral (enveloped)	Airborne droplets; direct contact with fluid in blisters	S+ C + A	Duration of illness	Susceptible healthcare workers should not provide direct patient care when other immune caregivers are available.
Herpes zoster (shingles) localised disease in patients with intact immune system, characterised by skin lesions that follows a dermatome	Viral (enveloped)	Direct contact with fluid in blisters	S	Duration of illness (if wound lesions, until wounds cease draining, are dry and crusted)	Susceptible healthcare workers should not provide direct patient care when other immune caregivers are available.
Hookworm (*Necator Ancylostoma*)	Helminth	Skin penetration; not transmitted person-to-person	S	Duration of illness	-
Human Immunodeficiency Virus (HIV)/AIDS	Viral (enveloped)	Bloodborne; sexual	S	Duration of illness	Occupational exposure protocol for bloodborne viruses; post-exposure prophylaxis if indicated; patients with complicating conditions (e.g. tuberculosis) may need further precautions.

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Human Metapneumovirus	Viral (enveloped)	Contact; droplet	S + C	Duration of illness	Wear masks according to standard precautions.
Impetigo	Bacterial	Contact	S + C	Until 24 hours after initiation of effective therapy	-
Infectious mononucleosis (glandular fever)	Viral (enveloped)	Saliva via oropharyngeal route	S	Duration of illness	-
Influenza	Viral (enveloped)	Droplet; contact (both direct & indirect)	S + C + D	Until after 72 hours of the patient receiving anti- influenza medication; or five days have elapsed since onset of respiratory symptoms. May be longer for young children, immunosuppressed or ICU patients.	Annual immunisation recommended.
Influenza Avian	Viral (enveloped)	Transmission rare (see additional comments)	S + D + A + C	Duration of illness	Transmission of infection from birds to humans is rare. When it has occurred, it is believed to have resulted from close contact with infected poultry or breathing in dust contaminated with their excretions. Transmission has been thought to occur by ingesting uncooked poultry products (including raw blood) from H5N1 infected poultry. The spread of these viruses from one ill person to another through prolonged, unprotected, close contact has been reported very rarely, and has been limited, inefficient and not sustained.
Kawasaki syndrome	Not an infectious condition	Not an infectious condition	S	Duration of illness	Not an infectious condition.
Legionellosis (Legionnaires' Disease)	Bacterial	Inhalation of aerosolised contaminated water (not person-to-person)	S	Duration of illness	Not transmitted from person-to-person.
Leprosy	Bacterial	Contact	S	Duration of illness	-
Leptospirosis (*Leptospira* spp)	Bacterial	Contact	S	Duration of illness	Not transmitted from person-to-person.

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Lice (pediculosis) Head	Arthropod	Contact	S + C	Contact until 24 hours after initiation of effective therapy, then Standard	-
Lice (pediculosis) Body	Arthropod	Contact	S	Duration of illness	Transmitted person to person through infested clothing. Wear gown and gloves when removing clothing. Bag and wash clothing in hot cycle.
Lice (pediculosis) Pubic	Arthropod	Contact (sexual)	S	Duration of illness	-
Listeriosis (*Listeria monocytogenes*)	Bacterial	Usually via contaminated foods	S	Duration of illness	Person to person transmission rare with the exception of vertical—mother-fetus—transmission.
Malaria	Protozoan	Mosquito bite; not transmitted person-to- person (except rarely through blood transfusions)	S	Duration of illness	If in a malaria receptive area, ensure adherence to local public health guidelines as these may contain region specific instructions.
Measles (rubeola) virus	Viral (enveloped)	Airborne; contact with discharges from respiratory and mucous membranes	S + A	Until 4 days after rash appears: duration of illness in immune compromised patients	Screen by history/ serology; pre-employment measles, mumps, rubella vaccine (MMR) if not pregnant. Non-immune staff should not care for patient.
Melioidosis (*Burkholderia pseudomallei*)	Bacterial	Inoculation; inhalation; not transmitted person-to-person	S	Duration of illness	-
Methicillin-resistant *Staphylococcus aureus* **(MRSAs)**	Bacterial	Contact	S + C (+ D as per additional comments)	Duration of illness	Droplet precautions should be used for patients known to be infected or colonised with MRSA. Droplet precautions should be used for patients with MRSA in the lower respiratory tract when patient care activities are likely to expose healthcare workers.
Meningitis Bacterial, gram-negative enteric, in neonates	Bacterial	Variable depending on the type of bacteria. Most commonly mothers can pass on *Streptococcus* and *Escherichia coli* to their babies during labour and birth.	S	Duration of illness	-

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Meningitis Fungal	Fungal	Not transmitted person to person. Fungal meningitis can develop after a fungus spreads through the bloodstream from somewhere else in the body.	S	Duration of illness	-
Meningitis *Streptococcus pneumoniae*	Bacterial	Contact	S	Duration of illness	-
Meningococcal infection *(Neisseria meningitidis)*	Bacterial	Droplet	S + D	For 24 hours after beginning effective treatment.	Immunisation possible in outbreaks. Post-exposure prophylaxis if indicated. Follow up of contacts may be required.
Middle East Respiratory Syndrome *Coronavirus* (MERS-CoV)	Viral	Not fully known. Presumed contact; droplet; airborne	S + C + D + A	Transmission-based precautions should be applied throughout any admission; additional isolation precautions should be continued until at least 24 hours after the resolution of symptoms.	-
Molluscum contagiosium	Viral (enveloped)	Contact	S	Duration of illness	-
Monkeypox	Viral (enveloped)	Contact; inhalation; droplet	S + C + A	Airborne – Until monkeypox confirmed and smallpox excluded Contact – Until lesions crusted.	-
Mucormycosis (*Mucor, Rhizopus, Absidia, Cunninghamella* etc.)	Fungal	Inhalation; inoculation; not transmitted person-to-person	S	Duration of illness	-
Mumps	Viral (enveloped)	Contact; droplet (respiratory secretions)	S + D	Until 5 days after onset of swelling. Exposed non-immune people should be considered infectious from 12th-25th day after exposure, with or without symptoms.	Screen by serology; pre-employment measles mumps rubella vaccine (MMR) if not pregnant.
Murray Valley Encephalitis Virus	Viral	Mosquito bite; not transmitted person-to-person	S	Duration of illness	-
Mycobacteria, nontuberculous (atypical) (*see also* Tuberculosis)	Bacterial	Inoculation; inhalation; not transmitted person-to-person	S	Duration of illness	-

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Mycoplasma pneumonia	Bacterial	Droplet	S + D	Duration of illness	-
Necrotising enterocolitis	Bacterial	Usually endogenous	S (+ C as per additional comments)	Duration of illness	Contact precautions when cases clustered temporally.
Nocardiosis (*Nocardia* spp)	Bacterial	Inhalation; inoculation; not transmitted person-to-person	S	Duration of illness	-
Norovirus	Viral (non-enveloped)	Contact (droplet in certain circumstances)	S + C (+ D if determined to be necessary by risk assessment)	For a minimum of 48 hours after the resolution of symptoms or to control institutional outbreaks	The use of contact and/or droplet precautions may be required for incontinent patients or during outbreaks. This should be based on a risk assessment. Alcohol-based hand hygiene products are less effective than hand washing with soap and water for this infectious agent. Healthcare workers should use a surgical mask while patient is symptomatic. Persons who clean areas heavily contaminated with faeces or vomitus may benefit from wearing masks since virus can be aerosolized from these body substances. Cohorting of affected patients to separate airspaces and toilet facilities may help interrupt transmission during outbreaks.
Orf	Viral (enveloped)	Contact (from animals); not transmitted person-to-person	S	Duration of illness	-
Parainfluenza	Viral (enveloped)	Droplet	S + C	Duration of illness	Viral shedding may be prolonged in immunosuppressed patients.
Parvovirus B19 Infection *(Erythema infectiosum)*	Viral (non-enveloped)	Droplet	S + D	Duration of illness	-

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Pertussis (Whooping cough)	Bacterial	Droplet	S + D	Until at least 5 days after commencement of appropriate antibiotic therapy, or; for 21 days after the onset of symptoms if not receiving antibiotic treatment, or; for 14 days after the onset of paroxysmal cough (if the onset is known).	Pre-employment booster/vaccination recommended; post-exposure prophylaxis for healthcare worker in late pregnancy and high risk areas.
Plague (*Yersinia pestis*)	Bacterial	Flea bites, contact, droplets	S	Duration of illness	-
Plague (*Yersinia pestis*) bubonic	Bacterial	Flea bites, contact	S	Duration of illness	-
Plague (*Yersinia pestis*) pneumonic	Bacterial	Droplet	S + D	Until 48 hours after initiation of effective antibiotic therapy. Patient must be in respiratory isolation room.	Antimicrobial prophylaxis for exposed healthcare workers.
Pneumococcal pneumonia (*Streptococcus pneumoniae*)	Bacterial	Droplet	S (+ D if evidence of transmission within a facility)	Duration of illness	-
Pneumocystis pneumonia (*Pneumocystis jiroveci*)	Fungal	Uncertain	S		Avoid placement in the same room with an immunocompromised patient.
Pneumonia *Adenovirus*	Viral (non-enveloped)	Droplet	S + D + C	Duration of illness	In immunocompromised hosts, extend duration of Droplet and Contact Precautions due to prolonged shedding of virus.
Pneumonia *B. cepacia* in patients with cystic fibrosis, including respiratory tract colonization	Bacterial	Contact; contaminated medicines	S + C	Unknown	Avoid exposure to other persons with cystic fibrosis; private room preferred. Criteria for D/C precautions not established. See cystic fibrosis Foundation guideline.
Pneumonia *Legionella spp.*	Bacterial	Inhalation; not transmitted person-to-person	S	Duration of illness	-
Pneumonia Meningococcal	Bacterial	Droplet	S + D	Until 24 hours after initiation of effective therapy	-
Pneumonia Viral	Viral	Droplet; contact	S + D	Duration of illness	-

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Poliomyelitis	Viral (enveloped)	Ingestion	S + C	Duration of illness; may be shed in faeces for up to 6 weeks	Healthcare workers should be vaccinated (if have not had childhood vaccinations); non-immune healthcare workers should not care for patient.
Pressure ulcer (decubitus ulcer, pressure sore) Infected Major	Bacterial (commonly)	Not transmitted person-to-person	S + C	Duration of illness	-
Pressure ulcer (decubitus ulcer, pressure sore) Infected Minor	Bacterial (commonly)	Not transmitted person-to-person	S	Duration of illness	-
Psittacosis/ Ornithosis (*Chlamydophila psittaci*)	Bacterial	Inhalation of *C. psittaci* which has been aerosolised from dried faeces, feather dust, or respiratory secretions of infected birds; mouth-to-beak contact	S	Duration of illness	Person-to-person transmission has been reported only rarely—hence the infectious period is unknown.
Q Fever (*Coxiella burnetii*)	Bacterial	Inhalation; not transmitted person-to-person (rarely by sexual contact)	S	Duration of illness	-
Rabies/Australian Bat Lyssavirus	Viral (enveloped)	Transmitted by animal bites, scratches, or by contamination of mucous membranes or broken skin	S + C	Duration of illness	Person to person transmission rare; if patient bites another person wash exposed area thoroughly and administer post-exposure prophylaxis.
Respiratory Syncytial Virus (RSV)	Viral (enveloped)	Contact; droplet	S + C + D	Duration of illness	Use mask according to Standard Precautions. Avoid contact between the person who is ill and infants, young children, frail and elderly people, or immunocompromised patients until the person is feeling well. May be prolonged shedding in immunocompromised patients—as such, extend duration of Contact Precautions.
Rheumatic Fever	Not an infectious condition	Not an infectious condition	S	Duration of illness	Not an infectious condition.

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Rhinovirus	Viral (non-enveloped)	Contact; droplet	S + C + D	Duration of illness	Avoid contact between the person who is ill and infants, young children, frail and elderly people, or immunocompromised patients until the person is feeling well.
Rickettsial fevers e.g. Tick typhus, Flinders Island Spotted Fever, Australian Spotted Fever)	Bacterial	Tick bites; not transmitted person-to-person	S	Duration of illness	-
Roseola infantum (*exanthum subitum*) HHV-6	Viral (enveloped)	Unknown, thought to be through oral secretions; low infectivity	S	Duration of illness	-
Rotavirus gastroenteritis	Viral (non-enveloped)	Ingestion; contact; droplet	S + C	Duration of illness	Alcohol-based hand hygiene products are less effective than hand washing with soap and water for this infectious agent. Ensure consistent environmental cleaning and disinfection and frequent removal of soiled diapers. Prolonged shedding may occur in both immunocompetent and immunocompromised children and the elderly.
Rubella	Viral (enveloped)	Contact; droplet	S + D (+ contact if touching respiratory secretions and bodily substances)	Until 7 days after onset of rash	Screen by serology; pre-employment MMR if not pregnant; non-immune and pregnant staff should not attend patient.
Rubella Congenital	Viral (enveloped)	Vertical	S + C	Until 1 year of age	Standard precautions may be used if nasopharyngeal and urine cultures are repeatedly negative after 3 months of age; non-immune pregnant staff should not attend patient.
Scabies (*Sarcoptes scabiei*)	Arthropod infestation	Contact (skin to skin) or from infested fomites	S + C	Until 24 hours after treatment commenced	Healthcare workers should be excluded from work until effective treatment has been commenced.
Schistosomiasis (*Schistosoma* spp)	Helminth	Skin penetration; not transmitted person-to-person	S	Duration of illness	-

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Severe Acute Respiratory Syndrome (SARS)	Viral (enveloped)	Contact; droplet; airborne	S + C + D + A	Duration of illness + 10 days after resolution of fever, provided respiratory symptoms are absent or improving	N95 or higher respiratory protection; surgical mask if N95 unavailable; eye protection (goggles, face shield); aerosol-generating procedures and "super-shedders" highest risk for transmission via small droplet nuclei and large droplets.
Smallpox (variola)	Viral (enveloped)	Contact; droplet; inhalation; contaminated fomites	S + C + A	Duration of illness	Until all scabs have crusted and separated (3-4 weeks). Non-vaccinated healthcare workers should not provide care when immune healthcare workers are available; P2/ N95 or higher respiratory protection for both susceptible and successfully vaccinated individuals; post- exposure vaccine within 4 days of exposure is protective.
Sporotrichosis	Fungal	Contact; inhalation; not transmitted person-to-person	S	Duration of illness	-
Staphylococcal infection (*Staphylococcus aureus*)	Bacterial	Contact	S for MSSA unless unable to contain wound drainage S + C for MRSA	Duration of illness	Screen staff with exfoliative skin conditions. Due to the multitude of cases, isolation of patients with MRSA may not be feasible. In each case, the implementation of contact precautions and isolation should be based on an appropriate risk assessment.
Staphylococcal infection (*Staphylococcus aureus*) Scalded skin syndrome	Bacterial	Contact	S + C	Duration of illness	Consider healthcare workers as potential source of nursery or NICU outbreaks.
Staphylococcal infection (*Staphylococcus aureus*) Skin, wound, or burn—Major	Bacterial	Contact	S + C	Duration of illness for draining wound	No dressing or dressing does not contain drainage adequately.

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
					Dressing covers and contains drainage adequately.
Staphylococcal infection (*Staphylococcus aureus*) Skin, wound, or burn—Minor or limited	Bacterial	Contact	S (+ C if MRSA)	Duration of illness for draining wound	Due to the multitude of cases, isolation of patients with MRSA may not be feasible. In each case, the implementation of contact precautions and isolation should be based on an appropriate risk assessment.
Staphylococcal infection (*Staphylococcus aureus*) Enterocolitis	Bacterial	Ingestion	S (+ C if MRSA)	Duration of illness	Use Contact Precautions for nappied or incontinent children for duration of illness. Due to the multitude of cases, isolation of patients with MRSA may not be feasible. In each case, the implementation of contact precautions and isolation should be based on an appropriate risk assessment.
Staphylococcal infection (*Staphylococcus aureus*) Pneumonia	Bacterial	Contact	S (+ C if MRSA)	Until 24 hours after treatment commenced	Due to the multitude of cases, isolation of patients with MRSA may not be feasible. In each case, the implementation of contact precautions and isolation should be based on an appropriate risk assessment. Added infection control precautions may be required for cases with infections due to multi-resistant organisms.
Staphylococcal infection (*Staphylococcus aureus*) Toxic shock syndrome	Bacterial	Contact; not transmitted person-to-person	S	Duration of illness	-
Streptococcal infection (Group A)	Bacterial	Contact	S	Duration of illness	-
Streptococcal infection (Group A) Skin, wound, or burn—Major	Bacterial	Contact	S + C + D	Until 24 hours after treatment commenced	Until drainage stops or can be adequately contained by dressing.
Streptococcal infection (Group A) Skin, wound, or burn—Minor or limited	Bacterial	Contact	S	Duration of illness	If dressing covers and contains drainage adequately.

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Streptococcal infection (Group A) Endometritis (puerperal sepsis)	Bacterial	Contact	S	Duration of illness	-
Streptococcal infection (Group A) Pharyngitis in infants and young children	Bacterial	Contact	S + D	Until 24 hours after treatment commenced	-
Streptococcal infection (Group A) Pneumonia	Bacterial	Contact	S + D	Until 24 hours after treatment commenced	-
Streptococcal infection (Group A) Scarlet Fever in infants and young children	Bacterial	Contact	S + D	Until 24 hours after treatment commenced	-
Streptococcal infection (Group A) Serous invasive disease	Bacterial	Contact	S + D	Until 24 hours after treatment commenced	Outbreaks of serious invasive disease have occurred secondary to transmission among patients and healthcare personnel.
Streptococcal Disease (Group B) Neonatal	Bacterial	Vertical	S	Duration of illness	-
Strongyloidiasis (*Strongyloides stercoralis*)	Helminth	Skin penetration; not transmitted person-to-person	S	Duration of illness	-
Syphilis	Bacterial	Sexually or vertically transmitted; close skin contact; infected blood	S	Duration of illness	-
Tetanus	Bacterial	Inoculation; not transmitted person-to-person	S	Duration of illness	-
Tinea (dermatophytosis, dermatomycosis, ringworm)	Fungal	Inoculation; rarely transmitted person-to-person	S	Duration of illness	-
Toxoplasmosis (*Toxoplasma gondii*)	Protozoan	Ingestion; rarely transmitted person-to- person (vertical, blood transfusion)	S	Duration of illness	Transmission from person to person is rare; vertical transmission from mother to child, transmission through organs and blood transfusion rare.
Trachoma (*Chlamydia trachomatis*)	Bacterial	Contact; eye-seeking flies; infected ocular and nasal secretions	S	Duration of illness	-
Trichomoniasis (*Trichomonas vaginalis*)	Protozoan	Sexually transmitted	S	Duration of illness	-

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Tuberculosis	Bacterial	Airborne	S + A	Duration of illness	Pre-employment, screening. Regular screening for at-risk healthcare workers/ BCG may be offered in specific situations.
Tuberculosis Extrapulmonary, draining lesion	Bacterial	Airborne	S + A + C	Until patient improving clinically and drainage has ceased or 3 consecutive negative cultures	-
Tuberculosis Extrapulmonary but no draining lesion; meningitis	Bacterial	Airborne	S (+ A as per additional comments)	Duration of illness	Examine for pulmonary TB. For infants and children use airborne precautions until active pulmonary TB ruled out in visiting family members.
Tuberculosis Pulmonary or laryngeal disease, confirmed	Bacterial	Airborne	S + A	Usually until after 1 week of treatment and 3 sputum smears negative; consult with respiratory physician	-
Tuberculosis Pulmonary or laryngeal disease, suspected	Bacterial	Airborne	S + A	Until TB excluded; alternate diagnosis or 3 sputum smears AFB negative, each specimen collected 8-24 hours apart and at least one an early morning specimen	-
Tuberculosis Skin test positive; no evidence of current active disease	Bacterial	Not an infectious condition	S	Duration of illness	-
Tularaemia (*Francisella tularensis*)	Bacterial	Arthropod bites; inoculation; inhalation; ingestion; not transmitted person-to-person	S	Duration of illness	-
Typhoid (*Salmonella Typhi*)	Bacterial	Faecal-oral route; Ingestion of contaminated water and food	S (+ C as per additional comments)	Duration of illness	Transmission by direct person-to- person contact can occur but is rare. Individual toilet is preferred in addition to Standard Precautions. Use Contact Precautions for nappied or incontinent persons for the duration of illness or to control institutional outbreaks.

Disease/Organism	Type of infection	Transmission route	Required precaution/s	Duration of precautions	Additional comments
Typhus Rickettsia prowazekii (Epidemic or Louse-borne Typhus)	Bacterial	Contact with infected body lice	S	Duration of illness	Transmitted from person-to-person through close personal or clothing contact.
Vancomycin-resistant Enterococcus (VRE)	*see Enterococcus, vancomycin-resistant[VRE]*				
Varicella-Zoster Virus	*See chickenpox; herpes zoster (disseminated shingles); herpes zoster (shingles)*				
Viral haemorrhagic fevers (VHF) Crimean-Congo, Ebola, Lassa, Marburg	Viral (enveloped)	Contact with blood or body substances (mucosal, parenteral) either directly or indirectly Lassa fever: aerosols	S + C + D	Duration of illness; isolation room	Emphasise: use of sharps safety devices and safe work practices; hand hygiene; barrier protection against blood and body substances upon entry into room—gloves, fluid- resistant or impermeable gowns, face/eye protection with masks, goggles or face shields; appropriate waste handling.
Wound infections Major	Bacterial (usually)	Contact	S + C	Duration of illness	Until drainage stops or can be contained by dressing.
Wound infections Minor or limited	Bacterial (usually)	Contact	S	Duration of illness	If dressing covers and contains drainage.
Zika virus (ZIKV)	Viral (enveloped)	Mosquito bite; Sexually or vertically transmitted (maternal-fetal and perinatal)	S	Duration of illness	Infected people (confirmed and probable cases) should be advised against travelling to the ZIKV-receptive area of Australia until at least a week after the onset of their illness or laboratory confirmation of the presence or otherwise of ZIKV infection. People with ZIKV infection should be advised to take particular precautions against being bitten by mosquitoes for up to a week from onset of illness or laboratory confirmation of ZIKV infection, in order to reduce the risk of local vector-borne transmission.

Source: *Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (Appendix A updated September 2018)*[86]*; Series of National Guidelines (SoNGs)*[356]

6.5 Collection of pathology specimens

Best practice in the identification, collection and handling of pathology specimens involves:

- adherence to standard infection prevention precautions is required for all procedures involving the collection and handling of pathology specimens
- specimens that are to go to histopathology should be placed in a pathology biohazard bag, and then into the specimen bucket
- the label should be stuck on the container immediately before the specimen is placed in the specimen bucket
- larger specimens require a clear plastic bag, and should then be placed in a specimen bucket
- following the Australian Commission on Safety and Quality in Health Care's *'Ensuring correct patient, correct site, correct procedure protocol'* to confirm the right specimen has been collected from the right patient and labelled correctly. Double verification of the process should occur.

For more information, see the National Pathology Accreditation Advisory Council Standards [422].

6.6 Allowing animals into healthcare facilities

Assistance, therapeutic and companion animals are increasingly being used in Australian healthcare facilities. Healthcare facilities are encouraged to develop policies on infection control and hand hygiene for animal-assisted interventions, with input from an infection control expert. This may include[424]:

- ensuring regular hand hygiene is performed before and after entering a patient care area, before and after handling an animal, and after toileting an animal
- restricting entrance into clinical areas such as operating theatres, intensive care units, isolation rooms, neonatal and newborn nurseries, and other areas identified specifically by the healthcare facility
- ensuring routine environmental cleaning or disinfection is performed after animal visits
- ensuring that all animals visiting or permanently residing in the healthcare facility have been assessed by a veterinarian, screened for parasites and skin problems, and are fully vaccinated (a veterinary immunisation certificate should be provided).

For further information see the Australian College for Infection Prevention and Control position statement on animal visits in healthcare facilities[425].

6.7 Mechanisms of antibacterial action of antiseptics and disinfectants

Antiseptics and disinfectants are used widely in healthcare facilities for a variety of topical and hard-surface applications. Both antiseptics and disinfectants reduce the number of micro-organisms, with the former used on living tissues and the latter on nonliving objects.

The table below provides information on the mode of action of active agents in different antiseptics and disinfectants.

Table A2.6. Active agents in antiseptics and disinfectants

Target	Antiseptic or disinfectant	Mode of action
Cytoplasmic (inner) membrane	Disinfectant: Quaternary ammonium compounds (QACs)	Generalised membrane damage involving phospholipid bilayers. Bactericidal action of the quaternaries has been attributed to the inactivation of energy- producing enzymes, denaturation of essential cell proteins, and disruption of the cell membrane.
	Disinfectant and antiseptic: Chlorhexidine	Low concentrations affect membrane integrity, high concentrations cause congealing of cytoplasm.
	Disinfectant: Phenols	Leakage; some cause uncoupling. In high concentrations, phenol acts as a gross protoplasmic poison, penetrating and disrupting the cell wall and precipitating the cell proteins. Low concentrations of phenol and higher molecular-weight phenol derivatives cause bacterial death by inactivation of essential enzyme systems and leakage of essential metabolites from the cell wall.
Cross-linking of macromolecules	Disinfection: Formaldehyde	Cross-linking of proteins, RNA, and DNA. Formaldehyde inactivates microorganisms by alkylating the amine and sulfhydryl groups of proteins and ring nitrogen atoms of purine bases.
Denaturing protein, dissolving lipids, membrane damage	Disinfectant and antiseptic: alcohols (isopropyl and ethyl alcohol)	Primary mode of action of alcohols is through membrane damage, rapid denaturing of proteins and dissolving of lipids. Effective against many types of bacterial and viral cells but is not sporicidal.
DNA intercalation	Disinfectant and antiseptic: Acridines	Intercalation of an acridine molecule between two layers of base pairs in DNA.
Interaction with thiol groups	Disinfectant and antiseptic: Silver compounds	Membrane-bound enzymes (interaction with thiol groups).
Effects on DNA	Disinfectant and antiseptic: Halogen- releasing agents (sodium hypochlorite), Hydrogen peroxide, silver ions	DNA strand breakage. Hydrogen Peroxide: produces destructive hydroxyl free radicals that can attack membrane lipids, DNA and other essential cell components.
Oxidizing agents	Disinfectant and antiseptic: Halogen- releasing agents (sodium hypochlorite), Peroxygens	Hydrogen peroxide: Activity due to formation of free hydroxyl radicals (OH), which oxidize thiol groups in enzymes and proteins. Peracetic acid (PAA): Disruption of thiol groups in proteins and enzymes.

Target	Antiseptic or disinfectant	Mode of action
Cell envelope (cell wall, outer membrane)	Disinfectant: Ethylenediaminetetraacetic (EDTA), other permeabilizers	Gram-negative bacteria: Removal of Mg2+, release of some of some lipopolysaccharides (LPS).
	Disinfectant and high level sterilant: Glutaraldehyde	Cross-linking of proteins. As an aqueous solution Glutaraldehyde is acidic and generally in this state not sporicidal. However, if the solution is activated through alkalinating agents (pH 7.5-8.5) the solution becomes sporicidal. The biocidal activity is a result from its alkylation of sulfhydryl, hydroxyl, carboxyl, and amino groups of microorganisms, which alters RNA, DNA, and protein synthesis.
Cytoplasmic (inner) membrane	Disinfectant: Diamines	Induction of leakage of amino acids.
	Disinfectant and antiseptic: Polyhexanide (polyhexamethylene biguanide; PHMB), Alxidine	Phase separation and domain formation of membrane lipids.

Adapted from: Antiseptics and Disinfectants: Activity, Action and Resistance[418]; Disinfection and Sterilisation[422]

6.8 Summary table of relevant infection prevention and control resources

It is acknowledged that the example resources provided below may be updated on a regular basis. To ensure best practice is being followed, ensure the current electronic version is being accessed.

Table A2.7. Infection prevention and control resources

Topic	Organisation	Resource
National		
Clostridium difficile (Clostridioides difficile)	Australasian Society for Infectious Diseases (ASID)/ Australasian College for Infection Prevention and Control (ACIPC)	ASID/ACIPC position statement – Infection control for patients with *Clostridium difficile* infection in healthcare facilities
Carbapenemase-producing *Enterobacterales* (CPE)	Australian Commission on Safety and Quality in Health Care (2017)	Recommendations for the control of carbapenemase-producing Enterobacteriaceae (CPE): A guide for acute care health facilities
Antimicrobial stewardship	Australian Commission on Safety and Quality in Health Care (2011)	Antimicrobial Stewardship in Australian Hospitals
Surgical Site Infection surveillance	Australian Commission on Safety and Quality in Health Care (2017)	Approaches to Surgical Site Infection Surveillance: For acute care settings in Australia
Dental	Australian Dental Association (2015)	Guidelines for Infection Control
Influenza Kit for Aged Care	Australian Government Department of Health	Influ-Info Influenza Kit for Aged Care
Facility design	Australasian Health Infrastructure Alliance (2016)	Australasian Health Facility Guidelines: Part D - Infection Prevention and Control

Topic	Organisation	Resource
Reprocessing	Australasian Society for Ultrasound in Medicine (2017)	Guidelines for Reprocessing Ultrasound Transducers
Post-exposure prophylaxis	Australasian Society of HIV Medicine (2016)	National guidelines for post-exposure prophylaxis after non- occupational and occupational exposure to HIV
Immunisation	Australian Technical Advisory Group on Immunisation (2017)	The Australian Immunisation Handbook, 10th edition
PIVC	Clinical Excellence Commission (2013)	Peripheral Intravenous Cannula (PIVC) Insertion and Post Insertion Care in Adult Patients
Gastroenteritis outbreaks	Communicable Diseases Network Australia (2010)	Guidelines for the public health management of gastroenteritis outbreaks due to norovirus or suspected viral agents in Australia
Healthcare workers positive for blood-borne viruses	Communicable Diseases Network Australia (2018)	Australian National Guidelines for the Management of Health Care Workers known to be Infected with Blood-Borne Viruses
Management of Influenza Outbreaks in Residential Care Facilities	Communicable Diseases Network Australia (2017)	Guidelines for the Prevention, Control and Public Health Management of Influenza Outbreaks in Residential Care Facilities in Australia
Ebola	Department of Health (2015)	Infection prevention and control principles and recommendations for Ebola virus disease
Creutzfeld-Jakob disease	Department of Health (2013)	Creutzfeld-Jakob Disease Infection Control Guidelines
Endoscopy	Gastroenterological Nurses College of Australia (2010)	Infection Control in Endoscopy
Hand hygiene	Australian Commission on Safety and Quality in Healthcare (2017)	National Hand Hygiene Initiative Manual
Australian Standards	Standards Australia	Australian Standards relevant to healthcare facilities
Office-based and community-based practices	The Royal Australian College of General Practitioners (2014)	Infection Prevention and Control Standards: For general practices and other office-based and community-based practices
International		
MRSA	Calfee et al (2014)	Strategies to Prevent Methicillin-Resistant Staphylococcus aureas Transmission and Infection in Acute Care Hospitals
Intravascular access devices	Centers for Disease Control and Prevention (2011)	Guidelines for the Prevention of Intravascular Catheter-Related Infections
Environmental infection control	Centers for Disease Control and Prevention (2003)	Guidelines for Environmental Infection Control in Health-Care Facilities
Outpatient settings	Centers for Disease Control and Prevention (2016)	Guide to Infection Prevention for Outpatient Settings: Minimum Expectations for Safe Care
Clostridium difficile	Cohen et al (2010)	Clinical Practice Guidelines for Clostridium difficile Infection in Adults
Norovirus	Hall et al (2011)	Updated Norovirus Outbreak Management and Disease Prevention Guidelines
Hospital-acquired and ventilator associated pneumonia	Kalil et al (2016)	The 2016 Clinical Practice Guidelines for the Management of Adults with Hospital-acquired and Ventilator-associated Pneumonia

Topic	Organisation	Resource
General infection prevention	Loveday et al (2014)	epic3: National Evidence-Based Guidelines for Preventing Healthcare- Associated Infections in NHS Hospitals in England
General infection prevention	National Institute for Health Care Excellence (2011)	Healthcare-associated infections: prevention and control
General infection prevention	Public Health Agency of Canada (2012)	Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare Settings
Infection Prevention and Control Programs	Public Health Ontario (2012)	Best Practices for Infection Prevention and Control Programs
Primary and community care	National Institute for Health Care Excellence (2012, updated 2017)	Healthcare-associated infections: prevention and control in primary and community care
Antibiotic Resistant Organisms	Provincial Infection Control Network for British Columbia (2013)	Antibiotic Resistant Organisms (ARO) Guidelines
Environmental cleaning	Provincial Infection Control Network for British Columbia (2012)	Best Practices for Environmental Cleaning for Prevention and Control of Infections
Endoscopy	Public Health Agency of Canada and Canadian Association of Gastroenterology (2013)	Infection Prevention and Control Guidelines for Flexible Gastrointestinal Endoscopy and Flexible Bronchoscopy
Catheters	Tenke et al (2008)	European and Asian Guidelines on the Management and Prevention of Catheter-Associated Urinary Tract Infections
Surgical Site Infections	The Society for Healthcare Epidemiology of America (2014)	Strategies to Prevent Surgical Site Infections in Acute Care Hospitals: 2014 Update
Surgical Site Infections	The World Health Organization (2016)	Global Guidelines on the Prevention of Surgical Site Infections
Surgical Site Infections	National Institute for Health and Care Excellence (2008, updated 2017)	Surgical site infections: prevention and treatment
Infection Control Programs	The World Health Organization (2016)	Guidelines on core components of infection prevention and control programmes at the national and acute healthcare facility level

6.9 Research gaps

Norovirus

- More high quality comparative studies that evaluate the effectiveness of infection control strategies are needed in order to extrapolate the findings to clinical practice.

Chlorhexidine resistance

- Studies that investigate the implications of chlorhexidine based decolonisation/universal chlorhexidine use on methicillin-resistant Staphylicoccus aureus (MRSA) qacA/B genes among hospitalised patients, especially intensive care unit patients/whether the carriage of qacA/B can account for some of the decolonization failures/role of qacA/B and decreased susceptibility to chlorhexidine.
- Studies that examine how to ensure that chlorhexidine is correctly used and applied in clinical practice as an antiseptic and as a disinfectant to control and/or prevent health-care associated infections.
- Studies that examine the role of chlorhexidine in biofilm formation and how best to suppress the biofilm induction.
- Studies that investigate whether a resistance of certain strains of bacteria to chlorhexidine contributes to these strains persisting in the hospital environment.

Chlorhexidine and anaphylaxis

- More research is required on chlorhexidine-related anaphylaxis to better understand the nature, risks and magnitude of the problem.
- Clearer definitions, better reporting and clearer documentation of the exposures at the time of the anaphylactic event, and the exposure prior to the event, are needed in future research.

Antimicrobial surfaces

- Future studies need to include both infection and colonisation as outcomes in order to determine whether antimicrobial surfaces have a clinically important impact on infection prevention and control.
- Future research needs to utilise optimal study designs, such as cluster randomised trials or an interrupted time series designs when randomisation is not possible.

Novel disinfection methods

- Future studies need to include both infection and colonisation as outcomes in order to determine whether antimicrobial surfaces have a clinically important impact on infection prevention and control.
- Studies are needed amongst high risk population groups (e.g. burns or oncology patients) as the resourcing and cost considerations of novel disinfectants may be outweighed by the benefits in areas of high risk.

Contact precautions for patients known to be infected or colonised with a multi-resistant organism (MRO)

- More large scale, high quality trials are needed to assess the efficacy of contact precautions compared to horizontal interventions.
- Further research is also required to determine whether there are specific patient populations who would benefit more from the implementation of contact precautions than others.

Clearance criteria for specific MROs

- There is not yet an agreed protocol for the clearance of multi-resistant Gram negative (MRGN) carriage and vancomycin-resistant enterococci (VRE) carriage due to a lack of empirical evidence.

7. APPENDIX 3: Process report

Introduction

In November 2014, the Australian Health Ministers' Advisory Council (AHMAC) endorsed four criteria for prioritising clinical practice guidelines to be considered for funding. As part of this process, the Australian Commission on Safety and Quality in Health Care (ACSQHC) decided that the *2010 Australian Guidelines for the Prevention and Control of Infection in Healthcare* (the 2010 Guidelines) required review.

Although no formal evaluation of the 2010 Guidelines has been undertaken, ACSQHC advised that the 2010 Guidelines were a key resource for the National Safety and Quality Health Service Standards (Standard 3: Preventing and controlling healthcare associated infections), and are used in healthcare facilities for the development of policies and protocols across a range of acute and non-acute settings. This demonstrated the need for maintaining the currency and accuracy of the Guidelines.

ACSQHC and the National Health and Medical Research Council (NHMRC) signed a memorandum of understanding in early 2016 to update the 2010 Guidelines.

Contributors

The Guidelines were developed utilising a collaborative approach, combining the content expertise of the Infection Control Guidelines Advisory Committee (ICGAC) with the assistance of systematic reviewers and expert methodologists. NHMRC managed the review process and technical writing and representatives from ACSQHC participated as contributing observers throughout the process. ACSQHC provided a significant proportion of the funding for developing these Guidelines.

a. ICGAC

Information on appointment, membership and declaration of interest processes is available in subsection 7.1 to this appendix.

b. NHMRC Project Team

- Cathy Connor
- Emma Breen
- Michelle Kennedy
- Jaclyn Mahn
- Mia Miller
- Joshua Montgomery
- Brent Stirling

c. ACSQHC Project Team

- Adjunct Professor Kathy Meleady PSM
- Professor Marilyn Cruickshank
- Sue Greig
- Cate Quoyle

d. Contractors

- KP Health, Horizon Scan
- Monash University, Systematic Reviewers
- University of South Australia, Literature Reviewers
- University of Sydney, Methodologists
- Health Technology Analysts, Methodologists

Assessment of the evidence

Evidence base

These Guidelines are an evolution of the 2010 Guidelines and build upon their evidence and science base. New evidence was assessed where the ICGAC advised that the prevention or management of infection had strengthened, weakened, or remained unchanged. Where the evidence base was unlikely to have changed substantially, additional systematic reviews were not conducted but references were updated for currency.

The methods used to analyse the evidence were in accordance with international best practice. The main methods are summarised below with further process information available within each document. The Guidelines were further informed by substantial advances in the methodology for guideline development and usability since publication of the previous edition of the Guidelines. This included the use of the Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology and the MAGICapp platform for publication.

Randomised controlled trials provide the highest level of evidence however, as with many clinical and public health interventions, these often raise ethical, logistical and economic challenges. This is particularly the case in conducting randomised controlled trials in infection prevention and control, where the evidence may be limited by the inability to conduct certain study designs that are difficult to implement in real practice. Under GRADE, this has implications for rating the quality of evidence and the strength of recommendations as evidence based grading systems generally favour study designs that may not be feasible or ethical to conduct in infection control settings, such as randomised controlled trials. For example, it is unethical to compare the incidence of infection related to surgical instruments by allocating one patient group to have sterilised instruments used on them and one patient group to have non-sterile instruments used. This may result in a weak recommendation due to the available evidence but sterilisation of surgical instruments is universally deemed critical to infection control.

Given that there is limited evidence available to support many routine practices intended to reduce infection risk, practice is based on decisions made upon scientific principles. The relatively high proportion of recommendations graded as weak should not be interpreted as suggesting lack of evidence to help guide practice. Some activities, such as performing hand hygiene between administering care to successive patients, have a credible history to support the routine application of this activity in preventing cross-infection. Others, such as some uniform and clothing requirements, have more to do with the ethos of quality care and workplace culture than with a proven reduction in cross-infection.

Health professionals and the public can be assured that the process of assessing the scientific evidence provides for the best possible advice. It is not acceptable to discontinue practices for which there is a solid scientific basis, even if the level of evidence and subsequent recommendation is not high. Rather, routine practices should continue unless there is sufficient evidence to support alternative procedures. Continuing research is needed to keep evaluating practice, to identify evidence gaps and promote research in these areas, and to ensure that poor practices are replaced with better ones.

Capturing new evidence

Infection prevention and control research is continuously evolving and studies are published regularly. A commissioned horizon scan allowed for the ICGAC to determined topics that required a more extensive literature research and assisted in identifying relevant results from high quality studies (primarily systematic reviews or international guidelines) that were published since the previous Guidelines. While results from these studies were not graded, they were included in the Guideline update to ensure the content was current and applicable to the Australian population.

1. Horizon scan

A horizon scan was undertaken by expert consultants from KP Health to identify relevant national and international infection control guidelines, relevant standards and policies produced by Australian jurisdictions since 2009, and to determine gaps between recommendations in the 2010 Guidelines and more recently published guidelines. These gaps or changes primarily related to routine hand hygiene, routine cleaning of surfaces (novel methods), cleaning of shared clinical equipment and core strategies in the control of multi- resistant organisms.

Based on the horizon scan and their expertise in the field, the ICGAC considered priority areas for the revision of the Guidelines and determined topics that required a more extensive literature research, as follows:

- Chlorhexidine
- Norovirus
- Antimicrobial Surfaces, and
- Novel Disinfectants.

2. Systematic reviews

Monash University were commissioned by NHMRC in June 2016 to develop research protocols and conduct systematic reviews to evaluate the evidence on:

i. the effect of environmental surfaces, fittings or fixtures with antimicrobial properties on infection rates in hospital patients compared with standard surfaces

ii. the effect of ultraviolet light, hydrogen peroxide vapour and/or electrolysed water on infection rates in high risk population groups compared with standard care (cleaning with detergent, disinfection with bleach, or both)

iii. the effect of disinfection with bleach on infection rates in high risk population groups compared with cleaning with detergent.

Monash University were engaged from NHMRC's Health Evidence Panel for its expertise in systematic review methodology, following a competitive tender process. The evidence review team completed a declaration of interest process before being appointed by NHMRC and no conflicts of interest were identified.

The independent evaluation of the evidence was undertaken in accordance with research protocols that were approved by the NHMRC Project Team, based on advice from the ICGAC. The research protocols outlined the scope, clinical questions, and methodology of the evidence reviews.

The methods and results of the reviews are detailed in the Evidence Evaluation Reports and Technical Reports. These include the research questions using the PICOS approach (population, intervention, comparator, outcomes and setting), the search strategy, methods used to select, appraise and summarise the evidence, results, and evidence profiles.

The Evidence Evaluation Reports and Technical Reports were published on the NHMRC website on 16 November 2017, to coincide with the start of targeted consultation on the draft Guidelines.

3. Literature Reviews

The University of South Australia were commissioned by NHMRC in June 2016 to develop research protocols and conduct literature reviews on:

i. the impact of chlorhexidine use on the incidence of anaphylaxis

ii. the use of chlorhexidine and its contribution to increased resistance to chlorhexidine and/or antibiotics

iii. current epidemiology and evidence on transmission pathways and infection prevention and control measures for Norovirus Gastroenteritis.

The University of South Australia were engaged from NHMRC's Health Evidence Panel for its expertise in literature review methodology, following a competitive tender process. The evidence review team completed a declaration of interest process before being appointed by NHMRC and no conflicts of interest were identified.

The independent evaluation of the evidence was undertaken in accordance with research protocols that were approved by the NHMRC Project Team, based on advice from the ICGAC. The research protocols outlined the scope, clinical questions and methodology of the evidence reviews.

The methods and results of the literature reviews are detailed in the Evidence Evaluation Reports and Technical Reports. These include the research questions using the PICOS approach (population, intervention, comparator, outcomes and setting), the search strategy, methods used to select, appraise and summarise the evidence and results.

The Evidence Evaluation Reports and Technical Reports were published on the NHMRC website on 16 November 2017, to coincide with the start of targeted consultation on the draft Guidelines.

Independent methodological review

Independent methodological review of the Evidence Evaluations were completed to ensure they followed the systematic and rigorous approach specified in the corresponding research protocol.

a. Systematic reviews

Health Technology Analysts were contracted in July 2016 to assess the methodological quality of the commissioned systematic reviews. The methodological reviewers were appropriately qualified in systematic review processes and methodology. Health Technology Analysts successfully tendered to complete this activity through a competitive tender process using the NHMRC Health Evidence Panel. The methodological review team completed a declaration of interest process before being appointed by NHMRC and no conflicts of interest were identified.

Health Technology Analysts completed an independent methodological appraisal of the draft research protocols to provide NHMRC with assurance of the proposed methodology for the Evidence Evaluations. The methodologists comments were provided to the commissioned evidence reviewers who revised the protocols accordingly, based on advice of the ICGAC, prior to the evaluations of the evidence commencing.

Once the Evidence Evaluations were complete, Health Technology Analysts appraised the methodological quality of the Evidence Evaluation Reports and Technical Reports,

including whether the rigorous approach prescribed in the review protocols had been adhered to, and whether the interpretation and reporting of the evidence was transparent and thorough.

The ICGAC considered the feedback received from the methodological reviews and were satisfied with the critical appraisal performed.

b. Literature reviews

University of Sydney were contracted in July 2016 to assess the methodological quality of the commissioned literature reviews. The methodological reviewers were appropriately qualified in systematic review processes and methodology. University of Sydney successfully tendered to complete this activity through a competitive tender process using the NHMRC Health Evidence Panel. The methodological review team completed a declaration of interest process before being appointed by NHMRC and no conflicts of interest were identified.

University of Sydney completed an independent methodological appraisal of the draft research protocols to provide NHMRC with assurance of the proposed methodology for the Evidence Evaluations. The methodologists comments were provided to the commissioned evidence reviewers who revised the protocols accordingly, based on advice of the ICGAC, prior to the evaluations of the evidence commencing.

Once the Evidence Evaluations were complete, University of Sydney appraised the methodological quality of the Evidence Evaluation Reports and Technical Reports, including whether the rigorous approach prescribed in the review protocols had been adhered to, and whether the interpretation and reporting of the evidence was transparent and thorough.

The ICGAC considered the feedback received from the methodological reviews and were satisfied with the critical appraisal performed.

Governance and stakeholder involvement

The reports underpinning the systematic and literature reviews were critically appraised by the ICGAC and refined using a consensus approach over a series of meetings/teleconferences during early 2017.

The reports were provided to the Council of NHMRC on 12 October 2017. The Chief Executive Officer (CEO) of NHMRC subsequently agreed to publicly release the final systematic and literature reviews on the NHMRC website, to coincide with the start of targeted consultation on the draft Guidelines on 16 November 2017.

Guideline development

The recommendations in these Guidelines were formulated by the ICGAC through a process of consensus. Recommendations are given when an action is deemed critical to preventing or managing infection. Recommendations are assessed using the GRADE approach, incorporating NHMRC's Levels of Evidence[427]. Practice Statements, previously known as good practice points, have also been included as these are important in outlining actions that are essential to infection prevention and control but where evidence grades cannot be applied.

Table A3.1. Levels of evidence in literature reviews[422]

Level	Description
Level I	A systematic review of level II studies
Level II	A randomised controlled trial
Level III-1	A pseudorandomised controlled trial
Level III-2	A comparative study with concurrent controls: • Non-randomised experimental trial • Cohort study • Case-control study • Interrupted time series with a control group
Level III-3	A comparative study without concurrent controls: • Historical control study • Two or more single arm study • Interrupted time series without a parallel control group
Level IV	Case series with either post-test or pre-test/post-test outcomes

Developing new recommendations, practice statements and statutory requirements

The GRADE approach is a system for rating the quality of a body of evidence in systematic reviews and grading recommendations in healthcare[426]. GRADE offers a transparent and structured process for developing and presenting evidence summaries and for carrying out the steps involved in developing recommendations. The GRADE system provided an evidence to decision framework which determined the structure for the ICGAC in developing new recommendations. The final wording of each recommendation was developed by the ICGAC through a consensus approach, within the constraints of GRADE strength of recommendations terminology.

Systematic reviews provide a comprehensive summary of the evidence but do not include recommendations. The commissioned evidence reviewer's role in the GRADE approach terminated after rating the quality of evidence and estimate of effect for outcomes, as per the results in the Evidence Profiles.

The ICGAC was responsible for critically appraising the systematic review Evidence Evaluations, developing recommendations and completing the subsequent steps of GRADE and the guideline development process. This included explicit consideration of:

- the quality of the evidence (including consideration for the level of evidence)
- benefits and harms
- values and preferences
- resource use
- health inequalities.

These considerations are captured in the 'Key Info' tab accompanying each recommendation. This ensured that the ICGAC's application of GRADE was transparent and a consistent approach was applied in the development of all recommendations.

In drafting practice statements, discussions of the ICGAC were aligned with the GRADE process where available evidence and judgements were considered together. Practice Statements were informed by the systematic reviews, literature reviews and advice of the ICGAC.

The terminology 'statutory requirement' has been used for selected practice statements/ recommendations to further indicate where there is also a mandated requirement/s by the Commonwealth or the states/territories, which must be considered when implementing the

advice at the local level. It is important to note that statutory requirements vary across states and territories, and in their applicability to health service delivery sectors and settings.

Further information on GRADE can be found in the GRADE Handbook (http://gradepro.org).

Adapting or adopting the 2010 recommendations and practice statements

Following the outcomes of the horizon scan activity and advice of the ICGAC, it was determined that many of the 2010 recommendations were underpinned by established evidence and/or it was unlikely that the body of evidence had significantly changed since 2010 (i.e. no known recent studies investigating a significant relationship).

GRADE allows for guideline developers to[429]:

- adopt existing recommendations from others
- adapt existing recommendations to their own context
- create recommendations de novo.

The GRADE process provided a consistent and transparent approach which allowed the ICGAC to consider the 2010 recommendations (developed using the FORM approach which included recommendations graded from A to D) and good practice points on a case by case basis to reassign a 'GRADE' recommendation or practice statements and its accompanying strength (see Table A3.2). The ICGAC reviewed each recommendation to ensure it followed best practice standards for guideline development, and were required to reach a consensus in agreement when determining the direction and strength of the adopted or adapted recommendation.

These considerations are captured in the 'key info' tab accompanying each adopted or adapted recommendation or practice statement. This ensured that the ICGAC's application of GRADE was transparent and a consistent approach was applied in the development of all recommendations.

Table A3.2. Comparison of FORM and GRADE recommendation descriptors

FORM Recommendation Descriptor *(2010 Guidelines)*	GRADE Recommendation Descriptor *(2019 Guidelines)*
Grade A	Strong
Grade B	Strong
Grade C	Conditional/Weak
Grade D	Practice Statement

Technical writing

NHMRC Project Team assumed the role of technical writers using MAGICapp cloud-based research and innovation platform to author the Guidelines. This aims to facilitate dynamic dissemination and updating of the Guideline, as well as encourage international collaboration through open data sharing.

Targeted consultation

On 12 October 2017 the Council of NHMRC agreed to recommend the CEO of NHMRC release the Guidelines for targeted consultation. Targeted consultation on the draft Guidelines was undertaken from 16 November 2017 to 21 December 2017. Invitations were sent to a number of key public and private healthcare providers in the acute setting, with eight submissions received.

The ICGAC considered the submissions out of session during February 2018 with the majority of comments proposing minor clarifications and/or improvements to content on the following topics:

- practical elements of the retained 2010 Guideline content such as case studies
- aseptic Technique (removal of Aseptic Non-Touch Technique (ANTT) registered trademark terminology)

- multi-Resistant Organisms (screening, clearance, antimicrobial stewardship)
- personal protective equipment (PPE) and when different precautions are required
- management of the physical environment and routine cleaning
- minimising the risk from intravascular access devices (length of time *in situ*)
- clinical governance and organisational support
- transition to the new IT platform - MAGICapp.

Public consultation

On 20 March 2018 the Council of NHMRC agreed to recommend the CEO of NHMRC release the Guidelines for public consultation. Public consultation on the draft Guidelines was undertaken from 13 April 2018 to 15 May 2018. This process was conducted in accordance with Section 13 of the *National Health and Medical Research Council Act 1992*.

Public consultation was advertised on the NHMRC website, NHMRC Tracker, and social media platforms. Invitations were also sent to a large number of key stakeholders and those with a known interest in infection prevention and control. In total, 52 submissions were received, with over 600 individual comments considered. The submissions were received from a variety of stakeholders including individuals, professionals, state and territory governments and industry.

The ICGAC met on 2 of July 2018, 22 October 2018 and 2 November 2018 to consider the submissions. Further information and/or consideration were requested for:

- involving patients in their care
- hand hygiene and glove use
- PPE and transmission based precautions
- routine environmental cleaning: use of detergents and disinfectants and cleaning frequencies
- Therapeutic Goods Administration (TGA)-registered and TGA-listed products *(note: since public consultation, reduced regulation for hard surface disinfectants have been implemented by TGA)*
- use of surface barriers
- management and disposal of sharps
- emerging disinfection methods: ultra-violet light (UVL), hydrogen peroxide vapour (HPV)
- reprocessing of reusable instruments and equipment
- aseptic Technique (removal of Aseptic Non-Touch Technique (ANTT) registered trademark terminology)
- management and surveillance of MROs
- standard precautions versus contact precautions for Vancomycin Resistant Enterococci (VRE)
- minimising the risk from intravascular access devices (length of time *in situ*)
- the appropriate use of chlorhexidine
- exclusion periods and precautions for specific infections and conditions
- transition to MAGICapp and GRADE.

Independent expert review

The Guidelines underwent independent expert review from 23 November 2018 to 20 December 2018 to gain advice, primarily on the evidence base and its translation. The expert reviewers were required to declare any interest as per the process outlined in Section 7.1. Independent expert reviewers are listed in Table A3.3.

Table A3.3. Independent expert review participants

Name	Affiliation
Dr Celia Cooper	Head, Infectious Diseases Department, Adelaide Women's and Children's Hospital
Dr Ann Koehler	Senior Medical Consultant, Communicable Disease Control Branch, System Performance & Service Delivery, South Australia Health

Consultation with ACSQHC

The Guidelines were considered by ACSQHC's Inter-Jurisdictional Committee (IJC) from 11 December 2018 to 17 January 2019. All states and territories supported the progression of the Guidelines to the Council of NHMRC.

The Guidelines were noted for release in March 2019 by the IJC and ACSQHC Board.

Council of NHMRC endorsement

The Guidelines were considered by the Council of NHMRC on 14 March 2019 for recommendation to the CEO for issuing. The CEO was pleased to accept the Council's advice and agreed to issue the Guidelines under Section 7(1a) of the *National Health and Medical Research Council Act 1992.*

Australian Government
National Health and Medical Research Council
Australian Commission on Safety and Quality in Health Care

7.1 Membership and Terms of Reference of the Advisory Committee

Appointment process

The Infection Control Guidelines Advisory Committee (ICGAC) was a working committee established by a Chief Executive Officer delegate under Section 39 of the *National Health and Medical Research Council Act 1992 (NHMRC Act)*. The ICGAC was selected to ensure appropriate expertise in the key areas of infectious diseases, antimicrobial resistance and/or microbiology, healthcare associated infection, paediatrics, and evidence-based methodologies, in order to oversee and provide expertise in updating the *2010 Australian Guidelines for the Prevention and Control of Infection in Healthcare*. A person with expertise in the health needs of Aboriginal persons and Torres Strait Islanders and a person with expertise in consumer issues were also sought.

Table A3.4. Members of the Infection Control Guidelines Advisory Committee

Name	Affiliation	Area of expertise
Professor Brett Mitchell (Chair)	Professor of Nursing, Faculty of Nursing and Health and Director Lifestyle Research Centre – Avondale College	Infection prevention and control
Professor Allen Cheng	Professor of Infectious Diseases Epidemiology and the Director of Infection Prevention and Healthcare Epidemiology Unit at Alfred Health	Influenza, hospital acquired infections, antimicrobial resistance
Professor Peter Collignon AM	Executive Director, ACT Pathology Infectious Diseases Physician and Microbiologist, Canberra Hospital Professor, Medical School, Australian National University	Infectious disease physician, clinical microbiology and antibiotic resistance
Ms Sylvia Gandossi	Infection Prevention and Control Consultant, Western Diagnostics Pathology; Member, Australasian College for Infection Prevention and Control	Infection prevention and control
Associate Professor Thomas Gottlieb	Senior Staff Specialist Microbiology and Infectious Diseases, Concord Hospital Clinical Associate Professor, Department of Microbiology and Infectious Diseases, University of Sydney	Infectious diseases, microbiology and antimicrobial resistance (AMR)
Dr Jan Gralton	Senior Project Officer, Australian Commission on Safety and Quality in Health Care	Implementation
Ms Linda Henderson *(until November 2017)*	Infection Control Consultant; Infection Control Nurse Advisor – South Australian Health; Member of the Commission's National Hand Hygiene Advisory Committee	Healthcare associated infections
Dr Sharon Liberali	Senior Clinical Lecturer – School of Dentistry at the University of Adelaide; Clinical Examiner – Australian Dental Council; Clinical Supervisor; Chair, Infection Control Committee – Australian Dental Association	Dentistry
Dr Deborough Macbeth	Assistant Director of Nursing, Infection Control, Gold Coast Health	Healthcare associated infections, nursing
Ms Rebecca McCann	Program Manager, Healthcare Associated Infection Unit, Communicable Disease Control Directorate – Department of Health (Western Australia)	Implementation
Professor Peter Morris	Deputy Head, Child Health Division, Menzies School of Health Research; Editor, Acute Respiratory Infections Group of The Cochrane Collaboration	Indigenous health, paediatrics, evidence-based medicine
Ms Mary Potter	Active in state and national health issues from a consumer/community stand point	Consumer representative
Associate Professor Philip Russo	Research Fellow, Deakin/Alfred Health Centre for Quality and Patient Safety Research (until 2018) Director, Cabrini Monash University Department of Nursing Research (from 2019)	Infection prevention and epidemiology

Terms of Reference

The ICGAC will oversee and provide expertise in updating the *Australian Guidelines for the Prevention and Control of Infection in Healthcare* (2010 Guidelines) to ensure it reflects the best available evidence and is current and relevant for the Australian context. As per the 2010 Guidelines, the updated guidelines will aim to promote and facilitate the overall goal of infection prevention and control: '*The creation of safe healthcare environments through the implementation of practices that minimise the risk of transmission of infectious agents'.*

In undertaking the update, the ICGAC will:

1. Determine the scope of the guideline based on consideration of:
    - The currency, accuracy and relevance of the existing 2010 Guidelines.
    - Feedback provided by the broader community and healthcare sector on the 2010 guidelines, including new areas for potential inclusion.
    - The results of a horizon scan funded by the Australian Commission on Safety and Quality in Health Care (ACSQHC), that identifies and assesses the quality of guidelines published since the 2010 Guidelines.
    - Committee member's knowledge/expertise of current evidence or practice in infection prevention and control in Australia.
    - Any other information deemed relevant by the Office of NHMRC or ACSQHC.
2. Advise on the evidence evaluation required to update the 2010 Guidelines by:
    - Identifying and prioritising topics requiring the identification of new evidence published since the search period for the 2010 Guidelines.
    - Advising on the scope and clinical questions for the evaluation/s, and methods to identify and evaluate relevant evidence.
3. Oversee the update of the 2010 Guidelines by considering (1) and (2) above. This may include, but is not limited to, providing advice on:
    - developing recommendations using NHMRC's preferred method
    - key stakeholders to be included in consultation activities, and
    - comments received during consultation and expert review on the draft revised Guidelines.

The ICGAC will be effective for the period 25 January 2016 to 31 March 2019 and will report to the Council of NHMRC.

Declarations of Interest

Members of NHMRC committees provide high quality, expert and independent advice that allows NHMRC to fulfil its functions under the NHMRC Act. Members are appointed for their expertise and experience across a diverse range of professions and fields. Appointments are also made with consideration of balancing the benefit of having persons with expertise against the risks of their interests biasing a process.

Appointees to committees of NHMRC are required to disclose their interests consistent with section 42A of the NHMRC Act and section 29 of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act). Prior to appointment decisions being made, NHMRC asked each prospective member of the ICGAC to disclose their interests to NHMRC in writing. Prospective members were specifically asked to identify, to the best of their ability, interests including:

- employment by an entity having commercial or other interests in infection prevention and/or control
- financial interests or relationships including ownership, board membership, honoraria, consultancies, or research funding related to infection prevention and/or control

- publications, speeches or expert testimony regarding infection prevention and/or control
- involvement in the development of guidelines, standards, education material or fact sheets related to infection prevention and/or control
- affiliations or associations with any organisation having an interest with infection prevention and/or control.

Under the PGPA Act, members have a responsibility to declare any interests to the whole committee and members have a joint responsibility to decide on the management of any perceived or real conflict. No unmanageable conflicts were identified by the ICGAC or NHMRC and there were no instances in the development process where members of the ICGAC determined that a disclosed interest warranted a member being absent from a discussion or decision.

Throughout the project, members were reminded of their obligation to consider any interest that may have arisen since the last meeting or with any particular agenda items. All disclosures and determinations about interests were recorded in the minutes of the ICGAC meetings. Member's relevant expertise and a summary of their disclosed interests were accessible on the NHMRC website throughout the duration of the project.

Governance

The ICGAC were responsible for advising on the scope of the review and determining priority areas for review and accompanying research protocols. The ICGAC met to critically appraise the Evidence Evaluations and development recommendations regarding infection prevention and control practices, as per the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach.

The ICGAC advised on the draft Guidelines, including consideration of feedback received during the targeted consultation period held with key stakeholders from the public and private healthcare sectors from 16 November 2017 to 21 December 2017). Public consultation on the draft Guidelines occurred from 13 April 2018 to 15 May 2018. Following this, the ICGAC met to consider public consultation submissions and advise on any revisions required.

All discussions of the ICGAC were robust and open, and decision-making was consensus-based. Minutes from all meetings were recorded by the NHMRC Project Team.

8. Glossary

This section outlines the way in which certain terms are used in these guidelines.

Term	Meaning
Acinetobacter	An aerobic Gram-negative bacillus commonly isolated from the hospital environment (especially intensive care units) and hospitalised patients; can cause healthcare associated infections, especially wound infections and pneumonia.
Adaptation	This term is used within this Guidelines recommendations and practice statements. The GRADE approach allows for the adoption, adaptation or creation of de novo recommendations from existing quality guidelines. This section captures the adoption or adaption of guidance from the previous 2010 edition of NHMRC's Australian Guidelines for the Prevention and Control of Infection in Healthcare.
Aerosols	Microscopic particles < 5 µm in size that are the residue of evaporated droplets and are produced when a person coughs, sneezes, shouts, or sings. These particles can remain suspended in the air for prolonged periods of time and can be carried on normal air currents in a room or beyond, to adjacent spaces or areas receiving exhaust air.
Airborne precautions	A set of practices used for patients known or suspected to be infected with agents transmitted person-to- person by the airborne route.
Alcohol-based hand rub	A TGA-listed alcohol-containing preparation designed for reducing the number of viable micro-organisms on the hands without the use or aid of running water, and which is listed on the ARTG as a medicinal product.
Allergy	Occurs when a person's immune system reacts to allergens in the environment that are harmless for most people. Typical allergens include some medicines, foods and latex. An allergen may be encountered through inhalation, ingestion, injection or skin contact. A medicine allergy is one type of adverse drug reaction.
Anteroom	A small room leading from a corridor into a room.
Antibiogram	The result of a laboratory testing for the sensitivity of an isolated bacterial strain to different antibiotics.
Antibiotic	A substance that kills or inhibits the growth of bacteria, fungi or parasites.
Antimicrobial	A chemical substance that inhibits or destroys bacteria, viruses or fungi, and can be safely administered to humans and animals.
Antimicrobial resistance	Failure of an antimicrobial to inhibit a microorganism at the antimicrobial concentrations usually achieved over time with standard dosing regimens.
Antimicrobial stewardship	An ongoing effort by a health service organisation to reduce the risks associated with increasing antimicrobial resistance and to extend the effectiveness of antimicrobial treatments. It may incorporate several strategies, including monitoring and review of antimicrobial use.
Antisepsis	The use of chemical or physical methods to prevent infection by destroying or inhibiting the growth of harmful microorganisms.
Antiseptic	Biocides or products that destroy or inhibit the growth of micro-organisms in or on living tissue.
Asepsis	'Freedom from infection or infectious (pathogenic) material'.
Aseptic Technique	Aseptic technique is a set of practices aimed at minimising contamination and is particularly used to protect the patient from infection during procedures. Many of the other work practices that form standard precautions are required for aseptic technique, however, adherence to these practices alone does not constitute aseptic technique. Sterile single-use equipment or instruments must be used according to manufacturer's instructions and in such a way that the sterility of the item is maintained.
Bay	Refers to a room or area within a general ward in a healthcare facility that generally accommodates up to six patients.

Term	Meaning
Best practice	When the diagnosis, treatment or care provided is based on the best available evidence, which is used to achieve the best possible outcomes for patients.
Bloodstream Infection	The presence of live pathogens in the blood, causing an infection.
Bundle	A set of evidence-based practices that have been shown to improve outcomes when performed collectively and consistently. The concept was developed by the Institute for Healthcare Improvement in the United States to improve the care process and patient outcomes.
Carbapenemase-producing *Enterobacterales* (CPE)	Members of the Enterobacteriaceae that are resistant to carbapenems, a class of 'last resort' antimicrobials for treating serious infections. *Note: Taxonomic studies have narrowed the definition of the family Enterobacteriaceae. Some previous members of this family are now included in other families within the order Enterobacterales, and this term is now used in the Guidelines.*
Carer	A person who provides personal care, support and assistance to another individual who needs it because they have a disability, medical condition (including a terminal or chronic illness) or mental illness, or they are frail or aged. An individual is not a carer merely because they are a spouse, de facto partner, parent, child, other relative or guardian of an individual, or live with an individual who requires care. A person is not considered a carer if they are paid, a volunteer for an organisation, or caring as part of a training or education program.
Catheter	A thin, flexible, hollow tube used to add or remove fluids from the body.
Chlorhexidine	A biguanide compound used as an antiseptic agent with topical antibacterial activity.
Clean technique	Clean technique refers to practices that reduce the number of infectious agents, and should be considered the minimum level of infection control for non-invasive patient-care activities. Practices include: personal hygiene, particularly hand hygiene, to reduce the number of infectious agents on the skin; use of barriers to reduce transmission of infectious agents (including proper handling and disposal of sharps); environmental cleaning; and reprocessing of equipment between patient uses.
Cleaning Process	Removing dirt and germs from surfaces. The most effective way to do this is by rubbing or scrubbing the surface with warm water and detergent, followed by rinsing and drying. When MROs are suspected or known to be present, the cleaning process should include the use of a detergent solution followed by the use of a disinfectant so that surfaces are cleaned and disinfected.
Clinical governance	An integrated component of corporate governance of health service organisations. It ensures that everyone—from frontline clinicians to managers and members of governing bodies, such as boards—is accountable to patients and the community for assuring the delivery of safe, effective and high-quality services. Clinical governance systems provide confidence to the community and the healthcare organisation that systems are in place to deliver safe and high quality health care.
Clinical handover	The transfer of professional responsibility and accountability for some or all aspects of care for a patient, or group of patients, to another person or professional group on a temporary or permanent basis.
Clinical waste	Waste material that consists wholly or partly of human or animal tissue, blood or body substances, excretions, drugs or other pharmaceutical products, swabs/dressings, syringes, needles or other sharp instruments.
Clinician	A healthcare provider, trained as a health professional, including registered and nonregistered practitioners. Clinicians may provide care within a health service organisation as an employee, a contractor or a credentialed healthcare provider, or under other working arrangements. They include nurses, midwives, medical practitioners, allied health practitioners, technicians, scientists and other clinicians who provide health care, and students who provide health care under supervision.

Term	Meaning
Clostridium difficile *(Clostridioides difficile)*	A disease of the large intestine caused by toxins produced by the spore forming bacterium *Clostridium difficile.* *Note: Reclassified in 2016 as Clostridioides difficile (see Lawson PA, Citron DM, Tyrrell KL, Finegold SM. Reclassification of Clostridium difficile as Clostridioides difficile (Hall and O'Toole 1935) Prévot 1938. Anaerobe. 2016; 40:95–9)*[430]. These Guidelines have retained the term *Clostridium difficile*.
Cohorting	Placing patients who are infected with the same pathogen together in the same room (mostly after consultation with an infection control expert).
Colonisation	The sustained presence of replicating infectious agents on or in the body without causing infection or disease.
Communicable	An infection that can be transferred from one person or host to another.
Conditional recommendation	See *weak recommendation.*
Contact	The touching of any patient or their immediate surroundings or performing any procedure.
Contact point	The area of direct contact of skin to equipment.
Contact precautions	A set of practices used to prevent transmission of infectious agents that are spread by direct or indirect contact with the patient or the patient's environment.
Decolonisation	Use of topical and/or systemic antibiotics and/or other measures to eradicate MRO's from colonised persons.
Decontamination	Use of physical or chemical means to remove, inactivate, or destroy pathogens on a surface or item so that they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.
Detergent Solution	A detergent product which is intended to be used in the cleaning of surfaces or other medical devices diluted with water as per manufacturer's instructions.
Discharge clean	See *terminal clean.*
Disinfectant	A substance: a) that is recommended by its manufacturer for application to an inanimate object to kill micro-organisms b) that is not represented by the manufacturer to be suitable for internal use.
Disinfection	Reduction of the number of viable microorganisms (by physical or chemical means) on a product to a level previously specified as appropriate for its intended further handling or use.
Droplet precautions	A set of practices used for patients known or suspected to be infected with agents transmitted by respiratory droplets.
Droplets	Small particles of moisture generated when a person coughs or sneezes, or when water is converted to a fine mist by an aerator or shower head. These particles, intermediate in size between drops and droplet nuclei, can contain infectious microorganisms and tend to quickly settle from the air such that risk of disease transmission is usually limited to persons in close proximity (e.g. at least 1 metre) to the droplet source.
Electrolysed water	One class of emerging disinfectants that functions as a broad-spectrum, aqueous chemical oxidant generated by passing a dilute sodium chlorine solution through an electrolytic cell in a process known as electrolysis.
Engineering controls	Removal or isolation of a workplace hazard through technology.
Environment	The physical surroundings in which health care is delivered, including the building, fixtures, fittings, and services such as air and water supply. Environment can also include other patients, consumers, visitors and the workforce.
Environmental cleaning	See *cleaning process.*
Epidemic	A widespread outbreak of an infectious disease. Many people are infected at the same time.

Term	Meaning
Fit check	A quick check to ensure that the respirator is fitting each time it is put on.
Fit test	A method of ensuring that a respirator is fitted correctly and suitable for use by a specific individual.
FORM	National Health and Medical Research Council's evidence approach used for the 2010 *Australian Guidelines for the Prevention and Control of Infection in Healthcare.*
GRADE	*Grading of Recommendations Assessment, Development and Evaluation*) approach is a system for rating the quality of a body of evidence in systematic reviews and grading recommendations in healthcare.
Hand hygiene	A general term applying to processes aiming to reduce the number of microorganisms on hands. This includes: application of a waterless antimicrobial agent (e.g. alcohol-based hand rub) to the surface of the hands; and use of soap/solution (plain or antimicrobial) and water (if hands are visibly soiled), followed by patting dry with single-use towels.
Health care	The prevention, treatment and management of illness and injury, and the preservation of mental and physical wellbeing through the services offered by clinicians, such as medical, nursing and allied health professionals.
Healthcare facility	Any facility that delivers healthcare services. Healthcare facilities could be: hospitals, general practice clinics, dentistry practices, other community-based office practices, day surgery centres, emergency services, domiciliary nursing services, long-term care facilities, aged care facilities, indigenous medical services, alternative health provider facilities and other community service facilities, such as needle exchanges.
Healthcare workers	All people delivering healthcare services, including students and trainees, who have contact with patients or with blood or body substances.
Healthcare associated infections	Infections acquired in healthcare facilities ('nosocomial' infections) and infections that occur as a result of healthcare interventions ('iatrogenic' infections), and which may manifest after people leave the healthcare facility.
High level disinfection	Minimum treatment recommended for reprocessing instruments and devices that cannot be sterilised for use in semi-critical sites.
High-efficiency particulate air (HEPA) filter	An air filter that removes >99.97% of particles > 0.3 microns (the most penetrating particle size) at a specified flow rate of air.
High-risk patients	Patients with an increased probability of infection due to their underlying medical condition. Often refers to patients in intensive care units, those receiving total parenteral nutrition, and immunocompromised patients.
Horizontal measures	A horizontal approach to infection prevention and control measures refers to broad population level approaches attempting reduction of all infections due to all pathogens. Horizontal approaches are long term and favour hand hygiene, chlorhexidine bathing and care bundles.
Hospital-grade disinfectant with specific claims	A TGA-listed disinfectant with specific claims that is suitable for general purpose disinfection of hard surfaces, and purposes not involving instruments or surfaces likely to come into contact with broken skin. Refer to TGA Order 104 (Standard for Disinfectants) for further information. These are therapeutic goods that are included in the part of the ARTG for goods known as Listed goods.
Hypochlorite	A chlorine-based disinfectant.
Immunocompromised	Having an immune system that has been impaired by disease or treatment.
Incidence	The number of new events (e.g. cases of disease) occurring in a population over defined period of time.
Infectious agent	An infectious agent (also called a pathogen or germ) is a biological agent that causes disease or illness to its host. Most infectious agents are microorganisms (such as bacteria, viruses, fungi and protozoa), parasites and prions.

Term	Meaning
Intermediate level disinfection	Minimum treatment recommended for reprocessing instruments and devices for use in non-critical sites, or where there are specific concerns regarding contamination of surfaces with species of mycobacteria (e.g. Mycobacterium tuberculosis).
Invasive medical device	Devices which in whole or part enter the body through an orifice or through any surface of the body. This includes penetrating skin, mucous membranes, organs or internal cavities of the body. Examples include surgical instruments, implantable devices, dental equipment, intravascular devices, medical and therapeutic devices.
Invasive procedure	Entry into tissues, cavities or organs or repair of traumatic injuries.
Key information	This term is used within this Guidelines recommendations and practice statements. It captures key information relating to the quality of the evidence, harms and benefits of the intervention, values and preferences of the target population, resource and other considerations.
Key parts	Parts of the procedure equipment or solutions that must remain aseptic throughout clinical procedures, in order to protect the patient from contamination or infection. For example a wound dressing, catheter lubrication, syringe tip, needle etc. In IV therapy, key parts are usually those that come into direct contact with the liquid infusion—for example needles, syringe tips and exposed central line lumens.
Key sites	Susceptible open or broken wounds, surgical or intravenous access sites.
Klebsiella pneumoniae	Gram-negative bacteria frequently responsible for healthcare associated infections of wounds and urinary tract, particularly in immunocompromised patients; may also cause pneumonia.
Long-term care facilities	A range of residential and outpatient facilities designed to meet the bio-psychosocial needs of persons with sustained self-care deficits.
Low-level disinfection	An adjunct to cleaning alone when devices for use in non-critical sites are reprocessed and when only vegetative bactericidal activity is needed.
Manual cleaning	Physical (mechanical or manual) cleaning is the most important step in cleaning. It is a cleaning process which applies friction (rubbing/scrubbing) and fluids (detergent). It intends to remove foreign material (e.g. blood, body substances, micro-organisms and dust) from a surface or an object.
Mechanical cleaning	See *Manual cleaning*
Medical device disinfectant	A TGA-included disinfectant which is used to reprocess reusable medical devices. These are therapeutic goods that are 'Included' on the ARTG.
Medicine	A chemical substance given with the intention of preventing, diagnosing, curing, controlling or alleviating disease, or otherwise improving the physical or mental wellbeing of people. These include prescription, nonprescription, investigational, clinical trial and complementary medicines, irrespective of how they are administered.
Methicillin-Resistant *Staphylococcus Aureus* (MRSA)	Strains of *Staphylococcus aureus* that are resistant to many of the antibiotics commonly used to treat infections. Epidemic strains also have a capacity to spread easily from person-to-person.
Microorganism	Most infectious agents are microorganisms. These exist naturally everywhere in the environment and not all cause infection e.g. 'good' bacteria present in the body's normal flora. Parasites, prions and several classes of microorganism—including bacteria, viruses, fungi and protozoa—can be involved in either colonisation or infection, depending on the susceptibility of the host.

Term	Meaning
Multidisciplinary team	A team including clinicians from multiple disciplines who work together to deliver comprehensive care that deals with as many of the patient's health and other needs as possible. The team may operate under one organisational umbrella or may be from several organisations brought together as a unique team. As a patient's condition changes, the composition of the team may change to reflect the changing clinical and psychosocial needs of the patient. Multidisciplinary care includes interdisciplinary care. (A discipline is a branch of knowledge within the health system.)
Multi-Resistant Organisms (MROs)	In general, bacteria that are resistant to one or more classes of antimicrobial agents and are usually resistant to all but one or two commercially available antimicrobial agents.
Needleless devices	Needleless devices (e.g. connectors, vascular access devices, access ports) provide an easy access point for intravascular infusion connections. Needleless devices do not use needles for procedures such as the collection or withdrawal of body substances after initial venous or arterial access is established, or administering medication or fluids.
Negative pressure room (also referred to as	A single-occupancy patient-care room used to isolate persons with a suspected or confirmed airborne infectious disease. Environmental factors are controlled in negative pressure rooms to minimise the transmission of infectious agents that are usually transmitted from person-to-person by droplet nuclei associated with coughing or aerosolisation of contaminated fluids. The air handling system operates at a
Class N - negative pressure and/or Type 5 - respiratory isolation)	lower pressure with respect to adjacent areas such as the anteroom and corridor and is exhausted to the outside.
Not Set	This term generally accompanies best practice statements which have followed GRADE but the strength of the evidence has not been determined.
P2 respirator	A particulate filter personal respiratory protection device or P2 respirator is a close fitting mask worn for airborne precautions, which is capable of filtering 0.3µm particles. A P2 respirator must comply with Standard AS/NZS 1716: 2012.
Outcome	The status of an individual, group of people or population that is wholly or partially attributable to an action, agent or circumstance.
Pandemic	An epidemic that is geographically widespread, occurring throughout a region or even throughout the world.
Pathogen	See *infectious agent.*
Patient	A person who is receiving care in a health service organisation.
Patient contact	Involves touching the patient and their immediate surroundings, or performing any procedure on the patient.
Patient surroundings	All inanimate surfaces that are touched by or in physical contact with the patient (such as bed rails, bedside table, bed linen, invasive devices, dressings, personal belongings and food) and surfaces frequently touched by healthcare workers while caring for the patient (such as monitors, knobs and buttons).
Patient-care area	The room or area in which patient care takes place.
Percutaneous injury	An injury that results in a sharp instrument/object—for example a needle or scalpel—cutting or puncturing the skin.
Personal protective equipment (PPE)	A variety of barriers used alone or in combination to protect mucous membranes, skin, and clothing from contact with infectious agents. PPE includes gloves, masks, respirators, protective eyewear, face shields, and gowns.
Physical cleaning	See *Manual cleaning*
Powered air-purifying respirator (PAPR)	Powered air-purifying respirator (PAPR) devices should conform to Standard AS/NZS 1715: 2009 and Standard AS/NZS 1716: 2012, and must only be used by healthcare workers who are trained in their use. The manufacturer's instructions for cleaning, decontaminating and maintenance must be followed. PAPR may be suitable for healthcare workers with facial hair and those who fail fit testing for P2 respirators.

Term	Meaning
Practical Information	This term is used within this Guidelines recommendations and practice statements. It provides practical guidance on how each recommendation or practice statement can be put into practice.
Practice Statement	Set for areas which are not covered by a systematic review of the evidence, but where the provision of clinical guidance is deemed important. The development of practice statements is primarily based on best practice as advised by expert consensus and aligned with the GRADE approach where available evidence and judgements are considered together however a strength is not assigned.
Prevalence	The number of events (e.g. cases of disease) present in a defined population at one point in time.
Procedure	An act of care for a patient where there is a risk of direct introduction of a pathogen to the patient.
Randomised Controlled Trial (RCT) and non- randomised control trial (NRCT)	A clinical trial where at least two treatment groups are compared, one of them serving as the control group, and treatment allocation is carried out using a random, unbiased method. A non-randomised controlled trial compares a control and treatment group but allocation to each group is not random. Bias is more likely to occur in NRCT.
Rationale	This term is used within this Guidelines recommendations and practice statements. It provides overarching justification for the stated advice.
Research evidence	This term is used within this Guidelines recommendations and practice statements. It defines the research question underpinning the recommendation in the PICO (population, intervention, comparator, outcomes) format.
Respiratory hygiene and cough etiquette	A combination of measures designed to minimise the transmission of respiratory pathogens via droplet or airborne routes in healthcare settings.
Risk	The chance of something happening that will have a negative impact. Risk is measured by the consequences of an event and its likelihood.
Risk assessment	Assessment, analysis and management of risks. It involves recognising which events may lead to harm in the future, and minimising their likelihood and consequences.
Risk management	The design and implementation of a program to identify and avoid or minimise risks to patients, employees, volunteers, visitors and the organisation.
Routine	Performed as part of usual practice (as opposed to the use of additional measures in specific circumstances e.g. where invasive procedures are conducted or in the event of an outbreak).
Screening	A process of identifying patients who are at risk, or already have a disease or injury. Screening requires enough knowledge to make a clinical judgement.
Sharps	Instruments used in delivering healthcare that can inflict a penetrating injury, e.g. needles, lancets and scalpels.
Single patient use equipment	Equipment to be used for one patient only. Single patient use equipment should not be used on more than one patient.
Single use equipment	Equipment to be used on a single occasion for one patient only and then discarded after use. Single use equipment should not be reused on the same patient or any other patient. Single use equipment is labelled with this symbol: 
Specific claims	The term ‘specific claims’ covers virucidal, sporicidal, tuberculocidal, fungicidal or other biocidal activity. Except where claims of activity against fungi (yeast and mould) for excluded products are concerned, these claims mean a product is regulated as a listed Other Therapeutic Good on the ARTG.
Standard precautions	Work practices that constitute the first-line approach to infection prevention and control in the healthcare environment. These are recommended for the treatment and care of all patients.

Term	Meaning
Statutory Requirement	This advice reflects a practice statement or recommendation. The terminology 'statutory requirement' is used to further indicate where there is also a mandated requirement/s by the Commonwealth or the States/ Territories, which must be considered when implementing the advice at the local level. It is important to note that statutory requirements vary across states and territories, and in their applicability to health service delivery sectors and settings.
Sterile	Free from all living microorganisms; usually described as a probability (e.g. the probability of a surviving microorganism being 1 in 1 million).
Sterile technique	Sterile technique aims to eliminate microorganisms from areas and objects, and should be undertaken by all healthcare workers undertaking invasive medical procedures. This includes: ensuring that everything within a defined radius is clean and sterile, or as a minimum is subject to high level chemical or thermal disinfection; use of skin antisepsis and sterile personal protective equipment; and reprocessing of instruments between patient uses. Due to the natural multitude of organisms in the atmosphere it is not possible to achieve a true sterile technique for most invasive procedures in a typical hospital environment (even when wearing sterile gloves). Sterile techniques can only be achieved in controlled environments such as a laminar air flow cabinet or a specially equipped theatre. The commonly used term, 'sterile technique' is therefore inaccurate, as practitioners are not actually achieving their stated objective.
Sterilisation	Use of a physical or chemical procedure to destroy all microorganisms including substantial numbers of resistant bacterial spores.
Strain	A strain is a genetic variant or subtype of a micro-organism (e.g. a virus, bacterium or fungus). Some strains may be more dangerous or difficult to treat than others.
Strong recommendation	Confident that the desirable effects of adherence to a recommendation outweigh the undesirable effects. Overall the recommendation is based on high quality evidence and is strongly recommended for implementation.
Surface barrier	Barriers (e.g. clear plastic wrap, bags, sheets, tubing or other materials impervious to moisture) designed to help prevent contamination of surfaces and equipment.
Surgical ABHR	Antiseptic hand rub performed preoperatively by the surgical team following the surgical pre-wash to eliminate transient flora and reduce resident skin flora. Such antiseptics often have persistent antimicrobial activity. Use should be in accordance with manufacturers' instructions. Surgical ABHRs are often a waterless and high percent alcohol solution.
Surgical hand preparation	The process of eliminating transient and reducing resident flora prior to surgery. This comprises removal of hand jewellery, performing hand hygiene with liquid soap if hands are visibly soiled, removing debris from underneath fingernails and scrubbing hands and forearms using a suitable antimicrobial formulation.
Surgical masks	Loose-fitting, single-use items that cover the nose and mouth. These include products labelled as dental, medical procedure, isolation and laser masks.
Surgical-site infection	An infection at the site of a surgical operation that is caused by the operation.
Surveillance	Disease surveillance is an epidemiological practice by which the spread of disease is monitored in order to establish patterns of progression. The main role of disease surveillance is to predict, observe and minimise the harm caused by outbreak, epidemic and pandemic situations, as well as increase knowledge as to what factors might contribute to such circumstances.
Targeted surveillance	A process in which data are collated on the susceptibilities and resistances of disease-causing microbes to various antimicrobial treatments. Targeted surveillance gathers data that is not generated by routine testing: specific species or groups of species are examined in detail to answer important questions that cannot be addressed by passive surveillance.
Terminal clean	Cleaning process required after patient(s) has vacated the room, either through room transfer or discharge.

Term	Meaning
TGA-Listed	Must comply with Therapeutic Goods Order No. 104 (TGO 104 – Standard for Disinfectants). Pre-market evaluation will be conducted on new ingredients and/or new specific claims.
Transmission-based precautions (formerly additional precautions)	Extra work practices in situations where standard precautions alone may be insufficient to prevent infection (e.g. for patients known or suspected to be infected or colonised with infectious agents that may not be contained with standard precautions alone).
Ultra-violet light	Light in the UV-C wavelength range (200 to 270 nanometers) that has microbiocidal properties against multiple pathogens, including *C. difficile* and other healthcare associated pathogens.
Vancomycin Resistant Enterococci (VRE)	Enterococci are Gram-positive bacteria that are naturally present in the intestinal tract of all people. Vancomycin is an antibiotic to which some strains of enterococci have become resistant. These resistant strains are referred to as VRE and are frequently resistant to other antibiotics generally used to treat enterococcal infections.
Vertical measures	A vertical approach refers to a narrow program focusing on a single pathogen and aims to reduce infection or colonisation. Vertical approaches are generally indicated when standard measures have been exhausted. Vertical approaches are short term and generally favour active surveillance.
Ward	A healthcare unit which consists of a group of inpatient beds (generally 10 – 40 beds) designed for a particular type of service or care.
Weak recommendation	Concludes that the desirable effects of adherence to a recommendation probably outweigh the undesirable effects. Overall the recommendation is based on supportive evidence and a strong theoretical rationale and is recommended for implementation.
Workforce	All people working in a health service organisation, including clinicians and any other employed or contracted, locum, agency, student, volunteer or peer workers. The workforce can be members of the health service organisation or medical company representatives providing technical support who have assigned roles and responsibilities for care of, administration of, support of, or involvement with patients in the health service organisation.

9. Abbreviations and acronyms

Abbreviations and acronyms	Meaning
ACH	air changes per hour
ABHR	alcohol-based hand rub
ACIPC	Australasian College for Infection Prevention and Control
ACSQHC	Australian Commission on Safety and Quality in Health Care
AGREE	Appraisal of guidelines research and evaluation
AMR	antimicrobial resistance
ARTG	Australian Register of Therapeutic Goods
AS	Australian Standard
AS/NZS	Joint Australian/New Zealand Standard
AusHFG	Australasian Health Facility Guidelines
BCG	Bacillus Calmette-Guérin
BSI	bloodstream infection
CA-MRSA	community-acquired methicillin-resistant Staphylococcus aureus
CAUTI	catheter-associated urinary tract infection
CBIC	Certification Board of Infection Control
CCJD	classical Creutzfeldt-Jakob disease
CJD	Creutzfeldt-Jakob disease
CDC	Centers for Disease Control and Prevention (US)
CDNA	Communicable Diseases Network Australia
CEO	chief executive officer
CHG	chlorhexidine
CHG-impregnated	chlorhexidine-impregnated
CPE	carbapenemase-producing *Enterobacterales*
CVC	central venous catheters
DNA	deoxyribonucleic acid
EN	European Standards
EPP	exposure-prone procedures
ESBL	extended spectrum beta-lactamase
GP	general practitioner
GRADE	Grading of Recommendations Assessment, Development and Evaluation
HAI	healthcare associated infection
HBeAg	hepatitis B e antigen
HBsAg	HBV surface antigen
HBV	hepatitis B virus
HCV	hepatitis C virus
HEPA	high efficiency particulate air
HICPAC	Healthcare Infection Control Practices Advisory Committee
HIV	human immunodeficiency virus
HTLV-I	human T-cell lymphotropic virus type I
IHI	Institute for Healthcare Improvement (US)
ISO	International Organization for Standardisation
IPC	infection prevention and control

Abbreviations and acronyms	Meaning
IVD	intravascular device
MMR	measles mumps rubella vaccine
MRGN	multi-resistant Gram negative
MRO	multi-resistant organism
MRSA	methicillin-resistant Staphylococcus aureus
NaOH	sodium hydroxide
NATA	National Association of Testing Authorities
NHHI	National Hand Hygiene Initiative
NHIG	normal human immunoglobulin
NHMRC	National Health and Medical Research Council
NICE	National Institute for Health and Clinical Excellence
NNDSS	National Notifiable Diseases Surveillance System
NPS	National Prescribing Service
NRL	natural rubber latex
NSQHS	National Safety and Quality Health Service
NZS	New Zealand Standard
OMT	outbreak management team
PAPR	powered air-purifying respirator
PBS	Pharmaceutical Benefits Scheme
PEG	percutaneous endoscopic gastrostomies
PEP	post-exposure prophylaxis
PICC	peripherally inserted central venous catheter
PICO	population, intervention, comparator, outcomes (research question)
PIVC	peripheral intravenous catheter
PPE	personal protective equipment
PSAE	Pseudomonas aeruginosa
PVL	panton-valentine leukocidin
RNA	ribonucleic acid
RPBS	Repatriation Pharmaceutical Benefits Scheme
RSV	respiratory syncytial virus
SAB	staphylococcus-aureus-bacteraemia
SAL	sterility assurance level
SARS	severe acute respiratory syndrome
SSI	surgical-site infection
STEC	shiga toxin-producing *Escherichia coli*
TB	tuberculosis
TGA	Therapeutic Goods Administration
VAP	ventilator-associated pneumonia
vCJD	variant Creutzfeldt-Jakob disease
VRE	vancomycin-resistant enterococci
WHO	World Health Organization
WHS	workplace health and safety
ZIG	Zoster immune globulin

10. Index

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NDIS Quality and Safeguards Commission

Coronavirus (COVID-19): Information for providers on the use of Personal Protective Equipment

The following information has been cleared by the Australian Government Department of Health.

Availability of Personal Protective Equipment (PPE) in Australia

The Australian Health Protection Principal Committee (AHPPC) is the key decision making committee for health emergencies. It is made up of all state and territory Chief Health Officers and is chaired by the Australian Chief Medical Officer.

On 25 March 2020 AHPPC released a statement recommending the cancellation of elective surgery. This is a measure to respond to the continued depletion of the National Medical Stockpile and the limited supply of PPE in Australia.

The AHPPC has prioritised PPE access for primary health workers.

Due to limited supply on PPE in Australia all providers of supports to vulnerable people with disabilities including NDIS participants should carefully consider the need for PPE based on the advice that follows.

What is being done to prioritise access to PPE to support people at greatest risk from COVID-19 infection?

NDIS providers and self-managing participants who use PPE as a usual part of their support arrangements should continue to access PPE through their usual means. Where this is no longer possible, they should approach the National Medical Stockpile (NMS).

The NDIS Commission and the Department of Social Services are working with the NMS to make sure information is available about providers that are supporting participants whose conditions make them more vulnerable to the effects of COVID-19, based on Department of Health criteria. That information will assist the NMS in prioritising assessment of applications for access to PPE as it becomes available.

The Department of Social Services is also providing expertise on disability services, including the NDIS, to the Stockpile to assist in assessment of applications.

Access to PPE will also be prioritised for those NDIS providers who deliver personal care and other activities that require close physical contact where there is an immediate threat to continuity of safe quality care due to lack of access to PPE, or where the participant has a confirmed or suspected case of COVID-19.

NDIS providers and self-managing participants who can no longer access PPE supplies through usual means can contact the NMS by emailing NDISCOVIDPPE@health.gov.au.

When should disability support workers use PPE?

Outside of usual clinical care requirements, there is no requirement for workers supporting NDIS participants to wear surgical masks or other items of PPE unless they are working with people who have suspected or confirmed COVID-19, and:

- supports being provided are essential to the participant's life, health or safety
- contact between people exceeds Australian Government Department of Health guidelines for social distancing or isolation.

It is recommended that NDIS and disability support providers delivering supports to people in residential settings follow the interim advice from the Australian Government Department of Health on the care of people with suspected or confirmed COVID-19.

Where a worker is suspected of having been exposed to COVID-19 or is displaying symptoms of COVID-19, they should not be providing direct support to NDIS participants. PPE is not an appropriate solution to workers in this situation.

If there are limitations on PPE supply, how do I get access to PPE to support a person with suspected or confirmed COVID-19?

The National Medical Stockpile will consider applications for access to PPE from disability providers, prioritising access to those providers that have a confirmed or suspected COVID-19 case and are delivering accommodation support in a shared or group setting, and where providers can demonstrate that:

- they have been unable to source PPE through the open market
- existing stocks have been depleted
- who the requested masks are intended for
- how the masks are to be prioritised and distributed in order to minimise transmission to greatest effect
- how previous Stockpile stocks (if applicable) have been used efficiently and effectively.

How can I find information about risk of infection in the locations that I provide services?

Some Departments of Health in states and territories are issuing information on the distribution of confirmed cases in local areas across their states. You can find information about case levels in NSW, Queensland and Victoria.

More information

For the latest advice, information and resources go to the Australian Government Department of Health website.

Call the National Coronavirus Health Information Line on **1800 020 080**. It operates 24 hours a day, seven days a week. If you require translating or interpreting services, call 131 450.

The phone number of each state or territory public health agency is available on the Department of Health website.

Information for NDIS participants and providers is available on the NDIS website and the NDIS Commission website.

The Coronavirus (COVID-19) information webpage on the NDIS Commission website contains links to updates, training, alerts and other resources.

INDEX to case extracts

THE MARINE COOKS, BAKERS, and BUTCHERS' ASSOCIATION OF AUSTRALIA

V.

THE COMMONWEALTH STEAM-SHIP OWNERS' ASSOCIATION.

Industrial dispute—Conditions to be taken into consideration in fixing wages—Capacity of industry to pay wages asked—Jurisdiction as regards Intra-State steamers—Bonus system—Inventory money.

MELBOURNE. Oct. 26, 27, 28, 29, 30. Nov. 4, 5, 6, 11, 12, 13, 16, 17, 24, 26, 27, 28, 1908.

The payment of a living wage is usually to be treated as the first essential in the settlement of a dispute as to wages; and the accepted distinctions in wages may usually be allowed in fixing the higher wages.

Unhealthy conditions under which individual employees suffer, if the conditions are not necessarily incidental to their employment, are to be ignored in framing a scale of wages, and may be left to parliamentary regulation.

In settling a scale of wages, the profits of which an industry is capable may be considered; but not the profits which the individual employer makes.

Galleymen employed on excursion steamers in Port Phillip were members of the claimant organization, and claimed to be included in the award. The employer had also steamers which carried cargo and passengers from State to State.

Held that as there were no bay excursion galleymen in any other State engaged in the same quarrel as the Port Phillip galleymen, or making or likely to make the same demand, the dispute was not one extending beyond the limits of any one State, and this Court had no jurisdiction to entertain it. It is not enough to show that the employer's business extends beyond one State; the dispute must be shown so to extend.

Observations on the bonus system, and on inventory money.

This was a dispute between an organization under the Act, and an association of steam-ship owners organized for Inter-State trade, as to wages and certain working conditions on steamers carrying on Inter-State trade; and (under the plaint as amended) a similar dispute with individual members of the respondent association with regard to steamers trading within the limits of single States.

Arthur for Claimant.

Mitchell, K.C., and *Starke* for Respondent.

The claim contains also a dispute with regard to wages and certain working conditions on certain named bay excursion steamers running in Port Phillip; but, for reasons which I have already given in a preliminary ruling, I hold that I have no jurisdiction over this dispute, as it is not a dispute "extending beyond the limits of any one State" within the meaning of the Act, or of the Constitution.

The main dispute is as to wages; but the complainants demand also improved conditions as to work in port, and on Sundays and holidays.

FUNCTION OF COURT AS TO WAGES.

The work of cooks and other persons engaged on the galley staff is exceptional. They have to prepare meals for the crew, or for the crew and passengers, on every day, including Sundays and holidays, with the intervals used for food. Without a system of successive shifts, a rigid eight hours' limit is obviously out of the question; and it certainly seems not to be practicable, under present circumstances, to prevent such unpleasantness and distress as result from the heat of cooking added to the occasionally great heat of the Australian coast. The complainant makes no complaint as to the hours of work, or as to the sleeping or living accommodation; but I think that I am justified in taking into consideration, in fixing the proper wages, the facts that the hours must be long, and that the strain and the distress must be considerable. I found, however, that the complainant was also seeking—most unwisely, in the interests of employees—to bring in, as a reason for higher wages, certain conditions which were alleged to be unnecessarily hard on the galley staff, even in particular vessels—hours which were said to be grossly excessive, sleeping and living accommodation which were said to be unhealthy and degrading. It was said, for instance, that a scullery man works from four in the morning till half-past eight at night, with only an hour or hour and a half interval in the afternoon; and one man said that he was generally too tired to eat anything at midday, and could only throw himself down on his bunk. Another man said that in his vessel the drain from a lavatory for passengers passed by the head of his bunk, and stank; another that there were no means for washing of the person, or for sitting down. Such statements as these I cannot regard in a dispute as to wages. So far as adverse conditions are clearly necessary, I shall take them into account in fixing wages. But so far as adverse conditions are unnecessary, I must ignore them, unless they are brought before me directly as matters in dispute. It would be absurd to make an award as to wages varying for each man according to the particular conditions under which he is working, and varying for each particular ship. A man who works for wages sells his labour

1908.

THE MARINE COOKS, BAKERS, AND BUTCHERS' ASSOCIATION OF AUSTRALIA

v.

THE COMMONWEALTH STEAM-SHIP OWNERS' ASSOCIATION.

The President.

—not his life or his health; and if he submit to unnecessarily injurious and degrading conditions for the sake of higher wages, he soon finds that such conditions become permanent, and that any increase of wages based thereon is temporary. I shall take the hours of work according to the more moderate estimate expressed by Murray, one of the respondents' witnesses. I think it probable that much depends on the conveniences which each particular vessel affords, on the method, or want of method, of the particular man, on the inferior or superior care taken by the employees in their work, and on the indulgences given in each particular vessel to its passengers. But even on Murray's statements, the hours are long. I decline, however, to make an award on the basis of conditions which are unnecessarily unwholesome or degrading—in other words, to treat ship-owners as entitled to purchase the right of treating men as slaves or as pigs. In justice to the respondents, I should say that on discovering the mistaken attitude taken by the complainants, I stopped all further evidence on this subject; and the alleged grievances must not be taken as proved. It must be clearly understood that the respondents had no chance of meeting the evidence. Such grievances, if they exist, would be best dealt with by regulations in or under an Act of Parliament; and if Parliament should see fit to regulate the accommodation and other conditions of the galley staff, the regulations will not affect the award which I am making. I shall deal with the question of wages on the assumption that the galley staff are to be properly treated; and if, on inquiry, it should be found expedient to make regulations in addition to or in substitution for those contained in the Merchant Shipping Acts, or compelling the owners to increase the numbers employed on the galley staff, such regulations will not affect my scale of wages, will not be ground for a demand on the part of the ship-owners for a reduction of wages.

My function is to settle the disputes (sec. 18); and, as incidental to this function, I have power to fix the minimum rate of wages to be paid to the employees of the different classes (sec. 40). No guidance is given as to the principles on which I am to act in settling a dispute or in fixing wages; and I have to find out principles for myself. No doubt the issue is not precisely the same as that which I had to deal with in the Harvester case (*Ex parte H. V. McKay*, 2 C.A.R. 1); and yet the same considerations are necessarily involved. I must settle the dispute on terms which seem to me just—on terms which I deem to be "fair and reasonable between the parties," as my predecessor, Mr. Justice O'Connor, expressed it, in *The Merchant Service Guild of Australasia* v. *The Commonwealth Steam-ship Owners' Association*, (1 C.A.R., 1); and I cannot conceive any terms to be fair and reasonable which do not at the very least allow a man to live from his labour, to live as a

FEDERATED FELT HATTING EMPLOYEES' UNION OF AUSTRALASIA

V.

CHARLES ANDERSON AND CO.

RE PERCY RIPLEY.

Nos. 5 and 6 of 1915.

Breach of award—Apprentices—Award did not deal with apprentices—Case dismissed.

1915.
MELBOURNE, June 17.

The Deputy President, Powers, J.

This was a summons against the respondent company for breach of award in failing to pay an employee (one Ripley) at a rate of wages less than the rate prescribed by award No. 13 of 1912. On hearing *Mr. Rundle* for the claimant organization and *Mr. T. R. Bavin* for the respondent company, the Deputy President (Mr. Justice Powers) held that the award did not deal with apprentices and dismissed the case.

A second summons against the said company for breach of award in employing apprentices to a number out of proportion to the journeymen employed, was dismissed on like grounds.

(Solicitors for claimant, *Brennan & Rundle.*)

THE SMALL ARMS FACTORY EMPLOYEES' ASSOCIATION

V.

THE HONORABLE THE MINISTER FOR DEFENCE OF THE COMMONWEALTH OF AUSTRALIA.

Application for variation—Establishment of new department—Notice of dismissal—Variation made.

1915.
LITHGOW N.S.W., June 21, 22, 23, and 24.

The Deputy President, Powers, J.

This award emphasizes previous decisions of the Court as to two matters. Firstly the Court will not interfere with the management of the employer. Secondly it will not grant increased wages on the score of the dangerous nature of the work.

The Court will only grant an increase in wages under exceptional circumstances, where the majority of the men employed are content with the ruling rate.

Small tool room not being in existence no wages can be fixed for work in connexion therewith. Wages can only be fixed on existing conditions.

Necessity to maintain output of munitions of war.

Demand for written reason for dismissal of an employee is not a reasonable one.

Precautions for safety of employees working above machinery.

Hours of draughtsmen.

1915.

SMALL ARMS FACTORY EMPLOYEES ASSOCIATION v. MINISTER FOR DEFENCE.

The Deputy President, Powers, J.

The sixth amendment deals with duties and definition of section hands.

A "section hand" according to the evidence is the name given to the employee in charge of a section, such employee not being a foreman.

I am asked to fix the sections of the Factory work—name the sections—authorize the manager to appoint additional section hands—define the duties of a section hand—authorize the appointment of assistant section hands—authorize apprentices in certain cases to assist a section hand—authorize the manager to appoint a chargeman, instead of a section hand, if a section or sub-section is not large enough for a section hand.

These are all matters of management and control of the work by the Department, and this Court does not interfere with the management by ordinary employers or by Ministers of the Crown.

All these matters should, in my opinion, be left with the Minister for Defence as head of the Department, and the officers under him, to fix from time to time—I do not grant the amendment asked for.

It is for employers to define the duties of employees and foremen or other employees in charge. It is for the Court to fix the wages to be paid, and the conditions under which those duties are to be performed, once they are fixed.

I do not think it necessary to refer to the particular evidence which influenced me in refusing or awarding the different increases and amendments, but I think it right to say:—

Following the practice of this Court, I have not allowed any increase in the wages of any of the employees because of the dangerous nature of the work.

I however wish to draw attention to the apparent want of guard rails for the protection of oilers and belt attendants while employed at work, some 15 feet from the ground over working machinery.

The wages awarded are the minimum wages only, so that special men who receive special wages will, I trust, continue to do so where the minimum is not specially increased by this Award.

The differences I find in the value of the work in the different sections and sub-sections of work are shown by my Award.

I find, generally, that the differences in value claimed by the Amalgamated Society of Engineers in April last more correctly

THE FEDERATED ARTIFICIAL MANURE TRADE AND CHEMICAL WORKERS' UNION OF AUSTRALIA,

and

CUMING SMITH AND COMPANY PROPRIETARY LIMITED AND OTHERS.

Industrial dispute—Manure workers—Effect of healthiness of work upon wages—Regulation of atmospheric conditions a matter for Parliament—Cost of living—Minimum wage.

1915.
MELBOURNE, JULY 30.
The President.

Claim refused for extra wages on the ground of injury to health from dust and fumes.

Dust and fumes in the operations are not a ground for additional minimum wages; and unless the existence of conditions causing dust and fumes be a matter directly in dispute, it is for the Legislature to make regulations—as it makes sanitary regulations.

The Court does not recognise an addition to wages as purchasing for employers a right to injure the health of their employees.

Marine Cooks Case (1) followed.

The Court usually rests differences in minimum rates on clearly marked distinctions in qualifications, such as craftsman's skill or exceptional responsibility or special necessary physical condition.

The Court is unfitted to estimate and to express in terms of money the physical strain in the various kinds of work.

Basic wage for Melbourne district raised to 8s. 10d.; for Adelaide district to 9s. 1d. per day (on 1914 figures of cost of living).

Observations on the unwisdom of employers refusing civil requests of a union for a conference as to grievances.

Agreement reached between parties as to all matters in dispute except minimum wages.

The Commonwealth statistician's figures show merely the variations in groceries, food, and rent—about 60 per cent. of the worker's expenditure; but the burden lies on the employers to show that the price of clothes, furniture, fuel, &c., does not increase in substantially as high a ratio.

This was a dispute between an organization registered under the Act, and employers of labourers in the artificial manure trade in Victoria and South Australia. On the 11th day of February 1914 the claimant filed an application for a conference stating that the union was in dispute with the respondent companies in the following terms:—

THE WEEK'S WORK.

Clause (1)—(A) The week's work shall consist of 48 hours. (B) To be worked between the hours of 7.30 a.m. and 5 p.m. for the first five days of the week, and 7.30 a.m. and 11.45 a.m. on Saturdays.

(1) 2 C.A.R. 59.

1915.

FEDERATED ARTIFICIAL MANURE TRADE AND CHEMICAL WORKERS UNION

and

CUMING SMITH AND COMPANY AND OTHERS.

The President.

they are brought before me directly as matters in dispute." This Court can only deal with matters in dispute; and, unless the matter come before the Court as a matter directly in dispute, it is for the Legislature, if it think right—not for the Court—to impose regulations on the employers as to atmospheric and other conditions of the work, just as it imposes regulations for ventilation or sanitary arrangements, or for the safety of mines or machinery. Nor is it for this Court to recognise an addition to wages as purchasing for employers a right to injure the health of their employees. But if adverse conditions are clearly necessary, as in certain chemical works or as in cinnabar mines, the workers may justly be entitled to exceptionally high payments. In some cases the life of the worker is so shortened or injured by his surroundings that he has to make, in the interests of his family, much more money than others in a given time. In this case, however, no evidence has been brought before me which would enable me to express the loss occasioned to the health of the employees, even approximately, in terms of money; and there is not even evidence to satisfy me that men of average sound health suffer any serious injury to health from the dust.

I should like it to be clearly understood that (except on the lines which I have mentioned) it is not the practice of this Court to take into account *in fixing a minimum wage,* certain of the considerations which, as I understand from the judgment of 9th September 1913, have been taken into account in the Victorian Court of Industrial Appeals—"The wholesomeness or the unwholesomeness of the employment, whether it is dangerous or safe, heavy or light, pleasant or unpleasant." In unregulated practice, under individual bargaining, it is not usual to give higher regular wages for work which is heavy or disagreeable, rather the reverse. As Mill pointed out (*Political Economy,* Book 2, c. xiv.) "the really exhausting and the really repulsive labours, instead of being paid better than others, are almost invariably paid the worst of all, because performed by those who have no choice." I need not point out how unfitted a Court like this would be to estimate relatively the physical strain in different kinds of manual work; above all, to express the differences in terms of money, this unfitness of the Court, no doubt, affects the practicability rather than the justice of giving higher wages for heavier work. But if work is light, men are expected to do more of it in a given time. The strain is generally equalized in the course of the day. This Court tends rather to refuse to make differences in minimum rates except for clearly marked distinctions in qualifications, such as craftsman's skill, or exceptional responsibility, or special physical condition, necessary for the function (1). In that case I refused to prescribe a higher minimum

(1) Builders Labourers' Case, 7 C.A.R., 210, at pp. 222, 231.

1916.
FEDERATED MINING EMPLOYEES ASSOCIATION and NORTH NUGGETTY AJAX Co. re CATHCART CENTRAL GOLD MINING COMPANY.
The Deputy President, Powers, J.

It was suggested, but not pressed, that as this was brought as a test case, because of its importance to miners generally, that I might consider the desirability of submitting to the High Court the question whether the contract in question is not a sham and must be considered as a contract between employer and employee.

Courts have frequently held so-called ordinary contracts to be contracts between employers and employees and if a case is to be submitted to the High Court I think it ought to be one in which the sole question is the interpretation of the contract, and if a case is brought before the Court in which that is the only question to be decided, I shall if requested by the parties or by the complainant, submit it to the High Court.

I think it right to mention that I have been influenced to some extent by the possible interpretation that may be put on the word "piece-work" in the award—a definition Mr. Starke specially referred to. It may be construed as more limited than intended and if either party applies at any time, after reasonable notice, to have it amended so as to include contracts for piece-work such as were recognised as contracts between employer and employee before the award, and contracts for piece-work under which the worker is nominally a contractor but virtually an employee I shall consider it after hearing the parties on the application.

I dismiss the summons without costs. No witnesses were necessary as the material facts were not in dispute.

Summons dismissed.

FEDERATED MINING EMPLOYEES' ASSOCIATION OF AUSTRALIA

CLAIMANT,

v.

OSWALD'S GOLD MINES NO LIABILITY, SOUTH GERMAN REEF GOLD MINING COMPANY NO LIABILITY AND GREAT COBAR LIMITED

RESPONDENTS.

1916.
MELBOURNE, June 15, 16, 21, 23, 26, 30.
The Deputy-President, Powers, J.

Industrial dispute—Wages—Classification of workers—Term of award—Retrospective operation of award—Overtime—Holidays.

Principle, that unhealthy conditions under which individual employees suffer, if the conditions are not necessarily incidental to their employment, are to be ignored in framing a scale of wages, and may be left to parliamentary regulation by the State, followed. Marine Cooks' Case(1).

(1) 2 C.A.R 55.

The Court in fixing "a living wage" declared that it should be a wage which would enable a man and his wife with a family of two or three children to live in reasonable comfort, in a civilized community, under existing conditions at the time the wage is fixed.

"The Court merely fixes the minimum to be paid to a man performing a certain class of work and if an employer desires to secure the services of a workman of exceptional qualifications or ability there is nothing to prevent a contract for more than the minimum."—Dictum in *Federated Engine-drivers and Firemen's Association* v. *Broken Hill Proprietary Company*(1) affirmed.

The organization and its members as well as the employers must observe the award so long as the members elect to work for the respondents. It is a breach of the award to attempt in combination to enforce payment of more than the rates fixed. Felt Hatters' case(2) followed.

This was a dispute which was referred into Court from a compulsory conference held on the 19th April 1916.(3) The claims submitted at the conference are set out hereunder in the judgment of the Deputy President, Mr. Justice Powers. Evidence was taken on commission at Cobar on the 16th, 17th and 18th May 1916 and on the 15th June 1916 the representatives of the parties appeared before the Court in Melbourne.

J. R. Little (General Secretary) for claimant association.

E. Hogan Taylor for Great Cobar Limited.

On Friday the 23rd June 1916 the Deputy President, Mr. Justice Powers, gave the following reasons for judgment:—

The claimant organization is the Federated Mining Employees Association of Australia, a duly registered organization under the *Commonwealth Conciliation and Arbitration Act* 1904-1915, and the respondents are two companies in the State of Victoria and one company in the State of New South Wales.

The matter is before the Court by my submission of the industrial dispute to the Court at a compulsory conference called by me under section 16A of the *Commonwealth Conciliation and Arbitration Act* 1904-1915.(3)

The summonses for the conference were issued on the 6th day of April last.

The conference was held on the 19th day of April last.

(1) 5 C.A.R. 9 at p. 15. (2) 8 C.A.R. 346. (3) *Supra*. p. 10.

is at Ballarat and Bendigo in the State of Victoria, and the respondents in Victoria do not object to the adult wage and other rates and conditions fixed by my award made on 24th December 1915, to be paid by, and to be observed by the mine-owners in the Ballarat and Bendigo districts being fixed in the proposed award as the rates and conditions to be paid and observed by them.

On the evidence I find that the rates referred to are fair and reasonable at the present time for the Maldon district and I propose to award accordingly.

Both parties, so far as New South Wales is concerned, have recognised that the question of an adult labourer's wage is the most important one to be decided in this case—as the classification of work is not now in dispute—and the evidence submitted by both parties has been directed for the most part to assist me in my task in arriving at a fair wage for adult labourers at Cobar at the present time.

The question of satisfactorily fixing an adult wage for the Cobar district just now is very difficult for the reasons I propose to refer to in detail.

It is further complicated by the organization claiming that the adult labourer's wage at Cobar should be fixed at the same sum as the President of this Court fixed for adult labourers at Broken Hill by his last award.(1)

This claim is made on three grounds:—

1. That its members working underground are liable to the same, or equal dangers, and risk to body, and to health at Cobar, as employees at Broken Hill—because the conditions under which they work at Cobar, are just as injurious to health, and just as dangerous as at Broken Hill.

2. That the cost of living at Cobar is as great as at Broken Hill; and if not, the cost of living at Cobar warrants the Court in awarding the full amount claimed.

3. That the management at Cobar on the 9th of June instant agreed to pay adult labourers, members of the Federated Engine Drivers and Firemen's Association, at Cobar the sum of 11s a day (an amount only 3d. per day less than the rate awarded by the President of this Court to adult labourers at Broken Hill) and that a difference in payment to adult labourers in two organizations doing the same class of work at the same mine is bound to cause dissatisfaction and unrest, and further demands.

The respondent at Cobar disputes the first two contentions, and contends that the allowance referred to, under the circumstances deposed to, ought not to be taken into consideration.

(1) *Supra* p. 155.

1916.
FEDERATED MINING EMPLOYEES ASSOCIATION v. OSWALD'S GOLD MINES AND OTHERS.

The Deputy President, Powers, J.

I propose to deal with the three contentions in the order named.

As to the first point—

That the members of the organization working underground are liable to the same, or equal dangers and risk to body and health at Cobar, as employees at Broken Hill, because the conditions under which they work at Cobar are just as injurious to health and just as dangerous as at Broken Hill.

On the evidence I think the conditions at Cobar are better than those at Broken Hill, but, unless I alter what has been the practice of this Court from its inception, I am not to consider the point stated in fixing an adult wage even if I found the statement to be correct.

The President in the last award he made—the Broken Hill award—referred to the practice laid down by this Court in the following words:—

> "The dangers to body and to health are distinctly relevant to the question of hours, because the longer the time a man is subjected to the conditions underground the greater is the risk that he runs, just as the longer time one is under fire, the greater is the chance of a bullet; and, as regards health, the longer the hours the greater the fatigue, and fatigue renders a man less capable of resisting disease, gives him less chance of throwing away from his system any deleterious influences. It is my practice not to increase wages because of risk to body or to health; but such risk can fairly be considered on a question of hours."(1)

The President in the award referred to, dealt at some length with the reasons why this and other Courts considered the question raised, in fixing hours but not in fixing wages.

The reasons why danger to health is not considered in fixing wages were first laid down, so far as I know, by the President in 1908 in the Marine Cooks case(2). In that case he held that unhealthy conditions under which individual employees suffer, if the conditions are not necessarily incidental to their employment, are to be ignored in framing a scale of wages, and may be left to parliamentary regulation (by the State).

Later on the President held that it was for the State to legislate for the safety of employees and that an award based on unhealthy dangerous conditions would be used as a justification for risking the life and health of the employees if the wages were based on those conditions.

In this case the respondent has agreed to adopt for underground workers the 44 hours per week fixed by the President for

(1) *Supra* p. 187. (2) 2 C.A.R. 55.

In the matter of the National Security (Industrial Peace) Regulations and of

THE ARMS EXPLOSIVES AND MUNITION WORKERS FEDERATION OF AUSTRALIA

and

IMPERIAL CHEMICAL INDUSTRIES OF AUSTRALIA AND NEW ZEALAND LTD.

(N.S. No. 541 of 1942).

Industrial dispute, Munition workers—Extra rates for employees handling black powder—Danger money—Application dismissed.

1942. MELBOURNE, Dec. 31. — 1943. Jan. 6. — G. A. Mooney, *Conciliation Commissioner.*

This dispute came before the Court pursuant to a notification under Regulation 10 of the National Security (Industrial Peace) Regulations given by the Arms Explosives and Munition Workers Federation of Australia.

The matter was referred to the Court by the Industrial Registrar as required by the said Regulations.

On 23rd December, 1942, His Honour Judge O'Mara referred the matter to G. A. Mooney, Esquire, Conciliation Commissioner, for hearing and determination.

The matter was listed for hearing before the Conciliation Commissioner, in Melbourne, on 31st December, 1942.

J. M. Mackay and *E. Taylor* for the Arms Explosives and Munition Workers Federation of Australia.

H. S. Elford for Imperial Chemical Industries of Australia and New Zealand Ltd.

On 6th January, 1943, the Conciliation Commissioner delivered the following judgment:—

In this matter the Arms Explosives and Munition Workers Federation of Australia claims from the Imperial Chemical Industries of Australia and New Zealand Ltd. payment of a danger rate to men working in the black powder section of the explosives factory of the Commonwealth Government at Albion. This factory is being managed for the Government by the above Company which is paid certain fees for its services. The employees are working under the terms and conditions of the Munitions agreement which agreement is expressed to remain in force for three years from 4th December, 1939, and is made between the abovenamed Federation and a number of other organizations of employees and the Minister of State for Supply and Development. When the factory at Albion was opened it was agreed between the said Federation and the Company that the terms of the Munitions agreement should apply to the workers at such factory.

Under clause 7 of the agreement special extra rates of 1s. 6d. per day are payable to the following, namely:—

"Explosives, &c.:—All manufacturing ratings whilst engaged on—

Nitro-glycerine, drying gun cotton, tri-nitro-toluene-mono-nitro-toluene, nitro benzine, tetryl, fulminate of mercury, and compositions containing fulminate of mercury; and the loading of cordite paste or the gelatinization of S.C. cordite paste by means of hot rolling.".

No. 5301.

G. A. Mooney, Conc. Commr.]

No provision is made in the agreement for any extra payment for persons engaged in the manufacture of gun or black powder. I am informed no such powder is being made at the establishments in respect of which the agreement was originally made.

At the factory at Albion the Company is making a fuse powder and as one of the components is charcoal the powder is black.

On the opposite side of the road at Albion is the explosive factory of Nobel (Australasia) Pty. Ltd. and here among other things gunpowder is made which is also a black powder. The employees here are working under an agreement made between the said Federation and the Nobel Co. Under this agreement employees at the factory including those engaged in the manufacture of black powder are paid an occupational allowance of 15s. per week. The Federation states that this 15s. is danger money (i.e. danger from explosives) and this statement is not contradicted. The powder at Nobel's is milled in quantities of 300 lbs. or thereabouts at the one milling, but at the works in question the quantity milled at any one time does not exceed 8½ lbs.

The special rates in the Munitions agreement are in some cases because of danger from explosions and in others, such as T.N.T., are for toxic dangers.

I desire particularly to stress that the extra rates referred to are in both cases the result of agreements and are not awards of this Court made after proper consideration of the circumstances.

The Nobel agreement has been made an award but merely to implement it and the Industrial Authority making the award had no part in making the agreement.

This Court has repeatedly stated as a principle that it will not increase wage rates because of the dangerous nature of the work, holding that it is far better that regulations and safety devices be introduced which will diminish or prevent the risks involved. I am entirely in accord with this principle.

In the present case I have inspected the work in question and the conditions under which it is performed and I am of opinion that this Company's method of working and the safety conditions ordered render the work not more hazardous than that performed by numerous other workers such as electricians, miners and others, but even if such were not my opinion I would not feel justified in departing from the principles expressed by this Court as to danger money and therefore I make no order for any increased payment.

In the matter of the National Security (Industrial Peace) Regulations and of

THE ARMS EXPLOSIVES AND MUNITION WORKERS FEDERATION OF AUSTRALIA

and

IMPERIAL CHEMICAL INDUSTRIES OF AUSTRALIA AND NEW ZEALAND LTD.

(N.S. No. 557 of 1944).

Industrial dispute, Munition workers—Extra rate for employees handling black powder—Dangerous nature of work—National Security (Economic Organization) Regulations—Judgment delivered.

1944.
MELBOURNE, Sept. 4.
G. A. Mooney, *Conciliation Commissioner.*

This dispute came before the Court pursuant to a notification under Regulation 10 of the National Security (Industrial Peace) Regulations given by the Arms Explosives and Munition Workers Federation of Australia.

The matter was referred to the Court by the Industrial Registrar as required by the said Regulations.

On 28th August, 1944, His Honour Judge O'Mara referred the matter to G. A. Mooney, Esquire, Conciliation Commissioner, for hearing and determination.

The matter was listed before the Conciliation Commissioner, in Melbourne, on 4th September, 1944.

E. Taylor for the Arms Explosives and Munition Workers Federation of Australia.

F. J. B. Hayes for Imperial Chemical Industries of Australia and New Zealand Ltd.

After hearing argument the Conciliation Commissioner on the same day delivered the following judgment:—

This matter is in effect an application by the Arms Explosives and Munition Workers Federation of Australia that Imperial Chemical Industries of Australia and New Zealand Ltd. pay an additional amount of 9s. per week to employees in the TRF section at Albion.

A similar claim was made before me[1] in December, 1942, and in January, 1943, limited mainly to the RD. 202 section. On this occasion the application is put partly on the grounds of danger, because an operative was killed at this locality some few months ago, partly on the score of health reasons in that the anticipation of danger tends to make the men suffer from nervous complaints, and in that they are subject to a dust menace; and partly on the grounds that at a factory on the opposite side of the road, owned by Nobel (Australasia) Pty. Ltd., additional payment is made for what is known as a location allowance.

At the time of the claim in respect of the RD. 202 section such an allowance was being paid at Nobels, and under the Munitions agreement, which binds the parties here represented, certain special rates were payable in the Nitro-Glycerine and other sections of the Munitions Department's works.

(1) 49 C.A.R., p. 47.

JUDGMENT—MUNITION WORKERS (*re* HANDLING OF BLACK POWDER).

G. A. Mooney Conc. Commr.]

As far as I can see, the only substantial question is again the question of danger, but I do not think anything has been shown to demonstrate that I should depart from the decision I made in January, 1943. In the course of that decision, I stated—"This Court has repeatedly stated as a principle that it will not increase wage rates because of the dangerous nature of the work, holding that it is far better that regulations and safety devices be introduced which will diminish or prevent the risks involved".

There is no dispute here that this Company has not introduced all the safety devices of which it has knowledge.

In addition, of course, there is such a consideration as the National Security (Economic Organization) Regulations, which would prevent the increases sought being granted unless it were shown that the present rates were anomalous. Quite apart from those regulations, however, I do not feel that I can grant this application. It is therefore refused.

In the matter of

IMPERIAL CHEMICAL INDUSTRIES OF AUSTRALIA AND NEW ZEALAND LTD.

and

THE AMALGAMATED ENGINEERING UNION and others

(No. 710 of 1948).

Industrial dispute, Metal trades—Disability allowance—Safety protective measures—Application dismissed.

1948. Sydney, Oct. 14. 1949. March 3, 8, 11, 21; April 29.

D. V. Morrison, Conciliation Commissioner.

Notification of a dispute between the above parties was given pursuant to section 14 of the *Commonwealth Conciliation and Arbitration Act* 1904-1948 by Imperial Chemical Industries of Australia and New Zealand Ltd.

The matter was listed before D. V. Morrison, Esquire, Conciliation Commissioner, in Sydney, on 14th October, 1948.

L. W. Weickhardt, C. I. Cox, N. C. Treloar and *W. A. Kable* for Imperial Chemical Industries of Australia and New Zealand Ltd.

H. Carr for the Amalgamated Engineering Union.

L. A. Davies for the Australasian Society of Engineers.

L. Druce for the Electrical Trades Union of Australia.

F. O'Neill for the Federated Ironworkers Association of Australia.

On 29th April, 1949, the Conciliation Commissioner issued the following decision:—

On 8th September, 1947,[1] I made the following order in respect to a disability allowance to certain maintenance workers in the employ of the Imperial Chemical Industries of Australia and New Zealand Ltd. at its Botany works, N.S.W.

> "An employee of Imperial Chemical Industries of Australia and New Zealand Ltd. engaged at its Botany works on maintenance inside buildings where chlorine gas and/or hydrogen sulphide gas are manufactured or handled shall be paid 1/6 per day or part thereof during which such employee is so engaged."

The Unions concerned, by letter dated 20th August, 1948, requested a conference with the Company in an endeavour to discuss:—

(1) That the rate referred to above be increased to 3/- per day;

(2) That the rate be applied to all employees of the Company working in or adjacent to the sections where poisonous gases are used or manufactured.

(1) Serial No. 7940.

[D. V. Morrison, Conc. Commr.

On 15th September, 1948, the Company advised the Unions as follows:—

> "We write in reference to the conference held on Wednesday, 8th instant, when the representatives of the Unions put forward a claim for an increase in the special rate which is payable to maintenance workers in certain sections of the plant under Order made by Mr. Commissioner Morrison and the Industrial Commission of New South Wales.
>
> This claim was linked with submissions made by the Union's representatives that there were particular disabilities attached to work at this Company's plant. All were in agreement that the question of safe operation was the matter of greatest importance, and that, if there were any steps which could be taken, or changes in practice which could be made, to improve safety and remove or minimise such disabilities as there might be, they should undoubtedly be taken.
>
> In this connection, you will remember, it was pointed out that there was already in existence a Factory Safety Committee, which met regularly, and that the Company had no knowledge of any specific complaint or suggestion of the employees which had not received careful attention and appropriate action where, on such consideration, such action appeared proper. It should be noted that three of the eight members of the Committee are employee representatives.
>
> Nevertheless, the representatives of the Company emphasised (and we wish to emphasise again) that we will welcome every form of co-operation which may lead to improvements in the safety of our operations, and also we will give every co-operation on our part to the Department of Industrial Hygiene, and, in particular, would afford opportunities to representatives of the Department to carry out such investigations as they wish, even though such investigations might necessarily be spread over a period of days or weeks.
>
> In this connection it is only right to say that at the conference no representative of the Unions was able to put forward any specific complaint.
>
> We are writing this letter now because it was at a stage in the conference stated that we would give an answer to the claim made within a week, but as the discussions subsequently turned on the question of safety (in relation both to co-operation with the employee and also the Department of Industrial Hygiene), we think you will agree that this matter should be immediately pursued and the claim which you put forward left in abeyance meanwhile."

On 25th September, 1948, the Company notified the Unions it could not agree to make any increase in the disability rate and that it intended to bring the dispute to the notice of the Industrial Registrar, as required by section 14 of the Commonwealth Conciliation and Arbitration Act 1904-1948, which was subsequently done.

The matter was listed before me on 14th October, 1948, when it was agreed that the Department of Public Health, Division of Hygiene, be requested by the Unions to make an investigation as to whether employees of the Company in the course of their work were exposed to risk from poisonous gases.

On 25th January, 1949, the Department of Industrial Hygiene furnished a report as to the whole of the plant, irrespective of whether maintenance men or other employees were conserned.

D. V. Morrison, Conc. Commr.]

The report, in my opinion, is most thorough in all its details, valuable to the Company and informative to the men.

Dr. Smith and his officers should be commended for their valuable effort in explaining in every detail and with great thoroughness any disability to which men working in this vital industry may be subjected. I think, in the interests of those directly concerned, the report should form part of my decision for the purpose of future reference and guidance especially to those people who are called upon to discuss the health and welfare of the employees at the sectional safety committees. It will appear, therefore, as an appendix to this decision, and, suffice it to say, is the foundation of my decision, in that it proves that whatever disabilities there may be, they are confined to the chlorine gas and hydrogen sulphide gas divisions.

The question then arises as to what I should do, having regard to the facts outlined in Dr. Smith's report. Should I be guided solely by that report or should I rely on my own industrial judgment by continuing the order I made on 8th September, 1947?

It is quite patent from the report that the disabilities have not increased; in fact, protective measures have been introduced to lessen them. The accident rate, too, has fallen considerably, which proves that the Company is doing everything humanly possible to eliminate industrial hazards and to safeguard the health of its employees. I think that is the real approach to this problem because you cannot purchase by money the right to injure health.

The remedy then is increased activity by the general safety committee or sectional safety committees, so that any accident or risk of accident may be fully discussed by these committees, not only to suggest a remedy to cure a fault, but to prevent the possible eventuation of a happening which may prove harmful to an employee's health.

On some jobs masks must be worn. When they should be first donned and when they should be taken off is of vital concern to the user, especially where poisonous gases are prevalent. Accidents have occurred at this establishment because men have taken off their masks too soon. I think, therefore, that in such cases a responsible person should be present to guide and instruct the men what to do in such circumstances and that every precautionary measure should be taken to avoid infection.

Although it has been said in effect that you cannot purchase the health of a man by prescribing extra rates—a principle with which I agree without any reservation—you can, in my opinion, impose a penalty on an employer so severe that, rather than take the risk of placing the health of his employees in jeopardy, he would be forced to introduce effective precautionary measures rather than pay the penalty.

In this case, no such action is warranted or necessary. Everything is being done to protect the health of the employees. Safety committees are already in existence and if all the members of those safety committees discuss freely and frankly the health hazards which may or may not

occur with one object in mind, that is, "Prevention is better than cure," then and then only can the interests of the worker and his family be served, and so too the interests of the employer.

In view of the Health Department's report, I see no reason to vary the present disability provision and it will stand so long as the present conditions prevail. The claim, therefore, for an increase in the disability allowance is refused.

APPENDIX.

PART I.

On 25th August, 1948, the organiser of the Australasian Society of Engineers, New South Wales Branch, wrote to this Department concerning industrial unrest at the works of I.C.I.A.N.Z., Matraville, New South Wales, and stated: "Employees are of the opinion that in the course of their work they are exposed to risk from poisonous gases."

An inspection of several sections of the plant was requested, with a view to determining:—

"(1) Whether poisonous gases are present in sufficient quantities as to affect the health of employees during periods of normal operation of the plant.

(2) (a) Whether during breakdowns or repairs the masks provided are 100 per cent. efficient.

(b) At which stage the mask may be discarded with safety, and whether an employee could decide this.

(c) Whether the continued wearing of a mask is in itself injurious to health.

(3) What is the risk of dermatitis in all or any section of the plant.

(4) What additional safeguards would be necessary in all or any section of the plant to eliminate all risk to employees.

(5) Whether poisonous gases are present in sections of the plant adjacent to those named below."

The letter then listed the following sections of the plant "in which poisonous gases are admitted to be present by the Company":—

54. Trichlorethylene Plant.
38. Perchlorethylene Plant.
27. CO2 Refrigeration.
28. Liquid Chlorine Storage.
29. Chlorine Cylinders Loading Platform.
18. Tower Sodium Hypochlorite.
26. Sodium Hypochlorite Plant (Batch Process).
19. Ferric Chloride.
75. Zinc Chloride Plant.
25. Hydrochloric Acid Plant.
41. Caustic Receiving.
42. Mercury Recovery.
56. Laboratory, Office and Change Room.
40. Carbon Shop and Store.
14. Cell Room.
15. Chlorine Drying and Fans.
16. Brine Preparation.
17. Salt Storage.
37. Carbon Tetrachloride Plant.
50. Sulphur Melting Section.
32. Carbon Bisulphide Absorption.
30. Carbon Bisulphide Loading.
34. Gas Producers.
35. Carbon Bisulphide Retorts.
69. Autoclave Building.
57. Accelerator, Chemicals and Phenothiazine Process Building.

On the 7th September, 1948, the Australasian Society of Engineers was advised by me that the work at I.C.I.A.N.Z. Ltd. would be commenced as soon as possible and would probably take many weeks or even some months to complete. Arrangements for a preliminary inspection of the plant were made for the 7th October, 1948, but on that date the New South Wales Minister for Health received a deputation comprising representatives from the Australasian Society of Engineers, the Amalgamated Engineering Union and the Electrical Trades Union, and it was necessary to postpone the inspection until the following day.

At the conference with the Minister for Health a general discussion concerning the desired investigation took place and the Union representatives were advised of the procedure intended to be adopted by the Division of Industrial Hygiene. The delegates asked that, in the event of a breakdown or some other emergency occurring at the factory, an officer from this Division be made available for immediate inspection

In the matter of the *Conciliation and Arbitration Act* 1904-1952

and of

P. G. A. WELDING SERVICE ENGINEERS PTY. LTD.

and

THE BOILERMAKERS SOCIETY OF AUSTRALIA and another

(No. 143 of 1954).

Industrial dispute, Metal trades—Allowance for alleged dangerous employment—Proximity of work to tanks containing crude oil or petrol—Decision issued.

1954.
Melbourne,
March 24, 30.

G. A. Mooney,
Chief
Conciliation
Commissioner.

Notification of a dispute between the above parties was given pursuant to section 14 of the *Conciliation and Arbitration Act* 1904-1952 by P. G. A. Welding Service Engineers Pty. Ltd.

The matter was listed before G. A. Mooney, Esquire, Chief Conciliation Commissioner, in Melbourne, on 24th March, 1954.

A. P. Aird, of counsel, for P. G. A. Welding Service Engineers Pty. Ltd. and the Victorian Chamber of Manufactures.

B. Morgan for the Boilermakers Society of Australia.

R. M. Lundberg for the Federated Ironworkers Association of Australia.

On 30th March, 1954, the Chief Conciliation Commissioner issued the following decision:—

This dispute arises out of a claim for danger money by members of the Boilermakers Society of Australia and their assistants, members of the Federated Ironworkers Association of Australia, employed by P. G. A. Welding Service Engineers Pty. Ltd. at the refinery of the Shell Oil Co. at Geelong.

The Unions claim that, on account of danger which they allege exists at these works, their members should be paid an additional £3 per week. At the request of the parties, I, on 26th March, 1954, inspected the works, particularly the places where the men making the claim have been working. The work in question was being performed on the erection of a tank adjacent to tanks already completed and containing crude oil or petrol.

The case of the men seemed to rest mainly upon the ground that an accident, such as a fire or explosion, could happen, and of course it is unfortunately true that an accident could happen at these works as it could happen in almost any place. In a similar case in 1943 at the works of Imperial Chemical Industries of Australia and New Zealand Ltd., where a claim was made for danger money for persons employed handling black powder, in the course of my decision I said:—

> "This Court has repeatedly stated as a principle that it will not increase wage rates because of the dangerous nature of the work, holding that it is far better that regulations and safety devices be introduced which will diminish or prevent the risks involved". (1)

(1) 49 C.A.R., at p. 48.

No. A3779.

DECISION—METAL TRADES (*re* ALLOWANCE FOR ALLEGED DANGEROUS EMPLOYMENT).

G. A. Mooney, Chief Conc. Commr.]

I still adhere to that principle, but I wish to state that, on the evidence submitted in this case, the safety precautions taken by this company are such as are common practice in oil refineries throughout the world and have been adopted after many years experience, and they are in my view such as to render the work not more hazardous than that performed by workers in industry generally.

It is a significant fact that insurance companies charge a lesser premium for insuring workers in refineries than they do for workers in ordinary engineering work, and very considerably less than for workers in building operations.

It is a fact that certain areas are defined as requiring certain safety precautions because of a liability to danger arising out of persons smoking and using lighted matches within those areas. I can see nothing in this case to warrant the expressed fear of the men that the occupation is extremely hazardous. If that fear does in fact exist, no money payment will allay or remove it.

There are no grounds, in my opinion, which would justify the payment of money on account of the alleged dangerous nature of the employment.

APPEAL AGAINST ORDERS VARYING AWARDS

[Wright and Nimmo JJ., Senr Commr Taylor

The matter again came on for hearing before the Commission (Wright and Nimmo *JJ.* and Senior Commissioner Taylor) in Melbourne on 21 November 1967.

J. H. Wootten, Q.C., and *V. Watson,* of counsel, for The Broken Hill Proprietary Company Limited.

J. B. Sweeney, Q.C., *E. A. H. Laurie,* Q.C., *R. M. Northrop,* of counsel, and *P. Hase,* solicitor, for The Boilermakers' and Blacksmiths' Society of Australia and others.

On 6 December 1967 the Commission issued the following decision and made the order hereinafter appearing:

This appeal concerns rates of pay for employees of the B.H.P. engaged upon the construction at a berth or berths in its Whyalla shipyard of an oil-drilling rig named *'Ocean Digger'* designed for operation at sea. On 27 September last Mr Commissioner Winter made four orders varying respectively the Metal Trades Award, the Ship Painters and Dockers Award, the Shipwrights (Shore) Award and the Engine Drivers and Firemens (South Australia) Award, the general effect of which was to substitute for the 'Special Rates' prescribed by the three awards first-mentioned an 'all-in' rate substantially increasing the special rates already paid on the job, and in the last-mentioned award, to introduce for crane drivers on this particular job two 'disability' rates which was a new concept for that occupation.

It is, we think, unnecessary in this decision to relate at any length the circumstances of the construction of this vessel, as they are amply recorded in the reasons which Mr Commissioner Winter gave for the decisions he had made, and in the report (accompanying those reasons) of K. D. Marshall, Esquire, Chairman of the Local Industrial Board which the Commissioner had appointed to investigate the dispute and report thereon. (These documents will, in due course, be published in conjunction with our present decision). Before embarking on the hearing of the merits of the appeal, we heard argument upon the question of importance involved in sub-section (3) of section 35, at the conclusion of which it was announced that the Commission was of opinion that the matter was of such importance that, in the public interest, an appeal should lie.

The basis of the Company's challenge of the four variations can be stated broadly as follows:

That Mr Commissioner Winter's decision rests upon erroneous principles, and should be quashed.

That there was no justification for any increase in special rates already prescribed by the awards.

Alternatively that the additional rates prescribed are excessive.

That the Commissioner gave an unreasonably long period of retrospective operation to his orders.

The Unions defended Mr Commissioner Winter's orders in all respects, including the quantum of each allowance; but on the question of retrospectivity submitted (but only as an alternative proposition) that the operative date should be no later than 21 December 1966, on which day a conference was held between the Unions and the Company concerning a claim by the former for extra pay for men employed on the construction of the rig—but not in the form in which the Commissioner granted it.

was placed into position, until the vessel was launched, and irrespective of the times that employees were subject to the unusual working conditions as he saw them and irrespective of whether they ever worked under such conditions. We are conscious, of course, that instances are to be found in the Metal Trades Award, and some other awards of this Commission where 'all-in' rates are prescribed for the special conditions under which work is done, but we have not had brought to our notice any instance which we consider would provide a precedent for what the Commissioner did in this instance. It appears from his decision that Mr Commissioner Winter did not purport to rely upon any precedent, but specifically made his decision upon what he had considered to be the special facts of this case.

The general rule applied by the Commission, and the old Court, is to assess special rates individually, and to apply them only to employees working in the circumstances defined, and only while so working.

In the course of his decision Mr Commissioner Winter referred to his consciousness of the fact that his rate might be too high to be fair and reasonable for work done at certain early stages of construction, or too low to apply to work carried out during later stages of construction. 'In short', he said, 'I have endeavoured to determine a mean that will fairly and reasonably compensate an employee who has worked on the oil rig throughout all stages of construction.' He also recognised the anomalous position that might arise regarding employees who may have worked on the rig only at the early or late stages.

We are of the opinion not only that the Commissioner was not justified in fixing an 'all-in' rate for the whole of this job, but that the rate which he fixed was, even on that basis, grossly excessive.

In our view the only aspect of this job which could be considered extra-ordinary had relation to working in confined spaces.

We do not consider that the element of 'danger' which the Commissioner took into account involved any more than the work-a-day hazard of mishaps liable to occur in any construction job—ship building or otherwise. It has been the invariable practice of this Commission—and of the Court before it—to refuse to commute to a money allowance any risk of danger which it is possible to compel an employer to eliminate; and we are satisfied that the Company took every step possible to ensure safe-working on this job.

But apart from the element of possible accidents we agree that, where work in confined spaces was concerned there was an unusual—perhaps even exceptional—combination of confinement, discomfort, inconvenience, and otherwise trying conditions. We have in mind particularly the frequent presence of fumes from welding, an exceptional degree of noise from adjacent operations, frequent generation of heat not reaching the degree specified in the award for 'heat money', frequent crowding of men in a particular compartment, sometimes working one above the other. At the same time we feel bound to say that we have formed the opinion that the Company was in no way niggardly in its application of the confined space allowance provisions of the awards to this job.

Working at heights, in our view, involved no particular features on this job to distinguish it from working at heights in any shipyard or on any other structures covered by the Metal Trades Award.

We have concluded that fairness and justice will be met so far as the construction of this vessel is concerned by increasing the 'confined space' special rate under the Metal Trades and Shipwrights Awards by one quarter, which will

IN THE FLIGHT CREW OFFICERS INDUSTRIAL TRIBUNAL

In the matter of the *Conciliation and Arbitration Act* 1904-1968

and of

AUSTRALIAN FEDERATION OF AIR PILOTS

and

AUSTRALIAN NATIONAL AIRLINES COMMISSION (T.A.A.)
(T No. 12 of 1968)

and

QANTAS AIRLINES LIMITED
(T No. 24 of 1968)

Industrial questions—Retirement age of pilots—Decision issued.

1968.
MELBOURNE, Oct. 18, 23; Nov. 26, 27; Dec. 13.

Professor J. E. Isaac.

Notifications of industrial questions between the above parties were given pursuant to section 28 and part IIIA of the *Conciliation and Arbitration Act* 1904-1967 by the Australian Federation of Air Pilots.

The matters were listed before the Flight Crew Officers Industrial Tribunal (Professor J. E. Isaac) in Melbourne on 18 October 1968.

F. Caterson and *B. I. Crofts* for the Australian Federation of Air Pilots.

J. D. Keary and *A. W. Houston* for the Australian National Airlines Commission (T.A.A.)

A. L. Koob for Qantas Airways Limited.

R. S. Brownlie for the Australasian Navigators Association (intervening).

J. M. C. King for Ansett Transport Industries (Operations) Pty Ltd (intervening).

On 23 October 1968 the following announcement was made by the Tribunal:

This is a matter relating to the termination of the employment of pilots upon their attaining a particular age. The current practice is for the services of pilots employed by the respondent Companies to be terminated when the pilots reach the age of 55 years. The Australian Federation of Air Pilots is seeking to raise the termination age to 60 years. More specifically, the Federation is seeking an order to be applied to T.A.A. and Qantas in the following terms:

> 'The employer shall not terminate the services of a pilot by reason of age alone before the pilot has attained the age of 60 years.'

At the commencement of the hearing of this case, the Companies questioned the power of the Tribunal to deal with this matter on two grounds. First, the demand of the Federation does not constitute an industrial demand within the meaning of section 88H of the *Conciliation and Arbitration Act* 1904-1968. Second, section 58 of the Act prevents the Tribunal from making the order sought because the obligation in such an order extends beyond a period of five years. In support of these grounds the Companies referred to the High Court's judgments in a number of cases:

1. *R. v. Commonwealth Conciliation and Arbitration Commission; ex parte Melbourne and Metropolitan Tramways Board*(1)
2. *R. v. Foster; ex parte Commonwealth Steamship Owners' Association*(2)

(1) 115 C.L.R. 443 (2) 94 C.L.R. 614

The present retirement age is 55 years in both Companies except that in the case of Qantas the pilot may go on to 1 July following his 55th birthday.

Briefly put and paraphrased, the Federation's case rests on three main grounds. First, the general Australian community standard is for a retirement age of 65 years. To do justice to the pilot, he should not be placed too far below this standard and be deprived of earning an income commensurate with his specialised skills for several productive years. Moreover, from the community's point of view, to cut the pilot's economic life at 55, would result in a waste of valuable resources. Second, there is no evidence to suggest that the 60 year old pilot would not be able to perform at the standard of operational competence and safety required of him. In the view of the Federation, this contention is supported by the fact that the Department of Civil Aviation has not prescribed any upper age limit. Third, apart from BOAC, BEA and KLM, general international practice is for a compulsory retiring age of 60. Moreover, where legal limits have been fixed (USA, UK, Italy and Spain), 60 years has been the age limit.

The main ground of the Companies' case against the Federation's claim is operational safety: the rising incidence of cardiovascular diseases with advancing age, especially after the age of 50, coupled with the unpredictability of heart attacks and strokes create a safety hazard which justifies an age limit no higher than 55 years. Authoritative American studies were produced to verify the positive statistical relationship between age and cardiovascular diseases. In addition, American statistics show that with age, a pilot takes longer to learn new manipulative skills; he is less adaptable and he is more subject to fatigue. The Companies also noted (Exhibit K4) that in 1961 a majority of a Medical Committee of ICAO considered that '55 would be a more adequate limit' than an upper age of 60. And although ICAO subsequently recommended that airline transport pilots engaged in international commercial transport 'should be not more than 60 years of age', the Companies emphasised that considerable significance should be attached to the fact that the recommendation was carried by 10 votes to nil *with* 13 *abstentions*.

The interlocking of safety and industrial issues invariably poses a difficult task for an industrial tribunal; in this case, an industrial demand for an improvement in earning power is met by a rejection of the demand based on safety grounds. However, in this industry, the Department of Civil Aviation is entrusted with the task of prescribing safety requirements. This being so, I believe that so long as this Tribunal keeps its awards within the safety rulings of DCA, it should, as far as possible, ignore safety arguments for or against any industrial claim. It should confine its deliberations to industrial arguments relating to differences on the terms of employment of flight crew officers. If the parties believe that the safety constraints should be narrowed or widened in order to change the industrial scope of the Tribunal's awards the way is surely open to them to take the matter up with the body which has the competence and the authority to deal with safety matters. To take any other approach would expose the Tribunal to the criticism of usurping the role properly entrusted to DCA.

In the present case, since there is no ruling from DCA on an upper age limit, I can only assume as a matter of logic that DCA would not disapprove of an award which prescribed 60 years as the age of retirement. In fact, it was not denied by the Companies that the Ansett-ANA practice of allowing a selected number of pilots to continue in employment after the age of 55 did not meet with any objection from DCA.

This does not, however, dispose entirely of the safety issue. Even if DCA does not disapprove of 60 years as the upper age limit for pilots, should the employer not have the right to impose a higher safety standard by retiring its

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IN THE AUSTRALIAN CONCILIATION AND ARBITRATION COMMISSION

Conciliation and Arbitration Act 1904

In the matter of a notification of an industrial dispute between

VICKERS COCKATOO DOCKYARD PTY. LIMITED

and

THE FEDERATED ENGINE DRIVERS' AND FIREMEN'S ASSOCIATION OF AUSTRALASIA

in relation to wage rates

(C No. 3552 of 1980)

MR COMMISSIONER BENNETT — SYDNEY, 22 JANUARY 1981

DECISION

This matter is part of a set of claims made by The Federated Engine Drivers' and Firemen's Association of Australasia on Vickers Cockatoo Dockyard Pty. Limited.

Of the seven main claims four have been agreed to by the Company and two which concern increases in the base rates for crane drivers are to be the subject of an application to vary the Metal Industry (Engine Drivers' and Firemen's) Award 1979.[1]

This decision relates to a claim of 91 cents a day as danger money for crane drivers at Vickers Cockatoo Dockyard Pty. Limited who as part of their normal duties are required to grease cranes and crane jibs.

The answer to the claim must be either that they are entitled to "danger money" or that they are not entitled to it. If they are entitled to it, then there is a necessity to fix an amount that would satisfactorily compensate for the danger aspect.

I am of the opinion that if the work in question is dangerous then it should be a matter of removing the danger rather than of the fixing of a penalty amount.

From the submissions and evidence presented to me I have come to the conclusion that so far as qualified crane drivers are concerned there is no "danger" within the ordinary meaning of that term.

The duties of a crane driver are specifically set out by the Regulations of the Scaffolding and Lifts Act administered by the N.S.W. Department of Industrial Relations. A crane driver is required to perform a number of operations which involve visual inspection at the beginning of a shift, care to ensure that there are no foreign objects present to impair the operation of the equipment, to keep the equipment in good repair, to keep it safe, and of course, to carry out the greasing operations that are necesary from time to time so that it will operate efficiently and safely.

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(1) 232 C.A.R. 357

DECISION - METAL INDUSTRY (ENGINE DRIVERS' AND FIREMEN'S) AWARD 1979

Because of the nature of the tasks performed by the crane drivers at Vickers Cockatoo Dockyard Pty. Limited they have become entitled to a rate of pay that is higher than that of the tradesman's assistant or the labourer.

This rate was increased as a result of a Work Value Review by Mr Commissioner Holmes in the Engine Drivers' and Firemen's (General) Award, and also by Mr Commissioner Heffernan in a further work value study which resulted in an Industry Allowance of $8.95 being paid to all employees of signatories to the Port of Sydney Ship Repairing and Ship Building Industry Industrial Agreement (and of course Vickers Cockatoo Dockyard Pty. Limited which is one of the signatories).

In addition to this the crane driver is in receipt of an additional amount for greasing under the "Dirt Money" provisions of the Metal Industry Award.

If a new element of wage under the heading of "Danger Money" were introduced it would be double counting of the two work value increases that have been applied to the current rate for crane drivers at Vickers Cockatoo Dockyard Pty. Limited.

Danger money is not being paid elsewhere for crane drivers and in order to succeed the Union would need to show that special circumstances exist at Vickers Cockatoo Dockyard Pty. Limited that would warrant such a payment.

In my view, no such special circumstances exist. If "height" was to be the criterion then one no doubt would assume that the higher above ground level the higher the danger.

The submissions made it clear that before greasing begins the area is isolated, i.e. the electrical current is turned off. This removes danger from electrocution and theoretically would leave as the only other factor the hazard of falling (for whatever reason may cause it) such as slipping or being knocked off balance.

The fact is however, that accidents of this type have just not occurred. And for good reasons; the main one being that the crane drivers, as part of their skills, are adept at the work involved and obviously have taken the required care, (as part of their jobs) to ensure that they do not fall.

To anyone but a crane driver the work of greasing the crane no doubt would be dangerous and I agree with the submission that it would be dangerous for, for example, a clerical employee to undertake the work.

For the reasons given I have formed the opinion that the operation of greasing has traditionally been and continues to be part of the normal duties of a crane driver and therefore does not call for any additional penalty.

The claim is rejected.

Annexure M

Q3

2019-2020

COAG Disability Reform Council

Quarterly Report

31 March 2020

ndis

Contents

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The COVID-19 pandemic

COVID-19

At this difficult time, the National Disability Insurance Agency (NDIA) Board's principal concern is the potential impact of the Novel Coronavirus (COVID-19) pandemic on National Disability Insurance Scheme (NDIS) participants, families, carers and providers.

The NDIA's absolute priority is participant health, safety, and ensuring participants can continue to access their essential supports. In light of the multifaceted impacts of COVID-19, the NDIA is working closely across Government, including working with the Department of Social Services (DSS), the NDIS Quality and Safeguards Commission (NDIS Commission), Services Australia, and State and Territory governments, on a daily basis to ensure pandemic preparedness and contingency plans are put in place to protect continuity of essential supports for NDIS participants.

Introduction

This overview describes the key initiatives being undertaken in relation to COVID-19. Information is regularly updated on www.ndis.gov.au. Readers are encouraged to refer to our public website for the latest information. Our website also contains a series of animations and Auslan videos to explain changes.

1. Supporting participants

The NDIA has prioritised continuity of service for participants by:

- Initiating telephone meetings for all participants as a safer way to continue service delivery, although participants can come to NDIA offices for assistance if required.
- Increasing the number of delegates in the contact centre to respond to significant changes in circumstances.
- Establishing a process for checking on the wellbeing of the most vulnerable participants. The NDIA has developed a proactive outbound contact strategy to contact the 62,000 participants identified to ensure they have the essential support they require. Feedback from participants contacted has been very positive on the NDIA's efforts to support them during this time.
- Sharing appropriate data with States and Territories to assist with continuity of services.
- Encouraging participants to identify their essential supports and use their funding flexibly to meet their critical needs, with plans being amended quickly where required to support this flexibility.

- Extending plans up to 24 months if participants are happy with their current plan.
- For NDIS participants in hospital settings, working closely with State and Territory officials to identify participants who are clinically ready for discharge. Approximately 500 participants deemed medically ready for discharge from hospital across the country have exited the hospital system.
- Working with supermarket retailers to make sure NDIS participants wanting support to grocery shop have priority access to home delivery services.
- Monitoring closely the level of critical supports to identify service gaps that may arise. As a priority we have met with our Exceptionally Complex Support Needs Providers to assess their capability and capacity to expand their service. These providers assist the NDIA with robust support coordination services for NDIS participants with exceptionally complex support needs.
- For the next six months, participants can access low cost assistive technology of up to $1,500 using flexible plan funding (i.e. fitness equipment and smart devices) to help ensure the continuity of NDIS funded supports (e.g. therapy and social participation). The effectiveness of this policy will be evaluated post the COVID-19 pandemic.

The number of participants testing positive to COVID-19 is currently extremely small and remains at a level significantly below the infection rate in the general Australian population.

2. Support for providers

The NDIA Board strongly supported initiatives announced on 21 March 2020 by Minister Stuart Robert which are intended to assist providers impacted by the current crisis. These include:

- Registered NDIS providers have received one-month advance payments to provide immediate cash flow relief (at a total value of $666m).
- A temporary 10 per cent COVID-19 loading on some supports for up to six months - Assistance with Daily Life (excluding supported independent living which is costed through a quoting process), Assistance with Social and Community Participation, Improved Health and Wellbeing (excluding personal training), and Improved Daily Living Skills.
- Increased flexibility with the NDIA's cancellation policies. From 30 March 2020, if a participant cancels at short notice (now 10 business days, previously two), providers receive 100 per cent of the service booking fee instead of 90 per cent.
- A new Support Coordinator line item in core support: from 25 March 2020, support coordinators can draw funds from the core budget if the capacity building line items have been fully utilised.
- Two new support items were introduced for participants in Supported Independent Living (SIL) who have been diagnosed with coronavirus (COVID-19). The two new support items are: cleaning services ($300 per participant to cover the cost of a one-off professional deep cleaning of a residence) and additional supports ($1,200 maximum daily rate to cover the costs of higher intensity support related to the participant's diagnosis).

- Access to the National Medical Stockpile of Personal Protective Equipment (PPE) for disability providers including registered and unregistered providers, and self-managed participants. Requests for PPE by the disability sector will be assessed by the Department of Health using an agreed criteria which takes into account disability sector specific issues. Assessment and distribution of PPE to the disability sector commenced on 17 April 2020.
- In April 2020, the Minister for Health announced that 500,000 masks will be directed towards the disability sector to help provide essential protection for frontline health workers. Half of these were allocated to the NDIA, with the other half allocated to primary health networks.
- Daily tracking of payments to service providers to identify emerging service gaps. Along with the NDIS Commission, the NDIA will work with states and territories to source an alternative provider for essential services if usual services cannot be delivered.
- In collaboration with DSS and the NDIS Commission, the NDIA launched a dedicated webpage (www.ndis.gov.au/coronavirus/finding-support-workers) to help providers and participants find additional support workers during the pandemic. This website provides direct links to 12 different support matching employment platforms. It also identifies the opportunity for those who are looking for work to connect with matching platforms to help pursue employment in the disability sector.

These initiatives work hand in hand with the unprecedented suite of broader initiatives undertaken by Government to support businesses and workers.

The Government announced a number of changes to visa arrangements to enable temporary visa holders to remain in key industries, such as health, aged care and disability care. International students currently working for registered disability service providers will also be able to work more hours to help support the disability sector. These changes will help boost front line staff and ensure critical services continue.

3. Supporting our staff and partners

The NDIA Board acknowledges the significant efforts of staff and partners as the COVID-19 pandemic unfolds and wants to thank them for their service and commitment to participants. As a Government agency, the NDIA is considered an essential service, and all staff, labour hire workers, and partners engaged by the NDIA are essential workers.

Some Partners in the Community (PiTC) have closed their offices to the public as part of their Business Continuity Plans. They are continuing to provide services via phone and email. NDIA offices remain open and staff are able to work from them if they choose. The NDIA has been fortunate to be able to support working from home arrangements through our remote network, with approximately 75 per cent of our staff moving to working from home arrangements within a one week period. Having people work from home enables effective implementation of physical distancing measures in our workplaces for those who need or want to work in an office.

The COVID-19 pandemic

cont.

NDIA priorities

The NDIA acknowledges the current priority is responding to the new challenges presented by COVID-19. This requires a diversion of resources, and reprioritisation of some functions and business activity, which inevitably impacts on our ability to deliver all our key priorities.

Notwithstanding this significant challenge, we remain focused on improving the participant experience, and creating a Scheme that is simpler, easier, and more reliable.

The key highlights for this quarter are included in the next section.

Key highlights

364,879
people with disability are being supported by the Scheme

27,426
joined the Scheme this quarter

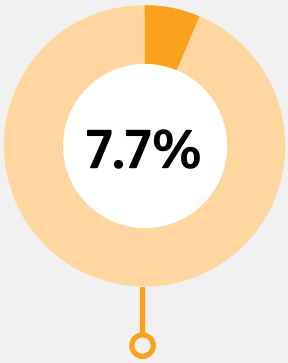
Supporting children, earlier:

30%
of new participants this quarter were aged 0-6 – **8,283 children**

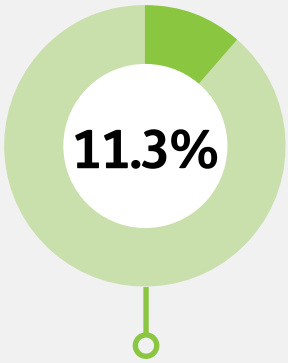
5,542
children receiving initial supports in the ECEI gateway – a **107%** increase from last quarter

Call centre performance has remained strong with **84%** of calls answered within **60 seconds**.

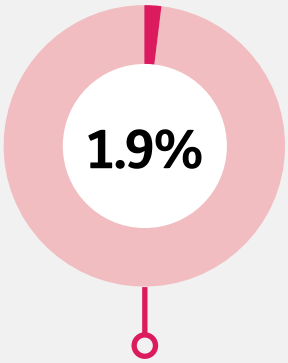
Participants are increasingly diverse:



participants who received a plan this quarter identify as Aboriginal or Torres Strait islander



participants who received a plan this quarter identify as Culturally and Linguistically Diverse



participants who received a plan this quarter were from remote/very remote regions

Key highlights cont.

Wait times, on average:

to get a first plan,
are **31%** lower
than 12 months ago.

for children
to get a first plan,
are **56%** lower
than 12 months ago.

The number of first plans in progress for more than 60 days:

fell from **7,424** to **4,767** this quarter

The number of open Participant Requested Reviews (PRRs):

fell from **7,295** to **755** over the last 9 months

The number of open Review of Reviewable Decisions (RoRDs):

fell from **10,264** to **6,537** this quarter
(and the number open for more than 90 days decreased
from **3,707** to **1,351**)

Introduction

This report is a summary of the performance and operations of the NDIA for the three months from 1 January 2020 to 31 March 2020, as required by Section 174 of the NDIS Act 2013.

Analysis and key insights are presented in the report, with detailed supplementary tables included in the appendices. The national results are contained in Appendix E, followed by individual appendices for each State and Territory (Appendices F–M). Also included in the appendixes are:

- A list of key definitions of the terms used in this report (Appendix A)
- A comparison of key metrics across each State and Territory (Appendix N)
- The number of active participants in each region, including the number of active participants in each region receiving core, capacity building and capital supports (Appendix O)
- The number of active participants in each region receiving Special Disability Accommodation and Supported Independent Living, along with data on the number and types of dwellings in each region (Appendix P)
- A comparison of utilisation by region (Appendix Q)
- Waiting times for access decisions and plan approvals by State/Territory (Appendix R)

Steven
is helping orphaned wildlife

Warrandyte NDIS participant, Steven Oram is using his sewing skills to make pouches for orphaned wildlife and he just loves it.

An avid sewer herself, and employed in a fabric shop, mum Mary said, Steven, who is 33 with a moderate intellectual disability and chronic arthritis, took an interest in sewing two years ago and asked her if he could learn.

Reluctant to teach her own son, Mary enlisted the help of a friend, Jenny, to teach Steven.

"One day a local lady who sews quilts came into the shop. I noticed she had a sling bag on, and while I was serving her this little wallaby popped out. It was just beautiful.

"I looked at her pouch and thought my Stevie could make these. I asked her if she needed more made. She said yes, so we set up a basic pattern and Steven and Jen began sewing them and we started to supply her."

Mary said they also made contact with Wildlife Rescue and Protection Inc. (WRAP's), a network of registered wildlife shelters, carers and rescuers, operating across Gippsland.

"I now send WRAP's treasurer a whole lot of pouches and she distributes them at their monthly meeting.

"We sent a lot to NSW to help support the big bushfires there just before Christmas. We've also sent 66 pouches to a carer in Paynesville to distribute to other wildlife carers around Marlo and Mallacoota."

"Over the past two years, since Steven has been part of the NDIS, it has certainly helped to build his confidence to become more independent and to do and try new things," Mary said.

"Sewing and distributing the pouches makes Steven feel productive," Mary said. "It has allowed him to combine his interests – sewing and his love of animals and he just loves it."

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Part One:

Participants and their plans

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Part One:
Participants and their plans

Almost 365,000 participants are receiving supports from the NDIS, with approximately 5,500 children receiving initial supports in the Early Childhood Early Intervention (ECEI) gateway.

1.1 Number of participants in the Scheme

At 31 March 2020, almost 365,000 participants had NDIS plans, of which approximately 27,500 entered the Scheme during the quarter.

At 31 March 2020, 364,879 participants had approved plans.[1] This represents an eight per cent increase from last quarter (an additional 27,426 participants).

Importantly, the Scheme is supporting both people from existing State/Territory and Commonwealth systems and individuals who have not previously received support. Of the 364,879 participants currently supported by the Scheme, 210,740 previously received support from existing State/Territory or Commonwealth programs and 154,139 are now receiving support for the first time (42 per cent of participants with approved plans).

In addition, the NDIA undertook 89,329 reviews in the quarter, an increase of 17 per cent since the last quarter, reflecting the large increase in the number of participants in the Scheme.

Throughout April 2020, the number of first plans approved and plan reviews undertaken has remained at similar levels to prior months, despite the COVID-19 pandemic.

Figure 1: Active participants with approved plans and percentage increase over time

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20 YTD
Active participants	7,285	17,155	29,719	89,610	172,333	286,015	364,879
Yearly increase[2]		9,870	12,564	59,891	82,714	113,682	78,864
% increase in active participants		35%	73%	202%	92%	66%	28%

[1] 11,032 participants with approved plans had exited the Scheme as at 31 March 2020.
[2] This is the net increase in the number of participants entering the Scheme each period noting some participants have exited the Scheme.

1.2 Children in the ECEI gateway

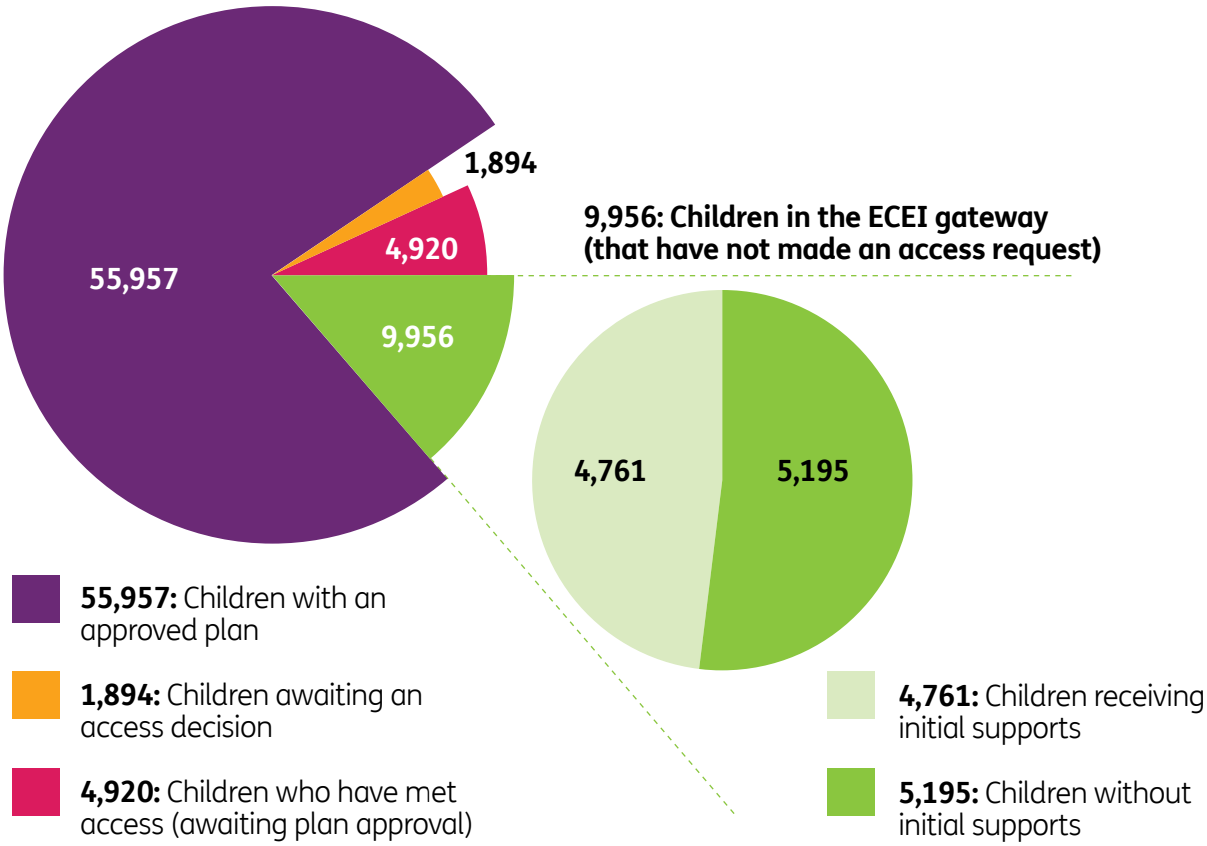
At 31 March 2020, there were approximately 5,500 children receiving initial supports in the ECEI gateway (an increase of 107 per cent at the end of last quarter).

Of the 364,879 participants with approved plans at 31 March 2020, 55,957 were children aged 0-6 (15%), and of the 27,426 new participants with an approved plan this quarter, 8,283 were children aged 0-6 years (30%). This is reflective of the significant continued effort being made by the NDIA and its partners to reduce the number of children who were waiting for supports.

In addition to the 55,957 children aged 0-6 with an approved plan:

- **4,920** children had met the access criteria and were waiting for an approved plan.
- **1,894** were awaiting an access decision from the NDIA (of which 781 (41%) were receiving initial supports in the ECEI gateway).
- **9,956** children were in the ECEI gateway (of which 4,761 (48%) had already commenced receiving initial supports). Not all children in the gateway will need to make an access request to the NDIA because some will receive support in the gateway, along with support from mainstream and community services.

Figure 2: Children in the NDIS



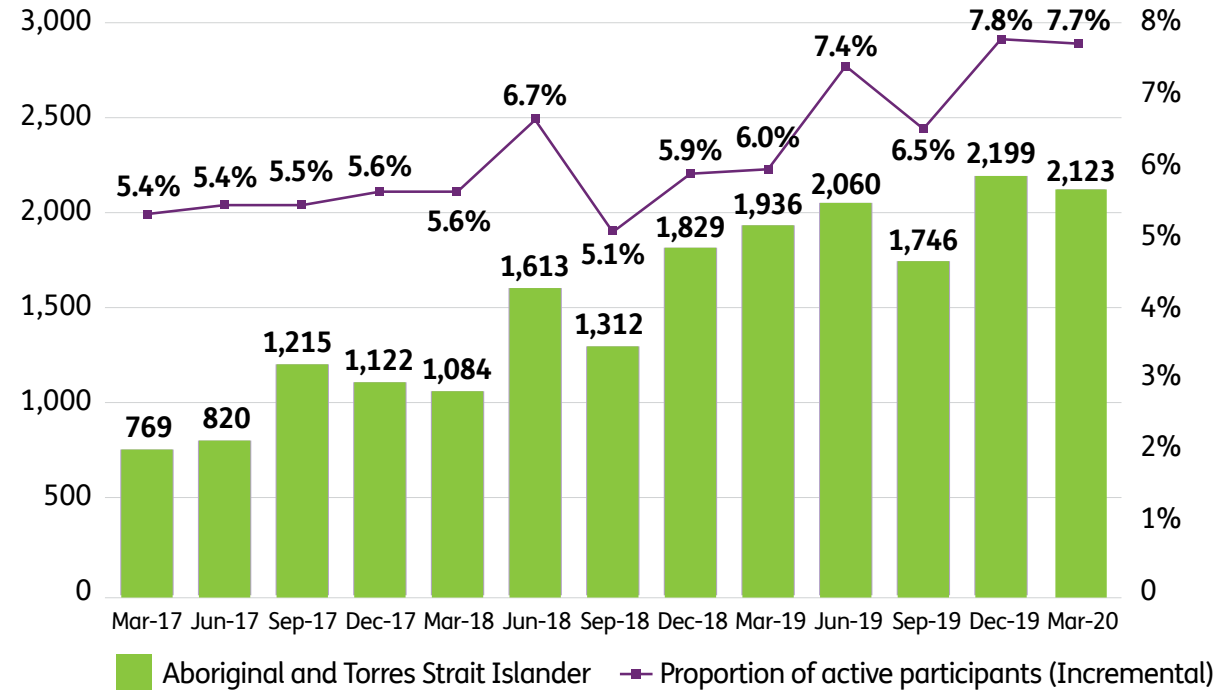
1.3 Participant characteristics

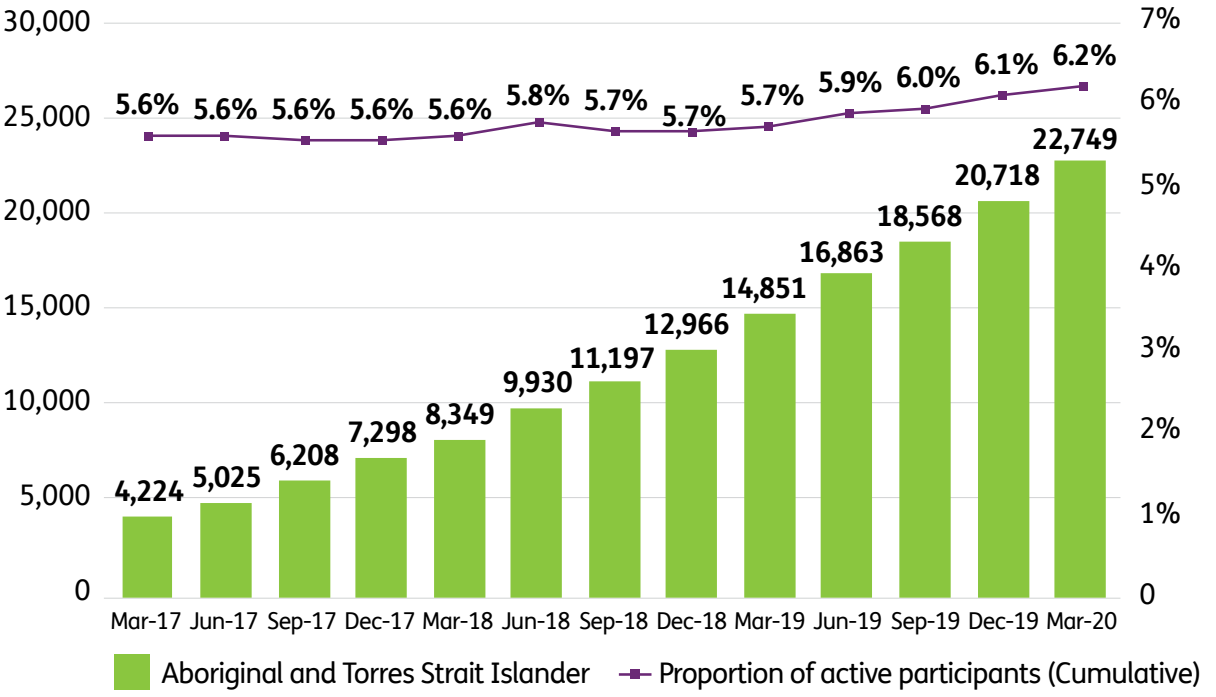
Participant diversity continues with higher proportions of Aboriginal and Torres Strait Islander and Culturally and Linguistically Diverse (CALD) Scheme entrants this quarter.

Of the 27,426 participants entering, there was increased diversity through higher numbers of:

- **Aboriginal and Torres Strait Islanders:** **7.7%** of participants who received a plan in the quarter, compared with **6.1%** in previous quarters combined.
- **CALD:** **11.3%** of participants who received a plan in the quarter, compared with **8.9%** in previous quarters combined.
- the number of Scheme participants in **remote and very remote** areas this quarter increased to **1.9%** of new entrants, compared with **1.4%** in previous quarters combined.

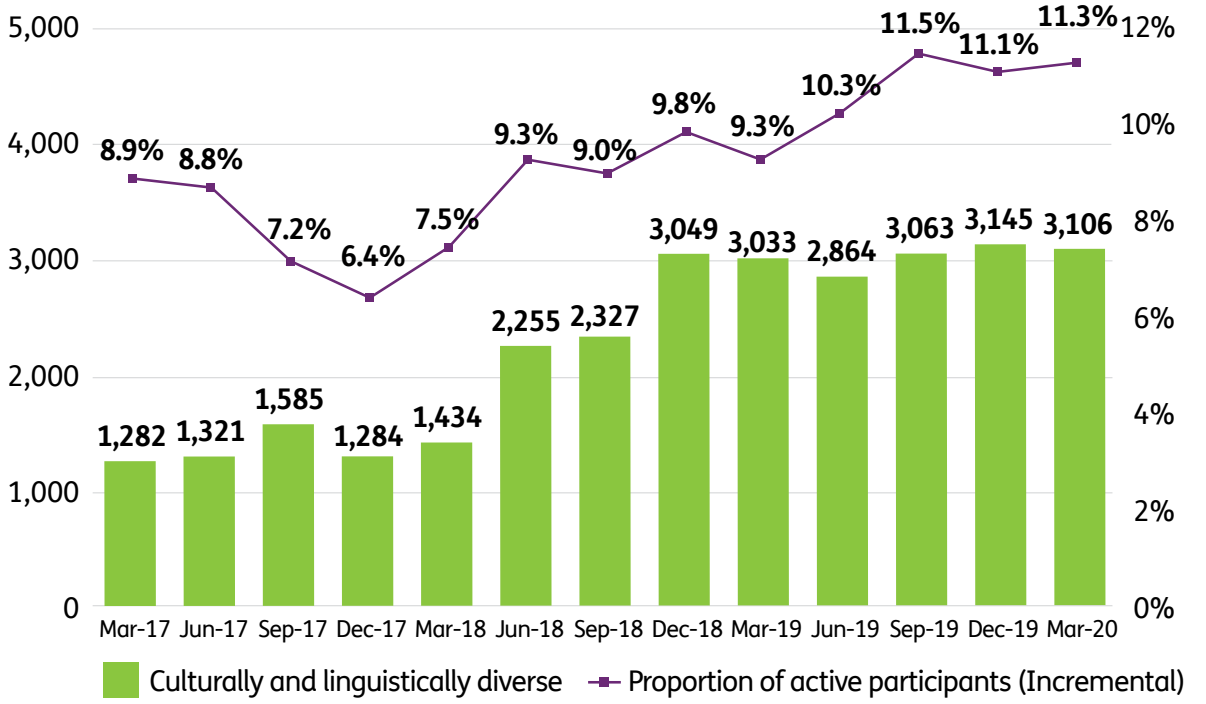
Figure 3: Number and proportion of Aboriginal and Torres Strait Islander participants over time incrementally (top) and cumulatively (bottom)[3]

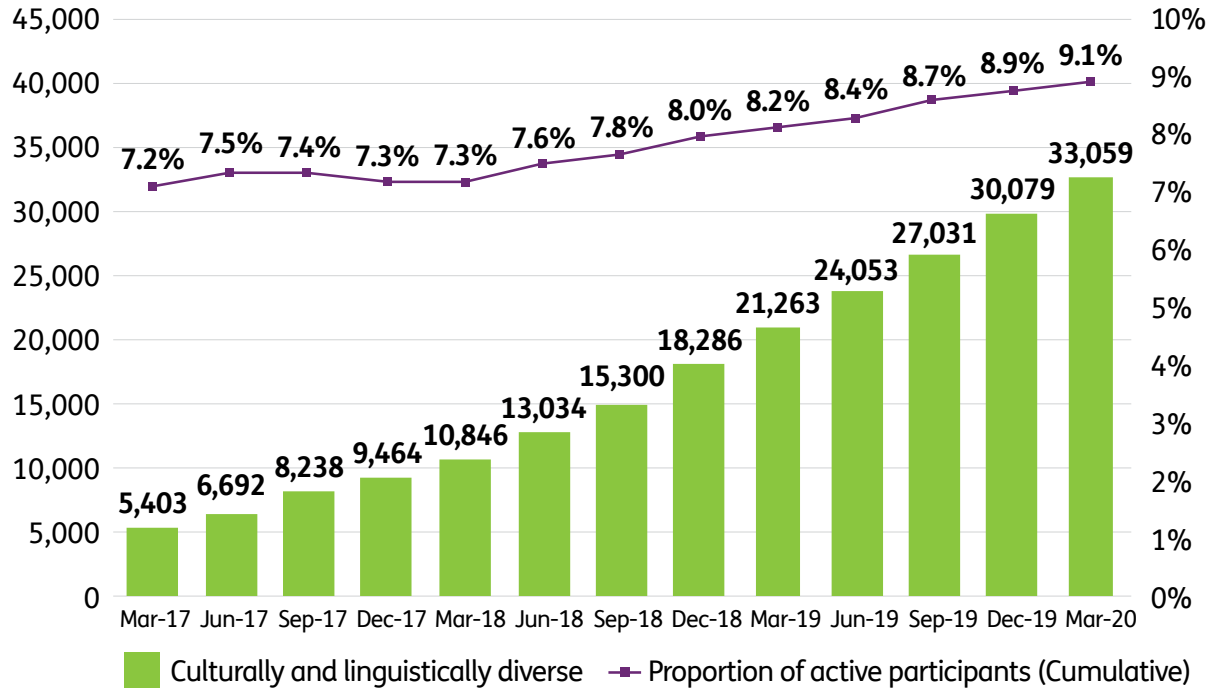




[3] The incremental chart shows the distribution of new participants that have entered in each quarter. The cumulative chart shows the distribution of active participants as at each quarter over time. Data is not available prior to March 2017.

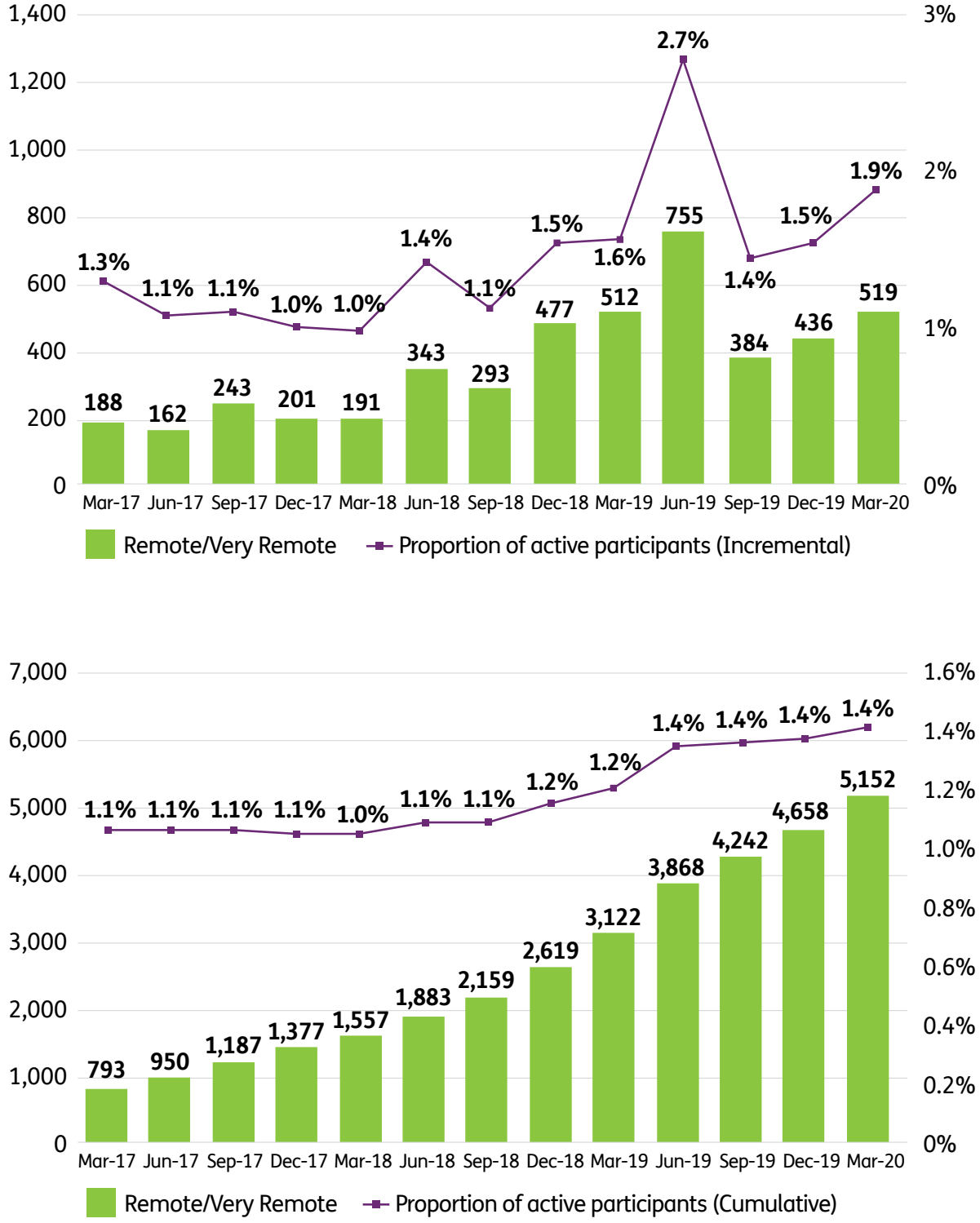
Figure 4: Number and proportion of CALD participants over time incrementally (top) and cumulatively (bottom)[4]





[4] The incremental chart shows the distribution of new participants that have entered in each quarter. The cumulative chart shows the distribution of active participants as at each quarter over time. Data is not available prior to March 2017.

Figure 5: Number and proportion of remote/very remote participants over time incrementally (top) and cumulatively (bottom)[5]



[5] The incremental chart shows the distribution of new participants that have entered in each quarter. The cumulative chart shows the distribution of active participants as at each quarter over time. Data is not available prior to March 2017.

Age and disability

The breakdown of participants by **age** and **disability** this quarter indicates:

- continuation of a high proportion of children **aged 0-6 years** entering the Scheme (**30%** this quarter and **35%** in the December 2019 quarter). This compares with **14%** in the previous quarters through to 30 September 2019 combined.
- consistent with the high numbers of children, a relatively higher proportion of participants with **Developmental Delay** entered the Scheme again this quarter (**15.0%** this quarter and the December 2019 quarter compared with **5.3%** in previous quarters).
- **Psychosocial Disability:** **12.6%** of participants who received a plan in the quarter, compared to **9.1%** in the previous quarters combined.
- a higher proportion of participants with **Hearing Impairment** entered the Scheme this quarter (**8.6%** this quarter and the December 2019 quarter compared with **4.1%** in previous quarters).

Younger People in Residential Aged Care

The Royal Commission into Aged Care Quality and Safety released its interim report on 31 October 2019. The government response to the interim report included the formation of a Joint Agency Taskforce (JATF) between the DSS, Department of Health, and NDIA. The JATF was established to develop a new strategy that builds on the Younger People in Residential Aged Care Action Plan. The Government response to the interim report included revised YPIRAC targets, which are:

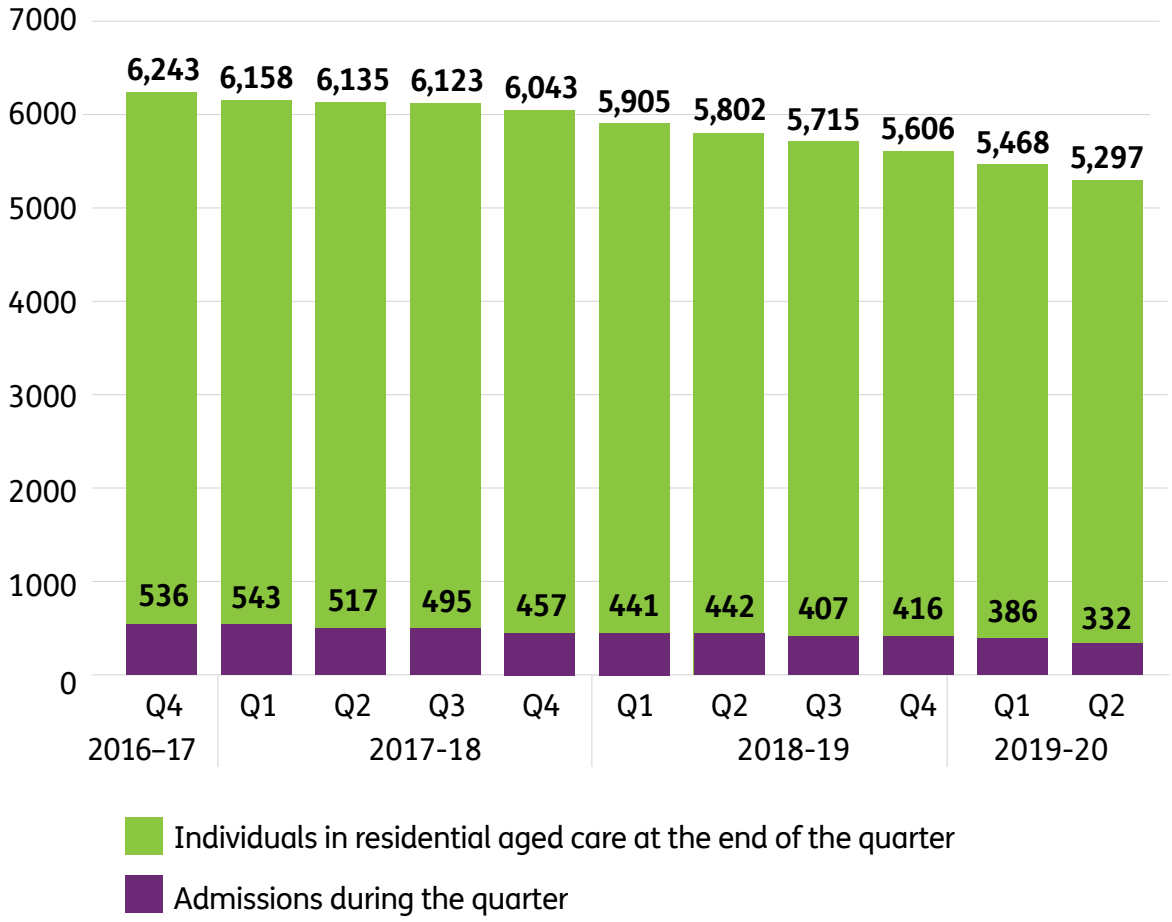
- no people under the age of 65 entering residential aged care by 2022.
- no people under the age of 45 living in residential aged care by 2022.
- no people under the age of 65 living in residential aged care by 2025.

The number of people in residential aged care under the age of 65 years has decreased in recent quarters from 6,243 at 30 June 2017 to 5,297 at 31 December 2019 (an 18% decrease).

Also, less people under the age of 65 years are entering residential aged care – 536 people under the age of 65 years entered in the June 2017 quarter, compared with 332 in the December 2019 quarter (a 38% decrease).

The NDIA, with the Department of Health, is continuing to investigate the reasons why individuals under the age of 65 continue to enter residential aged care.

Figure 6: Number of individuals in residential aged care and admissions to residential aged care (under 65 years), by quarter[6]

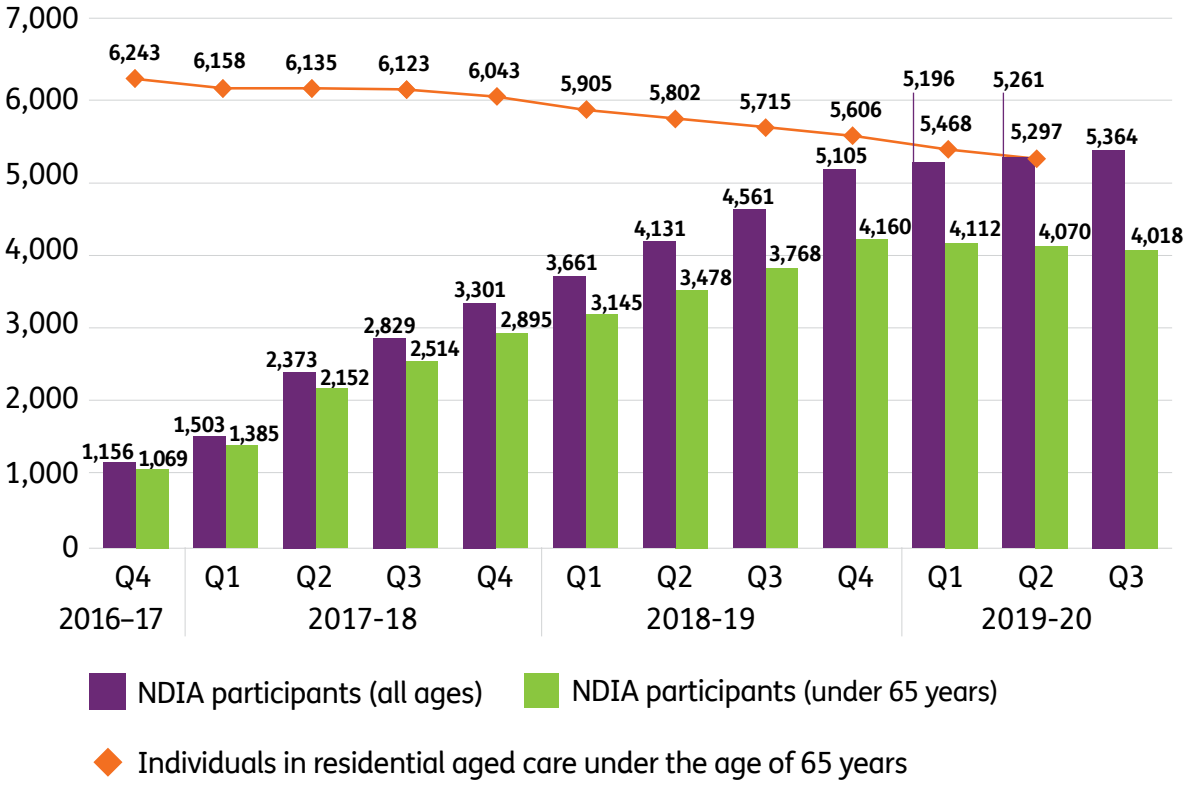


[6] Data is from Department of Health.

There were 4,018 participants in residential aged care with an approved plan at 31 March 2020 aged under 65 years, and there were a further 1,346 participants in residential aged care with an approved plan over 65 years (resulting in 5,364 participants overall in residential aged care). Of the 5,364 participants in residential aged care, 171 are aged under 45 years (3.2%).

Further, of the total number of younger people in residential aged care, 77 per cent had an NDIS approved plan at 31 December 2019, compared with 17 per cent at 30 June 2017.

Figure 7: Number of NDIA participants in residential aged care (all ages and under 65), and total number of individuals under age 65 in residential aged care



Part Two:

Participant experience and outcomes

2

Part Two:

Participant experience and outcomes

Recognising that participation in work and community and social activities is restricted due to the COVID-19 pandemic, this section presents the key statistics on these metrics for participants who have been in the Scheme for two and three years respectively.

2.1 Participation in work and community and social activities

Community and social participation rates continued to improve, however participation in work remains stable.

Participation in community and social activities

Participants who entered the Scheme between 1 July 2016 and 31 March 2017 have now been in the Scheme for three years – and for this group of participants, community and social participation has continued to increase over the three year period. There was a:

- **thirteen** percentage increase from **32%** to **45%** for participants aged 15–24 years.
- **fourteen** percentage increase from **36%** to **50%** for participants aged 25+ years.
- **fourteen** percentage increase from **35%** to **49%** for participants aged 15+ years.

Similar trends are evident for those who entered the Scheme between 1 April 2017 and 31 March 2018, and have been in the Scheme for two years. For this group of participants there was a:

- **twelve** percentage increase from **32%** to **44%** for participants aged 15–24 years.
- **ten** percentage increase from **36%** to **46%** for participants aged 25+ years.
- **ten** percentage increase from **35%** to **45%** for participants aged 15+ years.

Participation in work

The rate of participation in work for those in the Scheme continues to be stable. However, for those who have been in the Scheme for at least three years there have been some marginal increases in employment.

For participants who entered the Scheme between 1 July 2016 and 31 March 2017 and have been in the Scheme for three years, there was a:

- **twelve** percentage increase from **12%** to **24%** for participants aged 15-24 years.
- **two** percentage decrease from **25%** to **23%** for participants aged 25+ years.
- **one** percentage increase from **22%** to **23%** for participants aged 15+ years.

For participants who entered the Scheme between 1 April 2017 and 31 March 2018 and have been in the Scheme for two years, there was also a marginal increase in employment:

- **seven** percentage increase from **16%** to **23%** for participants aged 15-24 years.
- **two** percentage decrease from **27%** to **25%** for participants aged 25+ years.
- **one** percentage increase from **24%** to **25%** for participants aged 15+ years.

Employment Taskforce

The NDIS Participant Employment Strategy published in November 2019 requires the NDIA to create opportunities for 30 per cent of NDIS participants of working age to achieve meaningful employment by 30 June 2023.

The NDIA fully supports the Australian Government's commitment of seven per cent employment for people with disability in the Australian Public Service (APS). The NDIA has 11.9 per cent of its employees living with disability, cementing its status as an APS leader and is therefore in a good position to help other agencies understand how they too can achieve their employment targets.

The 'Let's talk about work' booklet is now widely used by participants, teachers, and coordinators to initiate a conversation about work, record key information about strengths, barriers and challenges, previous experience in employment and transferable skills. It is proving an excellent basis for formulating an NDIS plan that lays out the means to achieving employment.

The NDIA is already delivering on a number of elements in the Participant Employment Strategy (noting that some initiatives may not progress at the same pace as envisaged due to the COVID-19 pandemic):

- the NDIA joined the Collaborative Partnership. This Partnership is the national alliance to improve work participation for Australians with a health condition or disability. It is a collaboration between the public, private and not-for-profit sectors.

- an employment innovation challenge commenced with Swinburne University students in March 2020. The challenge will see students develop business plans to address and provide solutions to barriers to employment and outline innovative approaches to positively influence the rate of employment for people with disability. Through this challenge, we expect to hear of innovations in education, community and employment environments.

- the NDIA is working closely with Australian Disability Enterprises and the DSS to ensure a smooth transition to the NDIS for people in supported employment. This transition timeline is affected for some participants where their workplace has closed or they stay at home due to COVID-19 restrictions.

- work continues on the introduction in 2020 of the new supported employment pricing framework announced in October 2019. The new pricing means that participants with moderate to high workplace support needs have choice and control over the type and extent of supports they receive to pursue their employment goals. This includes participants working in Australian Disability Enterprises.

- peer leadership is important, and as a leading employer of people with disability, the NDIA is continuing to strengthen its recruitment and retention of people with disability, including NDIS participants. The NDIA is doing this through our disability awareness and capability training for staff, and leadership development for NDIS employees.

- the NDIS Information, linkages and capacity building (ILC) Economic Participation grant rounds are critical to building evidence-based practices to increase the market of employment supports and opportunities and employer readiness. The latest round of ILC Grants was announced in February 2020 and the outcomes from this work will help inform aspects of the Employment Strategy.

2.2 Analysis of participant outcomes

Participant reported outcomes continue to improve, particularly the longer a participant is in the Scheme.

Participants who entered the Scheme since 1 July 2016 were asked 'Has the NDIS helped?' after one, two and three years in the Scheme, allowing the NDIA to gain valuable longitudinal insights.

Participants who have been in the Scheme for at least three years

From 1 July 2016 to 31 March 2020, for participants who have been in the Scheme for three years[7], the following outcomes have been recorded:

For children aged 0 to before starting school:

- **95%** of parents and carers thought the NDIS improved their child's development in their third year of participation, compared to **95%** in their second year and **91%** in their first year.
- **94%** felt the NDIS improved their child's access to specialist services in their third year of participation, compared to **91%** in their second year and **90%** in their first year.

For children starting school to 14 years:

- **69%** of parents and carers felt their child had become more independent as a result of the NDIS in their third year of participation, compared to **64%** in their second year and **56%** in their first year.
- **54%** of parents and carers felt the NDIS had improved their child's relationship with family and friends in their third year of participation, compared with **50%** in their second year and **46%** in their first year.

For young adults aged 15 to 24 years:

- **67%** of participants felt the NDIS had helped them have more choice and control over their life in their third year of participation, compared to **64%** in their second year and **60%** in their first year.
- **70%** of participants said the NDIS had helped them with daily living activities in their third year of participation, compared to **65%** in their second year and **59%** in their first year.

For adults aged 25 and over:

- **78%** of participants believed the NDIS helped them have more choice and more control over their lives in the third year of participation in the NDIS, compared to **74%** in their second year and **68%** in their first year.
- **84%** of participants said the NDIS had helped them with daily living activities in their third year of participation, compared to **79%** in their second year and **72%** in their first year.

[7] That is, participants who had their first plan approved between 1 July 2016 and 31 March 2017 and have had a third plan review to date.

Participants who have been in the Scheme for at least two years

From 1 July 2016 to 31 March 2020, participants that have been in the Scheme for two years[8] also reported the following positive outcomes:

For children aged 0 to before starting school:

- **96%** of parents and carers thought the NDIS improved their child's development in their second year of participation, compared to **92%** in their first year.
- **87%** of parents and carers thought the NDIS helped increase their child's ability to communicate what they want in their second year of participation, compared to **84%** in their first year.

For children starting school to 14 years:

- **65%** of parents and carers felt their child had become more independent as a result of the NDIS in their second year of participation, compared to **56%** in their first year.
- **51%** of parents and carers felt the NDIS had improved their child's relationship with family and friends in their second year of participation, compared with **44%** in their first year.

For young adults aged 15 to 24 years:

- **65%** of participants felt the NDIS had helped them have more choice and control in their life in their second year of participation, compared to **58%** in their first year.
- **66%** of participants said the NDIS had helped them with daily living activities in their second year of participation, compared to **57%** in their first year.

For adults aged 25 and over:

- **74%** of participants believed the NDIS helped them have more choice and more control over their lives in their second year of participation in the NDIS, compared to **65%** in their first year.
- **79%** of participants said the NDIS had helped them with daily living activities in their second year of participation, compared to **69%** in their first year.

While the above results are encouraging, the analysis also indicates that there are areas where outcomes could be improved. For example, after three years in the Scheme, only 15 per cent of participants aged 15 to 24 agreed that being in the NDIS had helped them find a suitable job, compared to 16 per cent after two years and 18 per cent after one year. Similarly for participants aged 25 and over, after three years in the Scheme, only 18 per cent agreed that being in the NDIS had helped them find a suitable job, compared to 19 per cent after two years and 20 per cent after one year.

As noted above, the NDIA is committed to improving employment outcomes for participants and has developed the NDIS Employment Strategy for this purpose. Further detail about the NDIS Participant Employment Strategy is on the NDIS website.

[8] That is, participants who had their first plan approved between 1 July 2016 and 31 March 2017 and have had a third plan review to date.

2.3 Participant satisfaction

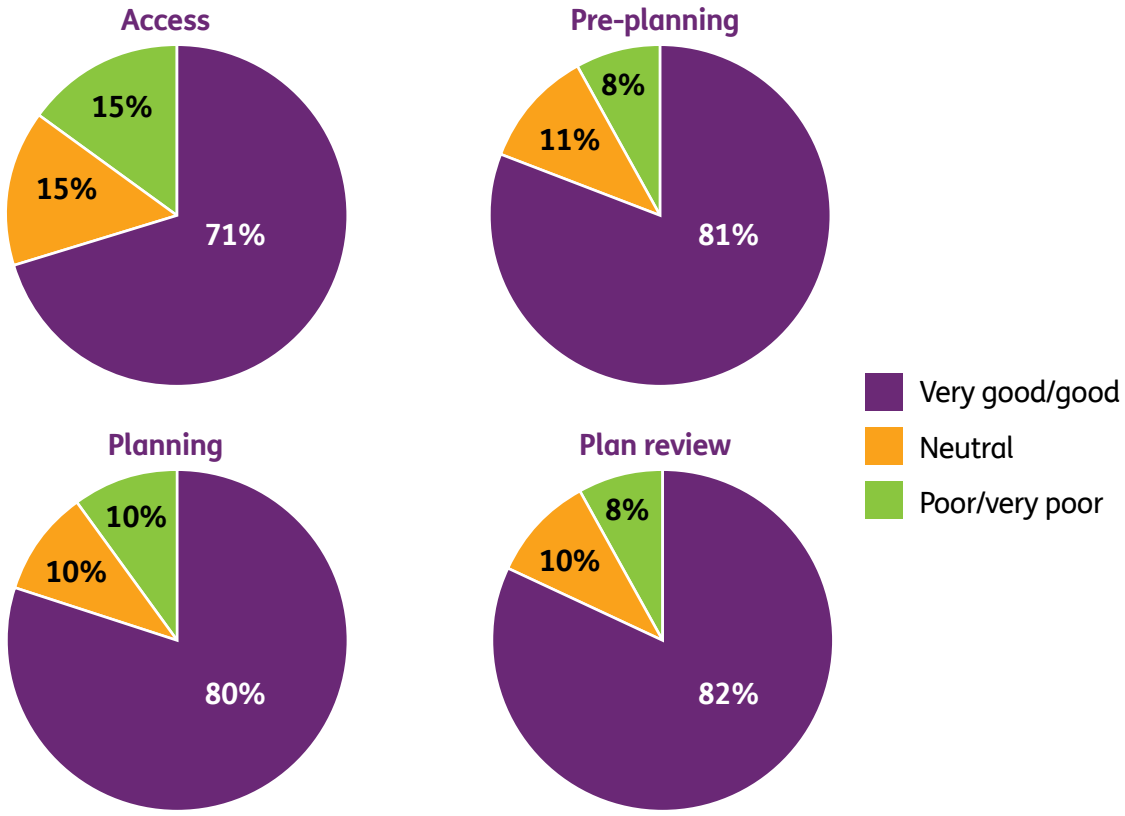
Participant experience across the pathway remains high.

In mid-August 2019, Minister Stuart Robert announced a review of the NDIS legislation and rules. The review, led by David Tune AO, was completed in December 2019, and the recommendations were released on 20 January 2020. One recommendation from this review, was that the NDIS Independent Advisory Council (IAC) develops a new independent participant satisfaction survey, with reporting included in the NDIA's quarterly reporting to DRC.

Since September 2018, the NDIA has conducted a participant satisfaction survey to allow for a comprehensive understanding of the participant experience at each stage of the pathway. It gathers responses at the four primary stages of the participant pathway – access, pre-planning, planning and plan review. The IAC will build on this survey to develop a comprehensive picture of participant satisfaction, noting that the original survey conducted by the NDIA since Scheme inception on first plan experience has now ceased.

In the March 2020 quarter, 82 per cent of participants rated the plan review process as either good or very good, with a further 10 per cent rating the experience as neutral. Seventy-one per cent of the participants in the quarter rated the access process as either good or very good, 81 per cent rated the pre-planning process as either good or very good, and 80 per cent of participants rated the planning process as either good or very good.

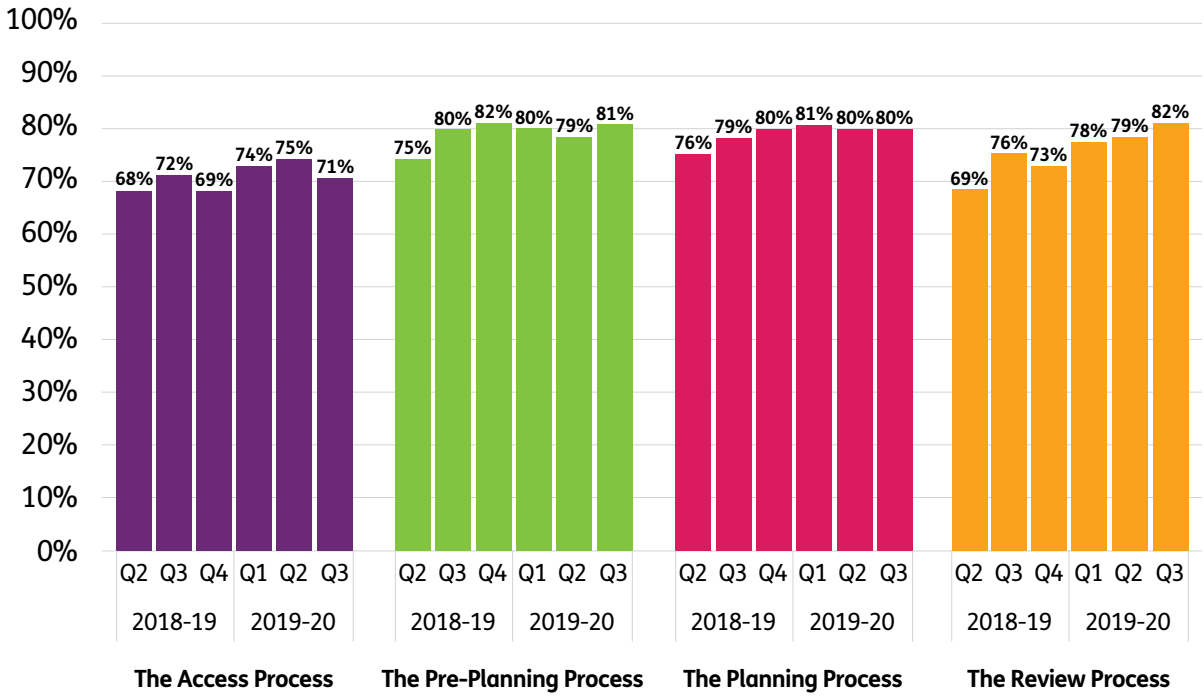
Figure 8: Rating of experience with the NDIS (1 January 2020 to 31 March 2020)[9]



[9] Survey sample was 496 surveys at Access, 1,370 at Pre-Planning, 1,627 at Planning and 333 at Review.

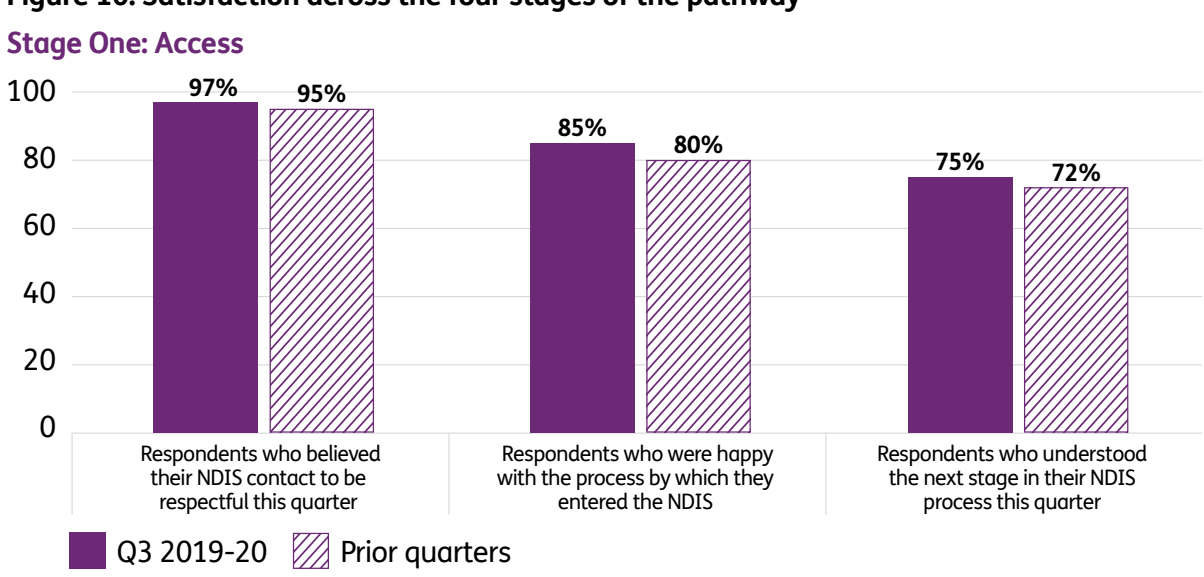
Satisfaction with the plan review process has increased over the six quarters with the other elements across the pathway remaining relatively consistent.

Figure 9: Trend of satisfaction across the pathway (% Very good/good)[10]



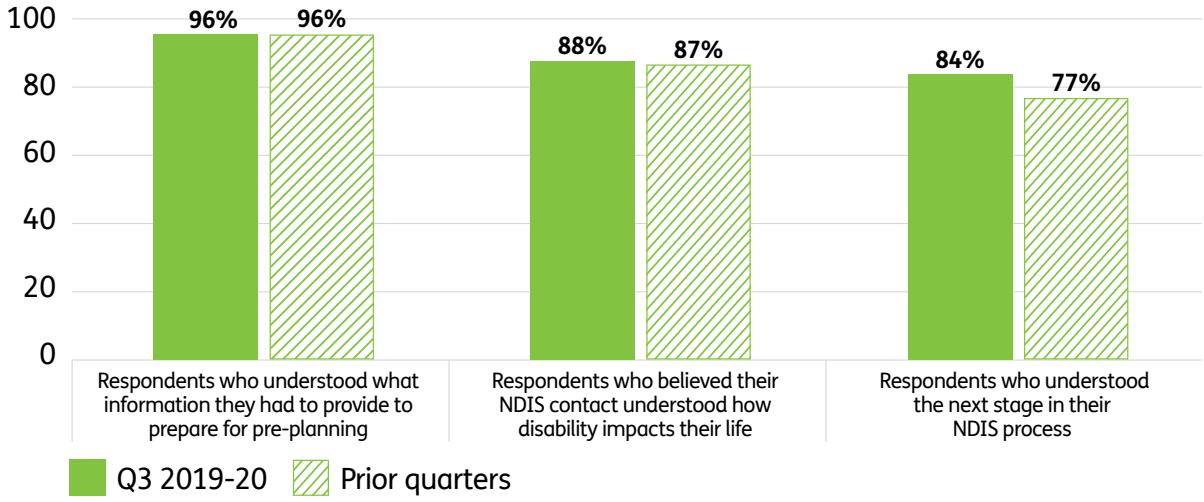
In addition to the trends outlined above, this survey also provides further insights at each stage of the pathway. A comparison of the previous five quarters (2018-19 Q2, Q3 and Q4, and 2019-20 Q1 and Q2) with the current quarter (2019–20 Q3) indicates continued satisfaction across the four stages of the pathway.

Figure 10: Satisfaction across the four stages of the pathway

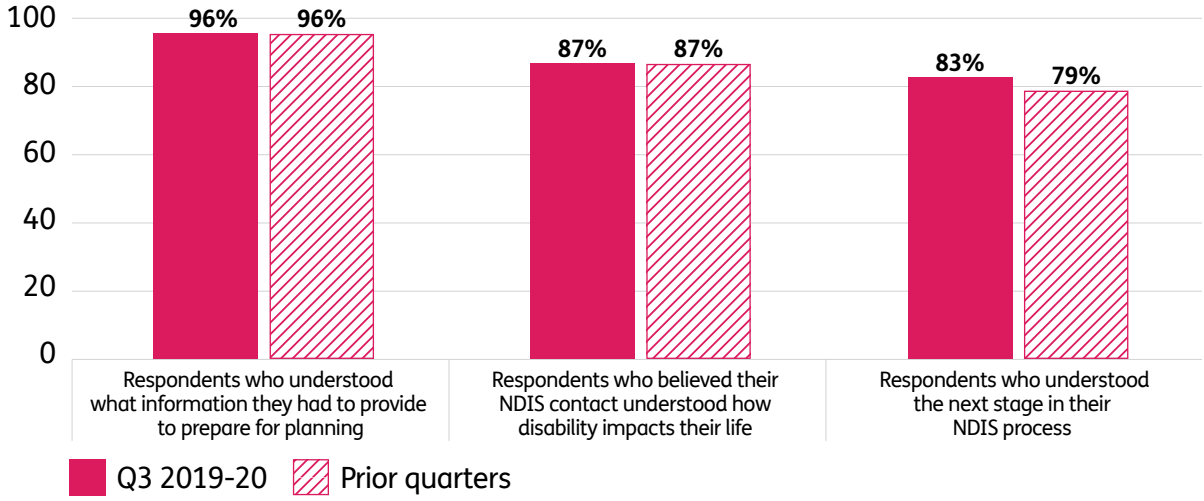


[10] On average, approximately 1,250 surveys at Access, 1,100 at Pre-planning, 1,400 at Planning and 1,250 at Plan Review are collected each quarter. Some results have marginally changed since the last quarterly COAG report as some survey results for each quarter are received retrospectively.

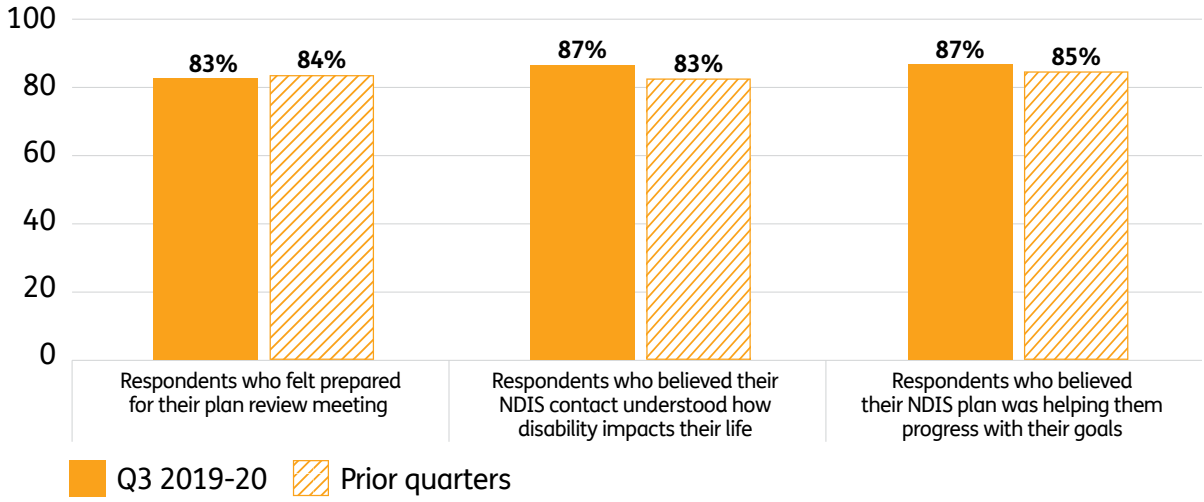
Stage Two: Pre-planning



Stage Three: Planning



Stage Four: Plan Review



2.4 Waiting times for access decisions and plans[11]

The time taken to make an access decision is, on average, three days.

Access decisions

The amount of time taken to determine access to the Scheme in some months of 2019 was too long. The NDIA invested significant resources to fix the ICT issue that caused the backlog and re-deployed staff to clear the backlog. The time taken, on average, to make an access decision in the most recent month fell to three days, well below the 21 day target.

Each quarter, a number of access decisions are made, and a number of access requests remain in progress (with a decision still to be made) at the end of the quarter. This analysis considers both the timeframes on the decisions that were made during the quarter, and also for the decisions still to be made, the number of days these decisions have been in progress. As at 31 March 2020, outstanding access decisions had been in progress for an average of five days. This compares with 10 days at the end of December 2019 and 38 days at 30 June 2019. Further, access decisions completed in the month of March 2020 were completed in three days on average compared to four days in December 2019 and 42 days in June 2019.

Figure 11: The average number of days an access decision has been in progress

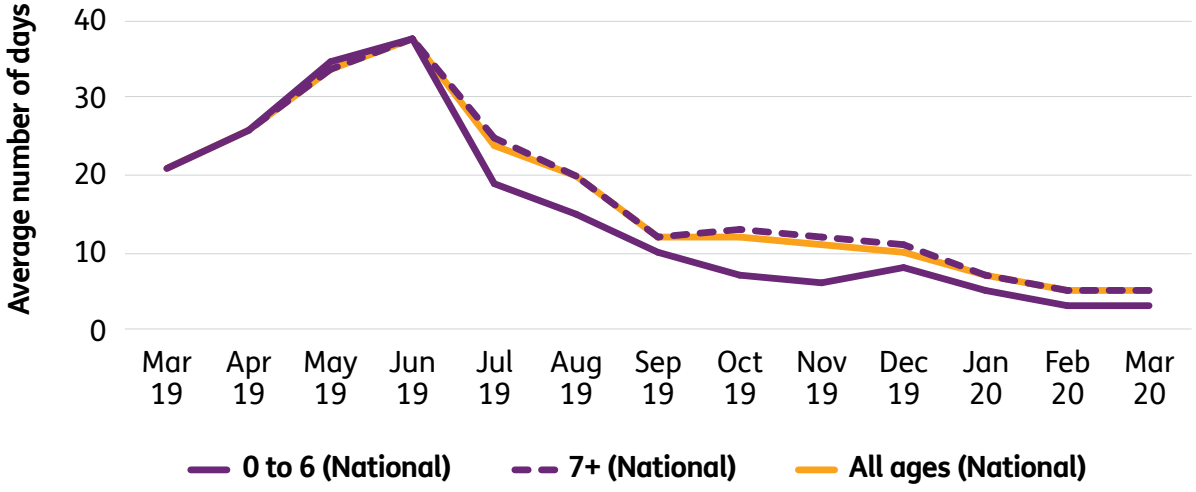
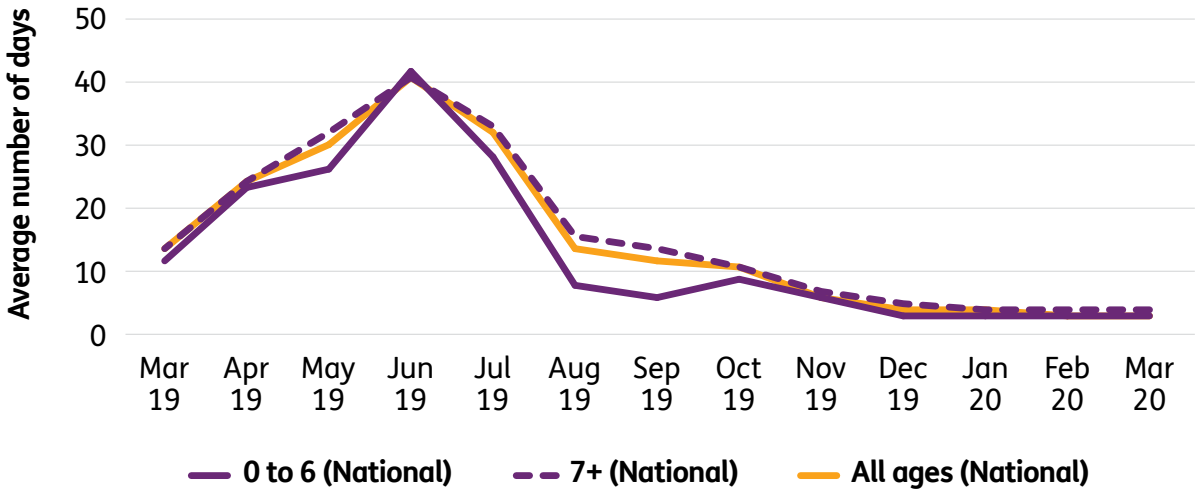


Figure 12: The average number of days taken to complete an access decision



[11] Further detail on waiting times is included in Appendix R.

First plan approvals

The time taken to approve a first plan after an access decision has been made has significantly improved compared to nine months ago.

First plans completed in March 2020 were completed in 90 days on average compared to 77 days on average in December 2019 and 133 days in June 2019. The average number of days taken to complete and approve a first plan increased over the quarter because the NDIA focused on reducing the number of plans that were over 60 days old. At 31 March 2020, the average number of days a first plan has been in progress (that is, not yet approved) was 76 days. This compares to 84 days at 31 December 2019 and 115 days at 30 June 2019.

Figure 13: The average number of days a first plan has been in progress (that is, not yet approved)

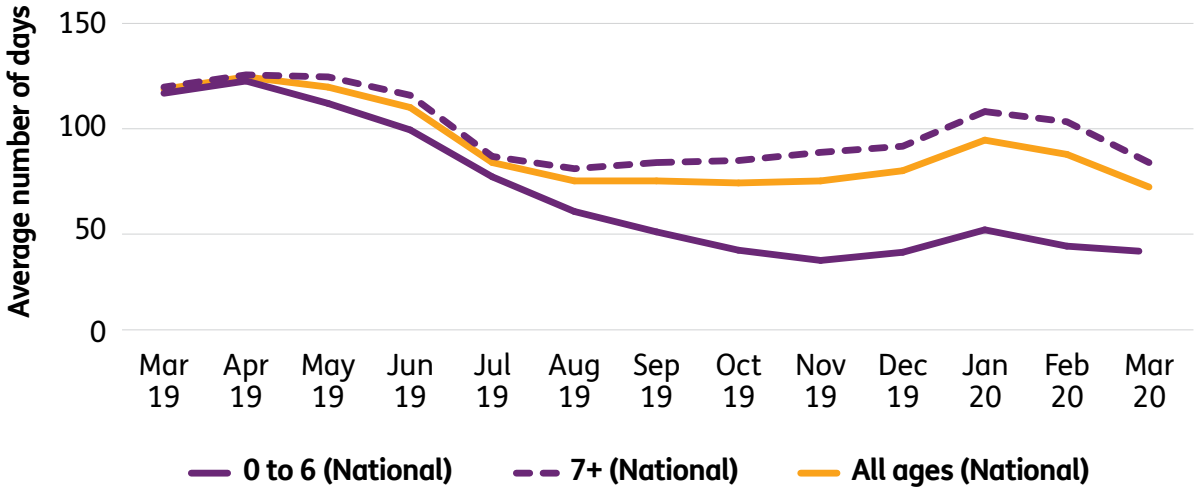
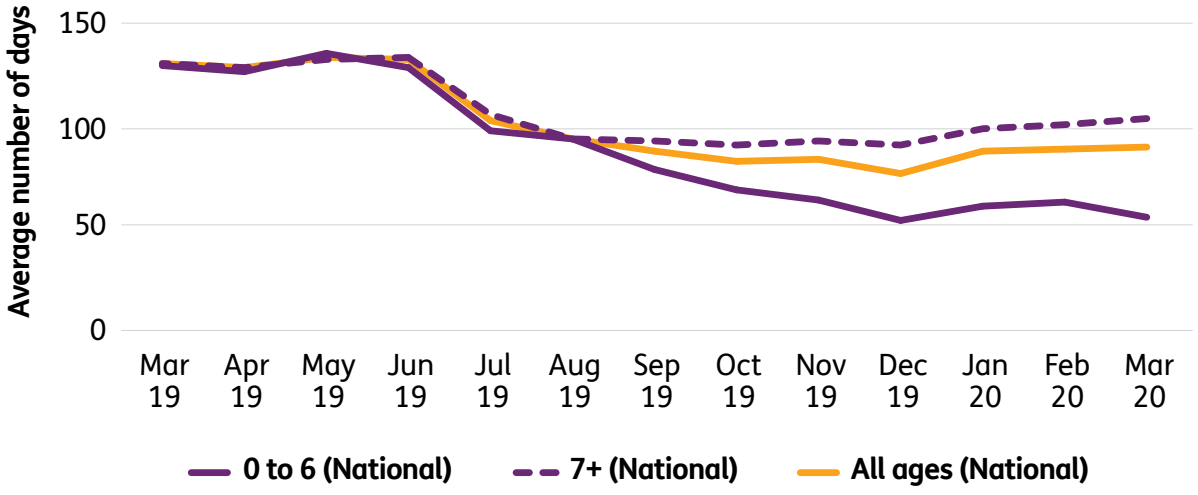


Figure 14: The average number of days taken to complete and approve a first plan



2.5 Complaints, participant requested reviews and reviews of reviewable decisions

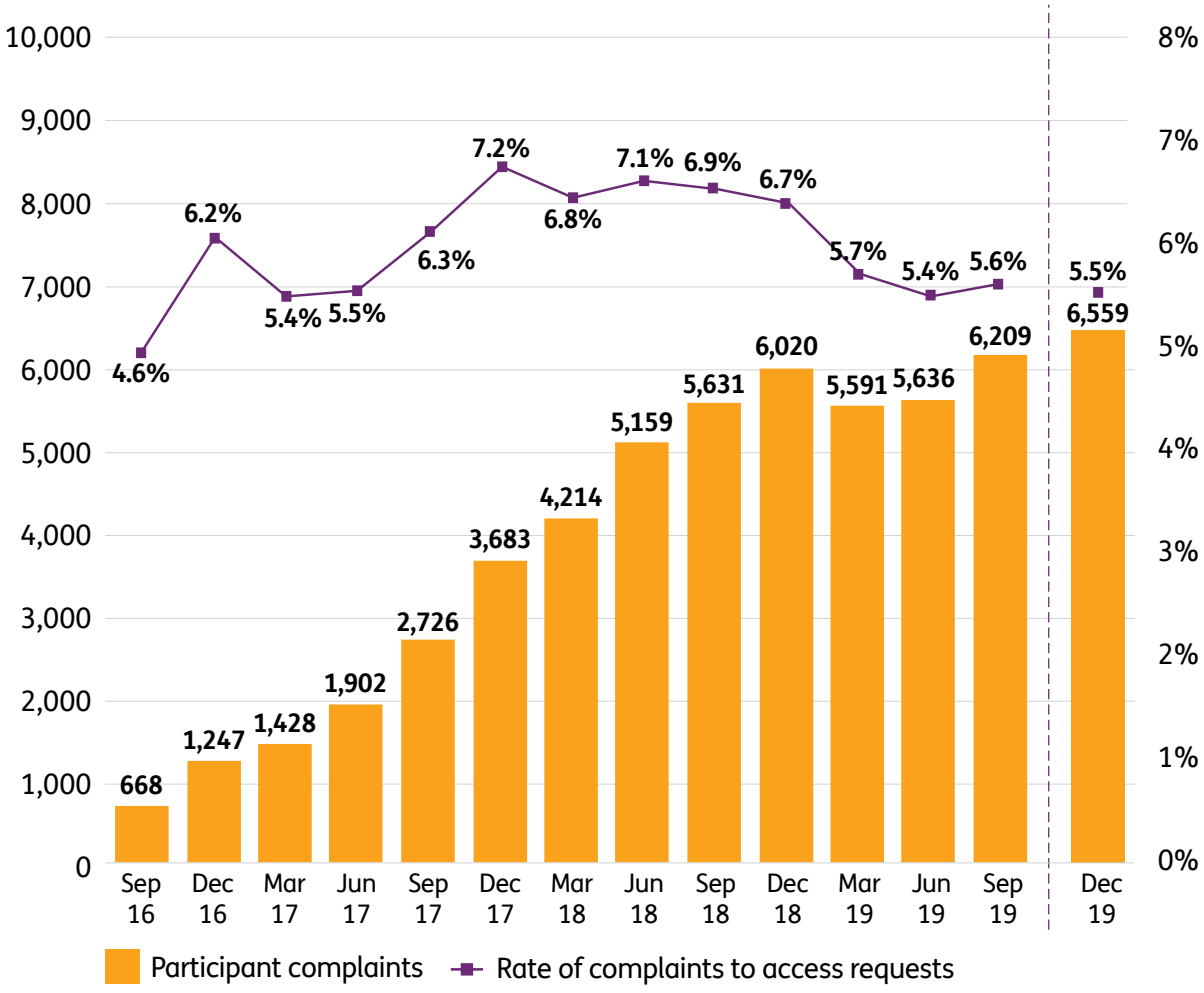
There has been a significant reduction in the number of open participant requested reviews (PRRs) and reviews of reviewable decisions (RoRDs) throughout the quarter.

Complaints

The NDIA business system has been enhanced this quarter to allow the recording of multiple related parties as the source of a complaint. This means that both participants and providers, or other parties, can be linked to a single case. Previously, the single source was often recorded as a participant regardless of whether a provider was associated with a complaint. For this reason, results this quarter are not comparable with previous quarters.

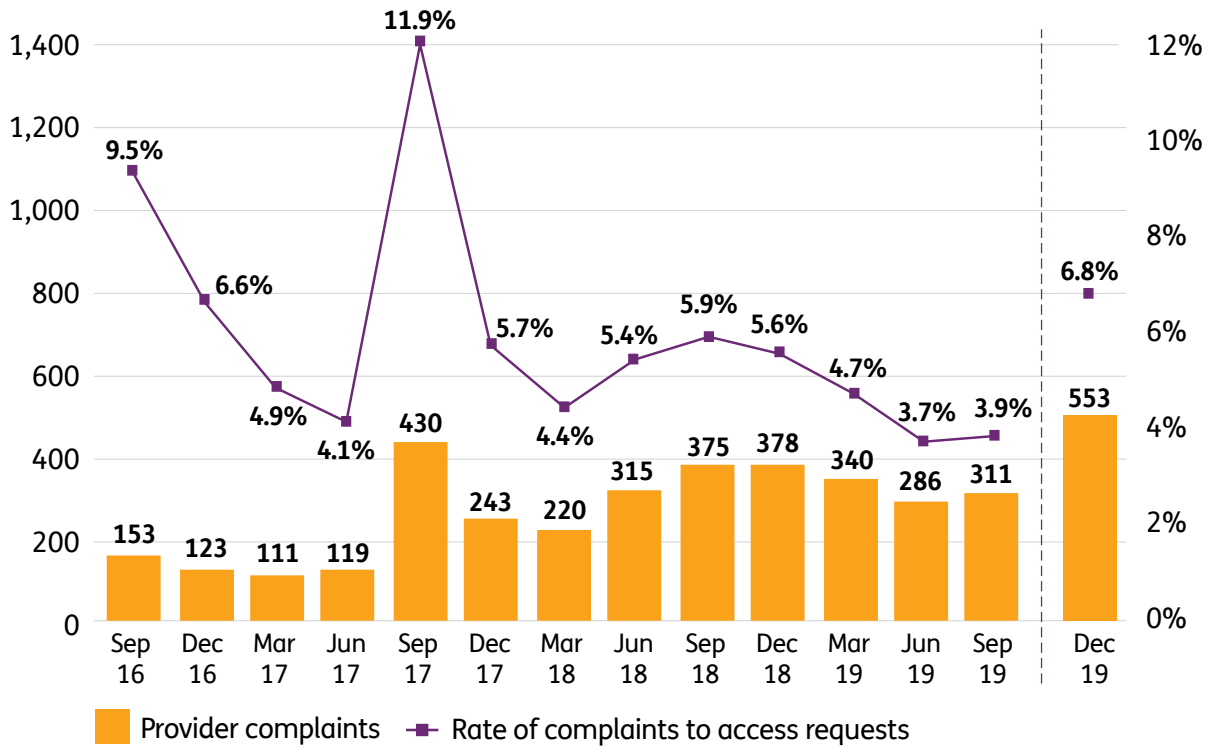
Participant complaints received, as a percentage of access requests in the quarter, were 5.5 per cent, and provider complaints, as a percentage of registered providers, was 6.8 per cent.

Figure 15: Participant complaints received as a proportion of access requests[12]



[12] Complaints are reported to 31 December 2019 due to the lag in reporting and hence the March 2020 quarter will be reported in the next quarterly report.

Figure 16: Provider complaints received as a proportion of registered providers[13]



[13] Complaints are reported to 31 December 2019 due to the lag in reporting and hence the March 2020 quarter will be reported in the next quarterly report.

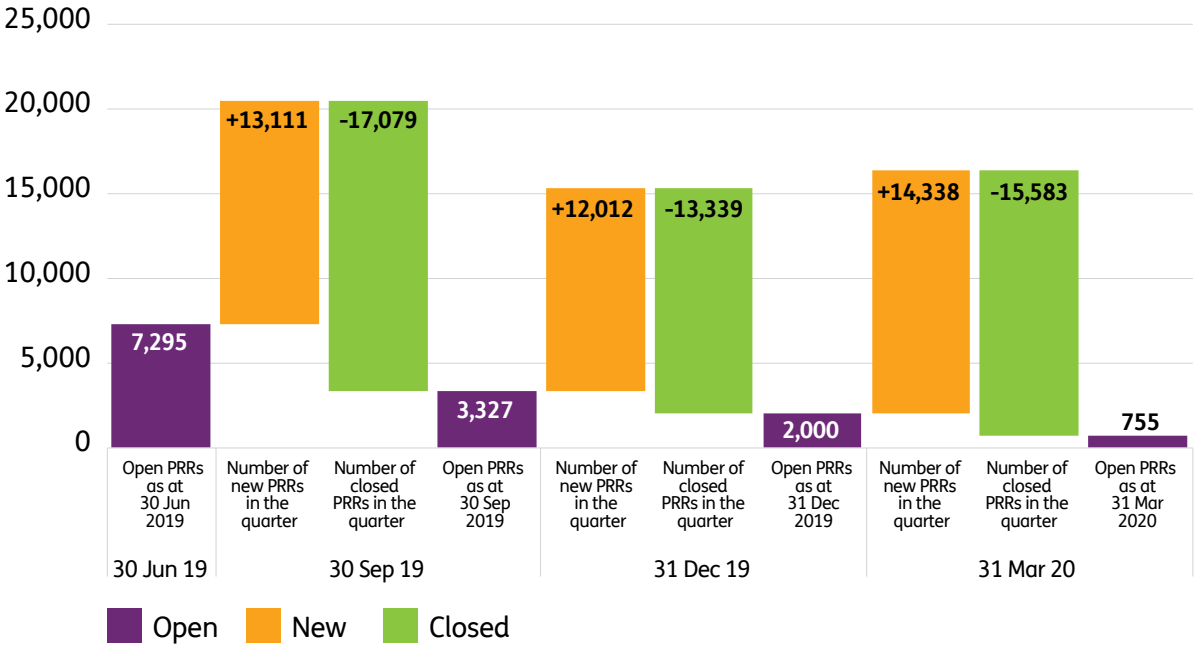
Participant requested reviews

A participant may request that the CEO conduct a review of the participant's plan at any time (section 48 of the NDIS Act).

In the March 2020 quarter, there were 14,338 new participant requested reviews, and 15,583 were closed.[14] The number of PRRs has increased over the last year due to the increase in the number of participants. In the March 2020 quarter, PRRs accounted for 17 per cent of total plan reviews.

There has been a significant reduction in the number of open PRRs from 7,295 at 30 June 2019, to 755 at 31 March 2020. On average, it took 13 days for PRRs to be completed.

Figure 17: PRRs received and closed during the March quarter and open as at 31 March 2020



[14] Participant Review Request (PRR) data includes s48, Lapsed s48, some complaints, some s100 requests and some AT requests, However, access request reviews are excluded. Results include data which has been entered on system since 4 March 2019 including some requests which were received before that date.

Reviews of reviewable decisions

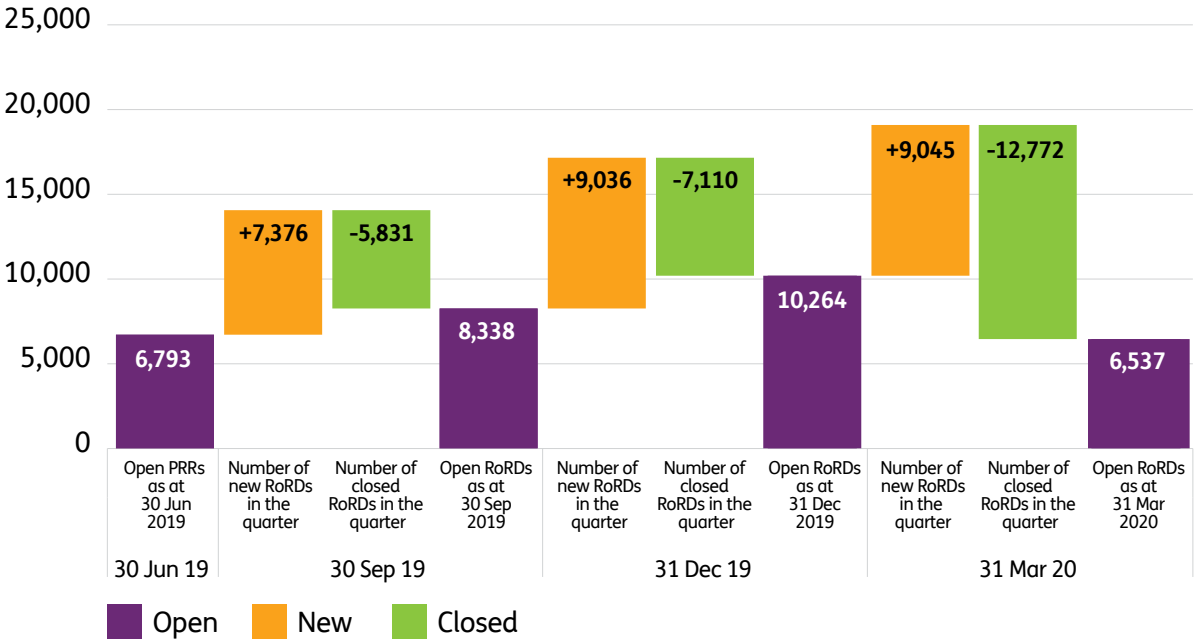
Under section 100 of the NDIS Act, people can request RoRDs. In the March 2020 quarter, there were 9,045 new RoRDs, and 12,772 were closed.[15] As with PRRs, the number of participant RoRDs has increased over the last year due to the increase in the number of participants.

There was a significant reduction of open RoRDs from 10,264 at 31 December 2019, to 6,537 at 31 March 2020.

It should be noted that the large increase in RoRDs between 30 June 2019 and 31 December 2019 is largely due to RoRDs being entered into the ICT business system (where they previously were not recorded).

The number of RoRDs open for more than 90 days at 31 December 2019 was 3,707 and this has now decreased to 1,351 at 31 March 2020.

Figure 18: RoRDs received and closed during the March quarter and open as at 31 March 2020



[15] Open Planning Decision requests relate to those made after 15 April 2019. Planning decisions prior to this date are not included. The data does not yet fully report the number of new requests received by the NDIA. Data on s100 requests is based on a new off-system reporting database, and hence is not subject to the same data quality controls in place in the ICT business system.

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2.6 The NDIS Contact Centre

The NDIS contact centre continues to process a high volume of calls in a timely manner

The provider responsible for operating the NDIS Contact Centre has made consistent improvements to call response times, wait times and abandoned call rates for enquires made to the NDIS.

- between 1 January 2020 and 31 March 2020, the Contact Centre answered 284,097 phone calls. The **average answer speed** is consistently **under 26 seconds**.
- the Contact Centre is contracted to reach a **weekly service level** of 80% of calls answered within 60 seconds. At end of the March 2020 quarter it was achieving a service level of **84%**.
- average **abandonment rates** are consistently sitting at 1.2%.
- throughout the quarter 206,215 emails were responded to, with **98.2%** progressed within 2 business days of them being received.
- the **rate of enquiries being resolved** at first contact has increased from 61% in December 2019 to 74% in March 2020, and averaged 71% over the March 2020 quarter.[16]

While the number of calls to the National Contact Centre has increased above expected levels in April, the National Contact Centre has continued to meet its service standard at 82 per cent of calls answered within 60 seconds, and the abandonment rate has remained largely unchanged at 1.3 per cent.

[16] The December 2019 report included a higher first contact completion rate. Data capture and accuracy has improved and hence this statistic has been re-stated.

2.7 Actions to improve the participant experience

While many projects are on hold due to the COVID-19 pandemic, the NDIA continues its progress on improving the participant experience.

Participant Vision

The NDIA has commenced work on a **Participant Vision** which will set the NDIA's ongoing commitment to improve the participant experience. The Participant Vision will bring together the projects underway which focus on reducing waiting times, improving the consistency and equity of decisions, reducing complexity, and improving connections with hard to reach participants.

Our 2020-2021 Participant Vision will set out what the NDIA is going to do to deliver a Scheme that meets participant expectations over the next two years. It will reflect the engagement principles and time standards participants can expect as well as the work the NDIA already has underway.

The NDIA will engage with participants by being:

- **transparent:** you will have access to information about the NDIS and your plans that is accurate, consistent, up-to-date, easy to understand and available in formats that meet your needs.
- **responsive:** you are supported and your independence is maximised by addressing your individual needs and circumstances.
- **respectful:** you are valued, listened to and respected.
- **empowering:** you are empowered to make an access request, navigate the NDIS system, participate in the planning process and use your plan supports.
- **connected:** we break down barriers so that you are connected to the services and supports you need.

While COVID-19 has had an impact on the progress of some initiatives, a series of service enhancements continue to improve the participant experience and these are naturally aligned to how the NDIA intends to engage with participants. This section includes the progress on projects to improve the participant experience, noting that projects that are on hold will resume when it is appropriate to do so.

Transparency

Webchat

In December 2019, the NDIA introduced webchat, a 'live chat' service on the NDIS website. This enabled people to quickly find general information about the NDIS.

In March 2020, further enhancements were made to the webchat platform which enabled NDIA staff to help participants with their personal circumstances once they had verified their identity. Now participants can use webchat to access personalised services from our highly trained staff just as they would over the phone.

The NDIA also worked with Blind Citizens Australia to make sure webchat is accessible and meets the needs of all our users.

Complex home modification guide

In February 2020, the NDIA published a guide to complex home modifications (CHM) for builders and assessors. The complex home modification guide is designed to increase knowledge and understanding of complex home modifications to reduce the number of re-quotes and facilitate timely approvals.

Responsive

Joint planning

The rollout of Joint Planning, including plan summary statements (draft plan summary) and joint planning meetings, commenced in Queensland in March 2020. Joint Planning supports relationship building between the participant, planner and partner through face-to-face planning meetings where possible.

Thirty Joint Planning meetings were booked to be completed by the end of March. Twenty-three participants elected to forego a meeting and have their plans approved immediately. Seven chose to continue with a telephone meeting. The first five meetings were held during the final two weeks of March, with participants given the opportunity to discuss their NDIS plan with their Local Area Coordinator (LAC) and NDIA planner. The further roll out of joint planning meetings is currently on hold while the NDIA focuses on maintaining critical services in response to the COVID-19 pandemic and respects physical distancing. While Joint Planning remains a priority for roll out in the future, the recommencement of Joint Planning is not likely to occur until face-to-face meetings with participants becomes a primary option post COVID-19.

Independent Assessment Pilot

Improving the NDIS assessment process will make the Scheme more reliable, consistent and equitable for everyone, ensuring it provides access to eligible participants as well as the appropriate levels of funding for the people it was intended to help.

The NDIA discontinued the Independent Assessment Pilot during March 2020. The pilot relied upon face-to-face contact with participants so it was quickly closed as soon as COVID-19 became a concern. The NDIA is now undertaking an evaluation of the pilot; however, the original intention to implement the assessments in July 2020 is no longer appropriate and will take place at a later time.

Collaborative access

Collaborative Access (CA) is a process change that strengthens the connection between prospective participants and their LAC.

In CA, LACs provide more direct support of individuals when completing access requests, and identify and connect individuals to mainstream supports and other government services (even if they did not qualify for funded supports). It also helps participants understand mainstream supports upon exit from the Scheme.

Intended benefits include accelerating access decisions by ensuring participants have provided the right details, fewer reviews and complaints, and improving participant outcomes by having participants connecting earlier to mainstream supports. CA will also help prospective participants' complete independent functional assessments when applying for access to the Scheme.

In 2019 the NDIA tested CA, and it demonstrated that people's experience was enhanced by engaging with a LAC face-to-face about access to the Scheme, for people approaching a LAC for the first time and also for those who had previously attempted to apply for access.

The CA project, which will assist prospective participants to collect information for an Access request, will still coincide with the rollout of independent assessments. Both of these initiatives are consequently on hold due to the COVID-19 pandemic.

Respectful

Hearing Service Stream

The NDIA continues its consultation with key external stakeholders in the deaf community to ensure that the future hearing service market is providing quality supports to participants who are deaf or hard of hearing. Work is ongoing to support clients of the Commonwealth Hearing Services Program clients and National Auslan Interpreting Booking and Payment Services (NABS) program who may be eligible and choose to seek access to the NDIS if they choose. This commenced in partnership with Department of Health and Hearing Australia at the beginning of March 2020. In addition, the NDIA is making information available in accessible formats, with many videos now available on the NDIS website in Auslan.

Empowering

Enhanced planning to better respond to the episodic nature of psychosocial disability

The NDIA continues to rollout improvements for people with a psychosocial disability. These have included the implementation of a streamlined access process, the development and sharing of key documents to support access, and delivering training and education regarding NDIS access requirements to the mental health sector. The NDIA commenced implementation of these improvements in Tasmania, South Australia, ACT, New South Wales and Queensland with remaining states and territories to be completed before the end of 2020.

The NDIA is continuing to develop the proposed psychosocial disability capability framework with the assistance of experts to define the capability required for NDIA staff and its partners. This framework was initiated to directly address the recommendations made in the Mental Health Australia Pathway Consultation report for the need to build psychosocial capability in the NDIA.

Lastly, a commitment from the Disability Reform Council (DRC) to improve access and experiences for participants with a psychosocial disability was announced following the 9 October 2019 DRC meeting. The NDIA together with DSS, and state and territory health department representatives, have established project teams and have commenced working collaboratively on the following key initiatives:

1. Undertaking a joint examination of access and eligibility
2. Improving linkages and referral to mental health supports for people not eligible for the NDIS
3. Assertive Outreach, increasing access to the NDIS for people with a psychosocial disability
4. Psychosocial disability recovery approach
5. National approach to concurrent supports

The timeline for delivery of the work on the DRC initiatives will extend into 2021 as a result of the impact of COVID-19 on operational priorities for all Australian governments.

Younger People in Residential Aged Care

The Royal Commission into Aged Care Quality and Safety released its interim report on 31 October 2019. The NDIA Board and management is committed to working with the JATF to develop a completely new YPIRAC strategy that builds on the Younger People in Residential Aged Care Action Plan which aims to reduce the number of younger people in residential aged care. The NDIA will play a significant role via the JATF in developing strategies to meet the revised YPIRAC targets.

Connected

Community connectors

On 14 November 2019, Minister Stuart Robert announced the development of a National Community Connector Program (NCCP), which will support individuals with disability from hard to reach communities to access and navigate the NDIS.

The NCCP will be rolled out over two years, however timelines of delivery may change due to COVID-19, and will build on existing NDIA community connector programs (Remote Community Connector Program) and other community connector-type initiatives undertaken by the NDIA's PiTC.

The NCCP will focus on supporting targeted communities, such as Aboriginal and Torres Strait Islander peoples, CALD communities, ageing parents and carers of children with disability, and people experiencing psychosocial disabilities, to navigate the NDIS and get the services they need.

Removing gaps between plans

From August 2019, the NDIA began automatically extending the end date of participant plans to remove any gap between new and old participant plans.

In February 2020, the NDIA made further improvements to the NDIS myplace portal. The new improvements include:

- Specialist Disability Accommodation (SDA) and Supported Independent Living (SIL) supports will have service bookings automatically increased where a 28 day extension has been applied to a plan.

- unclaimed funds within a participant's previous plan and service bookings will now be available for 90 days after a new plan has been approved. This gives participants and providers more time to make payment requests for services delivered during the previous plan period.

The changes ensure continuation of service for our participants during a plan review period and reduce claiming errors and manual rework for providers.

Part Three:

Providers and the growing market

3

3 Part Three: Providers and the growing market

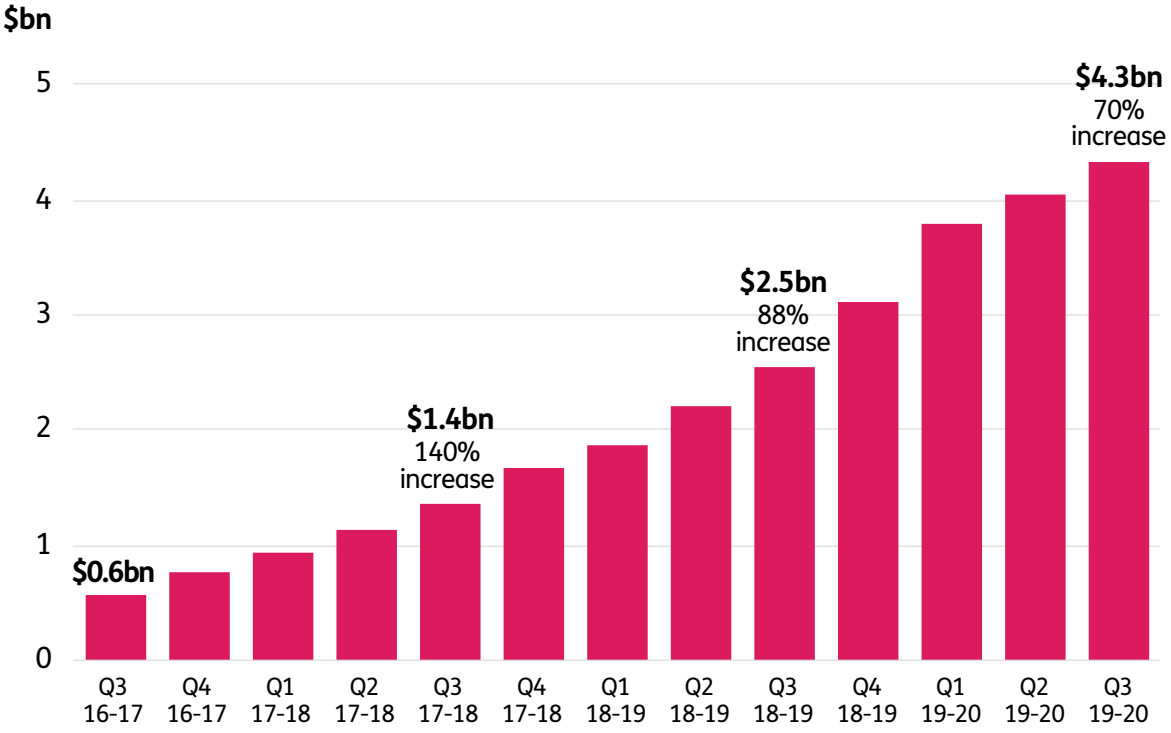
Payments for NDIS supports have increased substantially over the last two years.

3.1 Growth in the NDIS market

Payments for NDIS supports have grown 70 per cent in the last year.

The amount paid each quarter for NDIS supports continues to increase. In the March 2018 quarter, $1.4 billion was paid for supports. This increased to $2.5 billion in the March 2019 quarter (88% increase), and to $4.3 billion in the March 2020 quarter (a further increase of 70%).

Figure 19: Total payments by quarter[17]

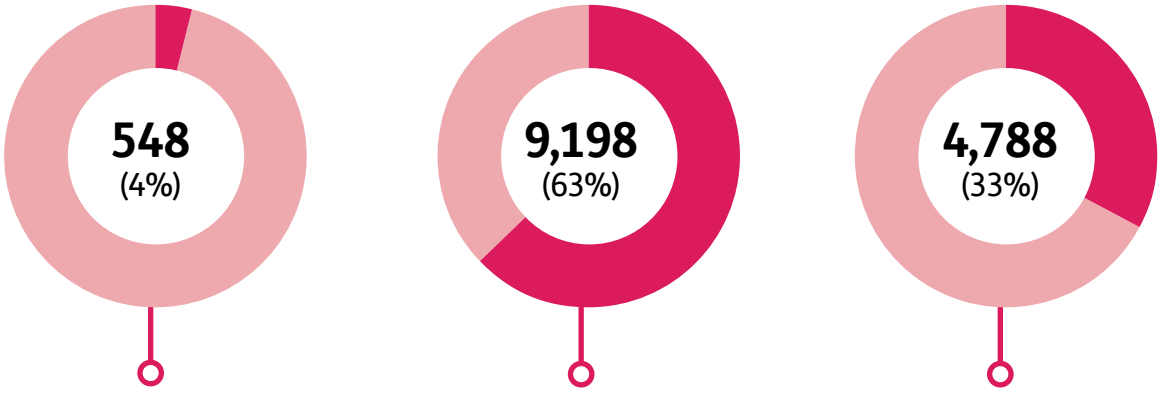


[17] The chart represents the amount paid each quarter, regardless of when the support was provided.

3.2 Active providers

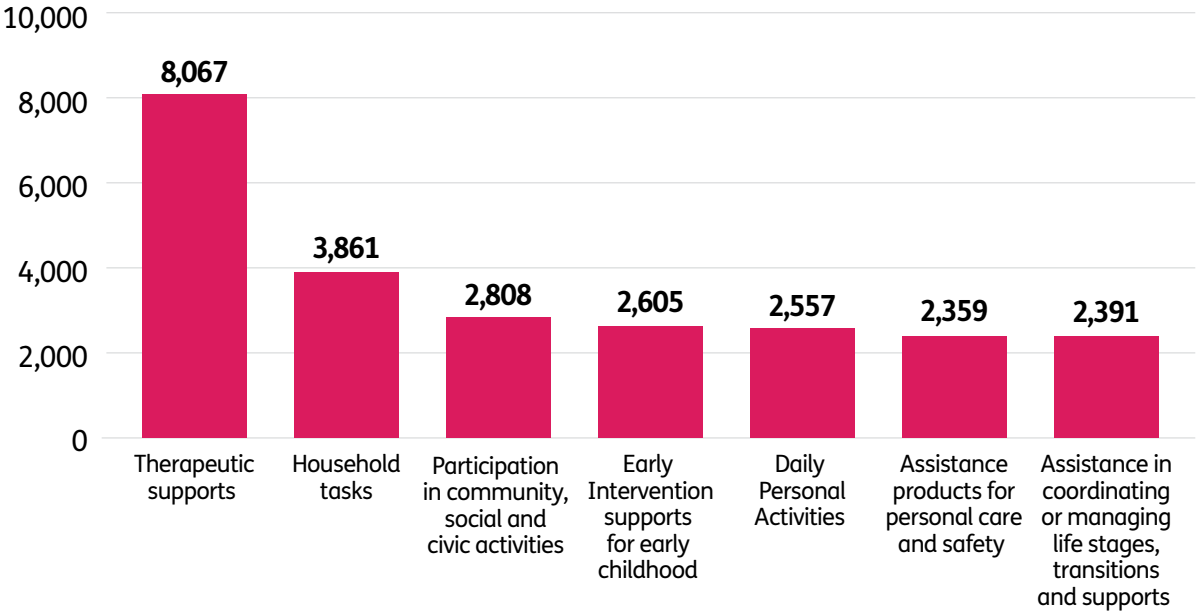
The number of active providers increased by four per cent this quarter.

Since the start of the Scheme, 14,534 providers have supported participants.[18] Of these:



The registration groups with the largest number of active registered providers are therapeutic supports and household tasks.

Figure 20: The largest registration groups for active providers



[18] This is providers of agency-managed participants. Self-managed participants and participants with a plan manager can use unregistered providers, and hence the total number of providers supporting participants will be higher than 14,534.

3.3 Choice and control, utilisation and market concentration

Comprehensive data on market effectiveness is being used to improve participant outcomes across all regions through identifying thin markets.

In the first three quarters of the 2019-20 financial year, $11.2 billion has been paid by the NDIS for participant supports. This amount will increase further due to the timing delay between when some supports are provided and when they are paid.

Three key indicators outlined in the NDIA Corporate Plan aspiration of a competitive market with innovative supports are:

- **choice and control**
- **utilisation**
- **market concentration**

Choice and control

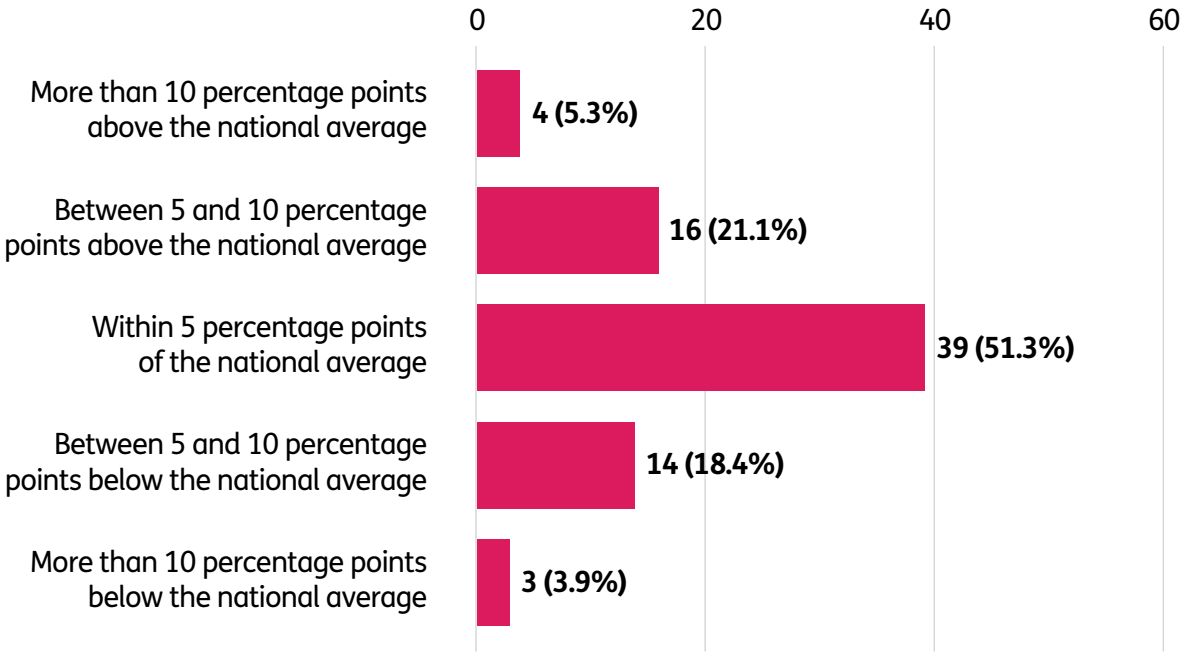
The NDIS outcomes framework questionnaires ask participants "Do you choose who supports you?". The percentage who indicate that they choose who supports them was compared across geographical regions to identify the regions comparatively better and worse than others. The 'benchmark' in this analysis is the national average after adjusting for the proportion of participants in SIL in each region and the length of time participants had been in the Scheme.

Overall, 39 of the 76 regions[19] (51%) in the analysis were within five percentage points of the national average, four regions (5%) were more than 10 percentage points above the national average, and three regions (4%) were more than 10 percentage points below the national average.

The four regions more than 10 percentage points above the national average were ACT, Barkly in Northern Territory, Barwon in Victoria and TAS South West in Tasmania. The regions more than 10 percentage points below the national average were Darwin Remote, Katherine and East Arnhem in the Northern Territory.

At 31 March 2020, Darwin Remote has 302 active participants and plan budgets totalling $27 million, Katherine has 155 active participants and plan budgets totalling $27 million, and East Arnhem has 175 active participants and $21 million in plan budgets.

Figure 21: Choice and control – number of bilateral regions – gap to benchmark



[19] 76 of the 80 geographical regions are included in the analysis as these regions commenced on or prior to 1 April 2019.

Figure 22: Choice and control region breakdown – 31 March 2020

Region	State/Territory	Active participants	Annualised plan budget ($m)
More than 10 percentage points above the national average			
ACT	Australian Capital Territory	7,488	$444
Barwon	Victoria	8,030	$464
TAS South West	Tasmania	2,258	$203
Barkly	Northern Territory	153	$18
Between 5 and 10 percentage points above the national average			
Hunter New England	New South Wales	21,204	$1,437
Southern NSW	New South Wales	3,546	$219
Inner Gippsland	Victoria	3,890	$214
Outer Gippsland	Victoria	1,696	$102
Mackay	Queensland	2,524	$159
Toowoomba	Queensland	4,927	$367
Townsville	Queensland	4,809	$330
Eastern Adelaide	South Australia	2,886	$212
Eyre and Western	South Australia	1,004	$67
Fleurieu and Kangaroo Island	South Australia	888	$59
Limestone Coast	South Australia	1,116	$70
Yorke and Mid North	South Australia	1,372	$73
TAS North West	Tasmania	2,047	$160
South Metro	Western Australia	4,529	$275
South West	Western Australia	2,459	$138
Central South Metro	Western Australia	3,615	$243
Within 5 percentage points of the national average			
Central Coast	New South Wales	6,949	$411
Far West	New South Wales	504	$39
Illawarra Shoalhaven	New South Wales	6,974	$481
Mid North Coast	New South Wales	4,718	$316
Murrumbidgee	New South Wales	5,265	$342
Nepean Blue Mountains	New South Wales	7,182	$455
Northern NSW	New South Wales	5,537	$382
Western NSW	New South Wales	4,939	$376
Bayside Peninsula	Victoria	11,420	$833
Central Highlands	Victoria	4,178	$228
Goulburn	Victoria	2,746	$146
Hume Moreland	Victoria	6,563	$333
Loddon	Victoria	5,313	$280
Mallee	Victoria	1,523	$100
North East Melbourne	Victoria	10,082	$607
Outer East Melbourne	Victoria	7,546	$519
Ovens Murray	Victoria	2,717	$142
Western District	Victoria	3,125	$191

Figure 22: Choice and control region breakdown – 31 March 2020 cont.

Region	State/Territory	Active participants	Annualised plan budget ($m)
Within 5 percentage points of the national average cont.			
Western Melbourne	Victoria	7,769	$443
Beenleigh	Queensland	6,499	$504
Brisbane	Queensland	12,786	$1,075
Bundaberg	Queensland	2,251	$145
Caboolture/Strathpine	Queensland	6,272	$512
Cairns	Queensland	3,231	$277
Ipswich	Queensland	5,982	$390
Maroochydore	Queensland	5,335	$442
Maryborough	Queensland	2,778	$233
Robina	Queensland	6,375	$437
Rockhampton	Queensland	3,895	$256
Adelaide Hills	South Australia	1,215	$73
Barossa, Light and Lower North	South Australia	1,617	$79
Murray and Mallee	South Australia	1,380	$89
Northern Adelaide	South Australia	11,105	$665
Southern Adelaide	South Australia	7,209	$493
Western Adelaide	South Australia	2,940	$195
TAS North	Tasmania	2,303	$180
Kimberley-Pilbara	Western Australia	896	$71
North East Metro	Western Australia	5,240	$372
Wheat Belt	Western Australia	719	$40
Between 5 and 10 percentage points below the national average			
North Sydney	New South Wales	8,502	$684
South Eastern Sydney	New South Wales	7,884	$536
South Western Sydney	New South Wales	15,895	$922
Sydney	New South Wales	6,666	$445
Western Sydney	New South Wales	13,482	$868
Brimbank Melton	Victoria	5,592	$313
Inner East Melbourne	Victoria	7,643	$590
Southern Melbourne	Victoria	8,697	$482
Far North (SA)	South Australia	395	$29
TAS South East	Tasmania	1,735	$122
Central Australia	Northern Territory	459	$103
Darwin Urban	Northern Territory	1,808	$218
Goldfields-Esperance	Western Australia	431	$29
North Metro	Western Australia	3,293	$192
More than 10 percentage points below the national average			
Darwin Remote	Northern Territory	302	$27
East Arnhem	Northern Territory	175	$21
Katherine	Northern Territory	155	$27

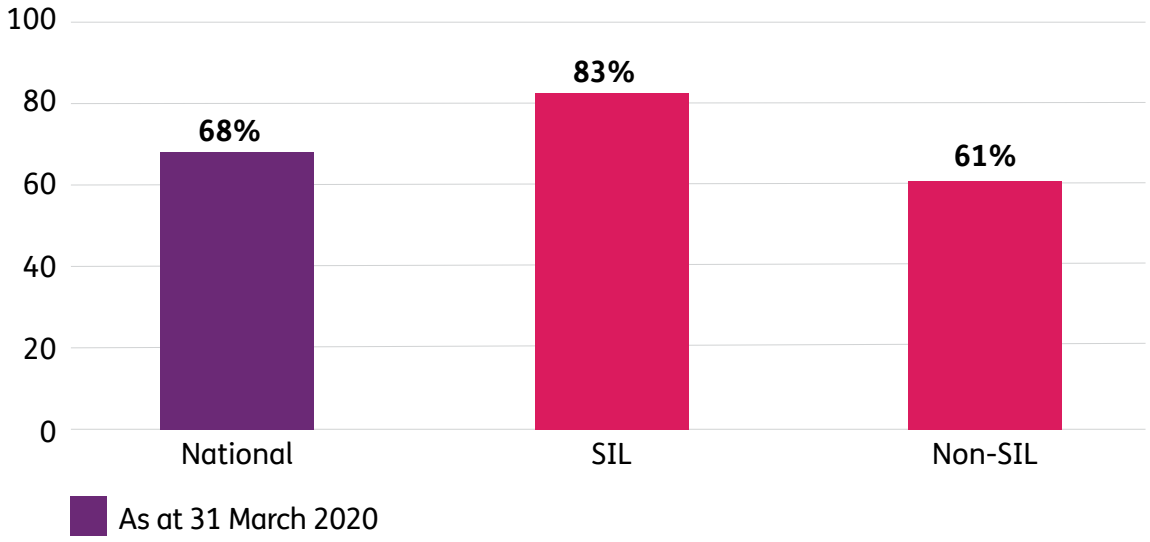
Utilisation

For support provided between 1 July 2019 and 31 December 2019[20], data at 31 March 2020 indicated that 68 per cent of support had been utilised nationally. Experience in other schemes with individual budgets (internationally and in Australia) indicates that plan utilisation is unlikely to be 100 per cent. However, for some participants utilisation should be higher than current level.[21]

The two biggest drivers of utilisation are:

- **whether or not a participant is in SIL:** with participants in SIL utilising more of their plan compared with those not in SIL (**83%** compared with **61%**).

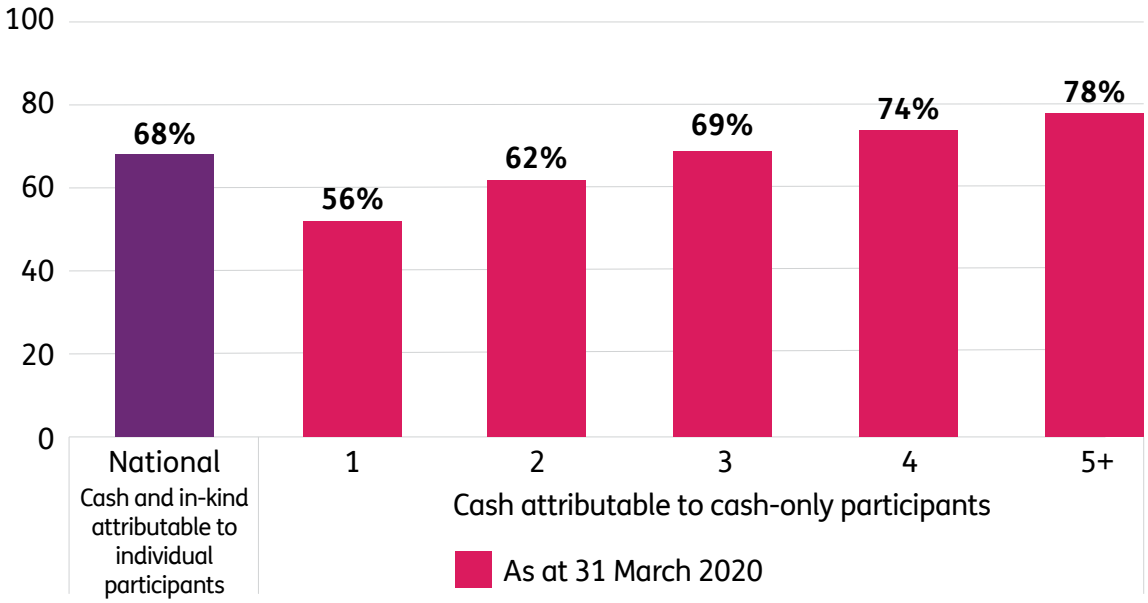
Figure 23: Utilisation of committed supports by SIL status from 1 July 2019 to 31 December 2019[22]



[20] This allows for a three month lag between when support was provided and when it had been paid. Utilisation will increase as more payments for this support period are made.
[21] Some of the reasons for plans being under-utilised include: More support was provided informally through family, friends and community; supports being put in plans "just in case" they are required; participants needing more support to implement their plans; providers needing more support to claim for supports provided; and supports being unavailable in the market.
[22] Not all in-kind can be allocated to an individual participant. Only Utilisation of committed supports between 1 July 2019 and 31 December 2019 is shown, as experience in the most recent quarter is still emerging.

– **the length of time the participant has been in the Scheme:** the longer the participant is in the Scheme the more they utilise their plan (**56%** for participants on their first plans compared with **78%** for participants on their fifth plan).

Figure 24: Utilisation of committed supports by plan number from 1 July 2019 and 31 December 2019[23]



[23] Participants receiving in-kind supports are excluded from this analysis as it is not possible to accurately separate in-kind payments and committed amounts between plans. Only Utilisation of committed supports between 1 April 2019 and 31 December 2019 is shown, as experience in the most recent quarter is still emerging.

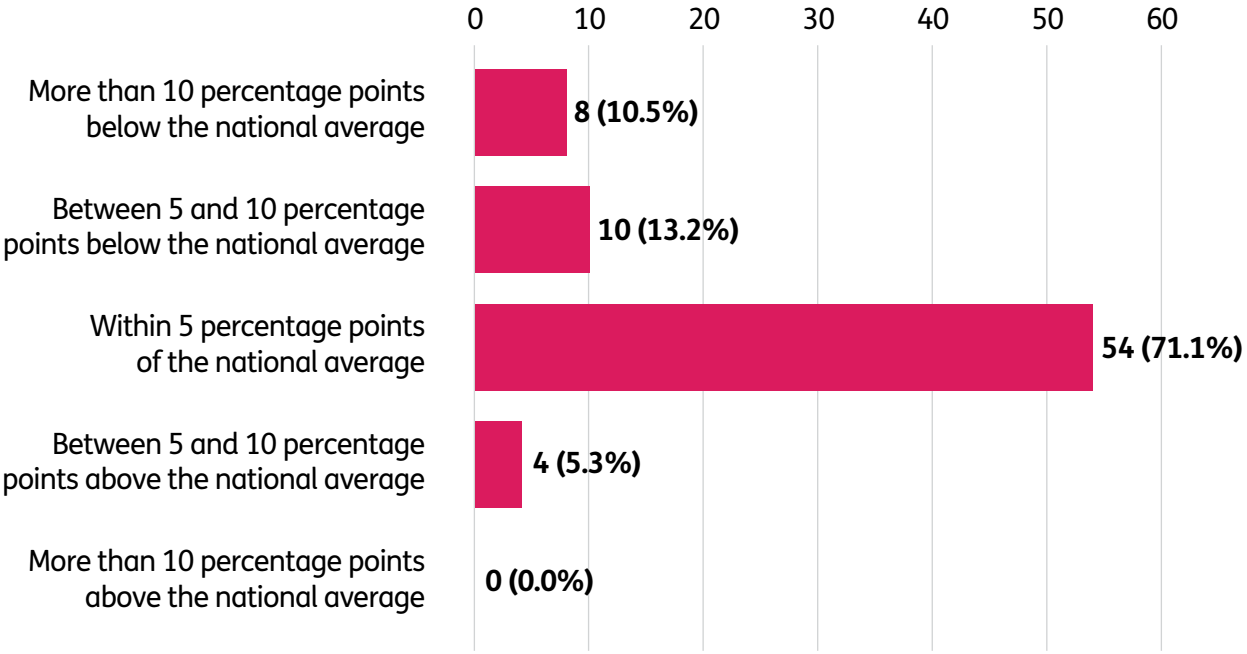
In addition to these findings, significant insights can be drawn by understanding how utilisation in each geographical region differs from the national average after accounting for the time participants have been in the Scheme and the proportion of participants in SIL.

Overall, 54 of the 76 regions (71%) in the analysis are within five percentage points of the national average, none were more than 10 percentage points above the national average, and eight regions (11%) were more than 10 percentage points below the national average.

The eight regions more than 10 percentage points below the national average were smaller regional and remote regions in South Australia, Western Australia and the Northern Territory.

There are 10 regions between five and 10 percentage points below the national average – these are also mainly in regional and remote areas.

Figure 25: Utilisation – number of bilateral regions – gap to benchmark[24]



[24] 76 of the 80 geographical regions are included in the analysis as these regions commenced on or prior to 1 April 2019.

Figure 26: Utilisation region breakdown – 31 March 2020

Region	State/Territory	Active participants	Annualised plan budget ($m)
More than 10 percentage points below the national average			
Eyre and Western	South Australia	1,004	$67
Far North (SA)	South Australia	395	$29
Limestone Coast	South Australia	1,116	$70
Barkly	Northern Territory	153	$18
Darwin Remote	Northern Territory	302	$27
East Arnhem	Northern Territory	175	$21
Katherine	Northern Territory	155	$27
Goldfields-Esperance	Western Australia	431	$29
Between 5 and 10 percentage points below the national average			
Western NSW	New South Wales	4,939	$376
Inner Gippsland	Victoria	3,890	$214
Outer Gippsland	Victoria	1,696	$102
Barossa, Light and Lower North	South Australia	1,617	$79
Murray and Mallee	South Australia	1,380	$89
Yorke and Mid North	South Australia	1,372	$73
Central Australia	Northern Territory	459	$103
Darwin Urban	Northern Territory	1,808	$218
Kimberley-Pilbara	Western Australia	896	$71
Wheat Belt	Western Australia	719	$40
Within 5 percentage points of the national average			
ACT	Australian Capital Territory	7,488	$444
Central Coast	New South Wales	6,949	$411
Far West	New South Wales	504	$39
Hunter New England	New South Wales	21,204	$1,437
Illawarra Shoalhaven	New South Wales	6,974	$481
Mid North Coast	New South Wales	4,718	$316
Murrumbidgee	New South Wales	5,265	$342
Nepean Blue Mountains	New South Wales	7,182	$455
North Sydney	New South Wales	8,502	$684
Northern NSW	New South Wales	5,537	$382
South Eastern Sydney	New South Wales	7,884	$536
South Western Sydney	New South Wales	15,895	$922
Southern NSW	New South Wales	3,546	$219
Sydney	New South Wales	6,666	$445
Western Sydney	New South Wales	13,482	$868
Barwon	Victoria	8,030	$464
Bayside Peninsula	Victoria	11,420	$833
Brimbank Melton	Victoria	5,592	$313
Central Highlands	Victoria	4,178	$228
Goulburn	Victoria	2,746	$146
Hume Moreland	Victoria	6,563	$333

Figure 26: Utilisation region breakdown – 31 March 2020 cont.

Region	State/Territory	Active participants	Annualised plan budget ($m)
Within 5 percentage points of the national average cont.			
Inner East Melbourne	Victoria	7,643	$590
Loddon	Victoria	5,313	$280
Mallee	Victoria	1,523	$100
North East Melbourne	Victoria	10,082	$607
Outer East Melbourne	Victoria	7,546	$519
Ovens Murray	Victoria	2,717	$142
Southern Melbourne	Victoria	8,697	$482
Western District	Victoria	3,125	$191
Western Melbourne	Victoria	7,769	$443
Beenleigh	Queensland	6,499	$504
Brisbane	Queensland	12,786	$1,075
Bundaberg	Queensland	2,251	$145
Caboolture/Strathpine	Queensland	6,272	$512
Cairns	Queensland	3,231	$277
Ipswich	Queensland	5,982	$390
Mackay	Queensland	2,524	$159
Maroochydore	Queensland	5,335	$442
Maryborough	Queensland	2,778	$233
Robina	Queensland	6,375	$437
Rockhampton	Queensland	3,895	$256
Toowoomba	Queensland	4,927	$367
Townsville	Queensland	4,809	$330
Adelaide Hills	South Australia	1,215	$73
Eastern Adelaide	South Australia	2,886	$212
Fleurieu and Kangaroo Island	South Australia	888	$59
Northern Adelaide	South Australia	11,105	$665
Southern Adelaide	South Australia	7,209	$493
Western Adelaide	South Australia	2,940	$195
TAS North	Tasmania	2,303	$180
TAS North West	Tasmania	2,047	$160
TAS South East	Tasmania	1,735	$122
TAS South West	Tasmania	2,258	$203
North East Metro	Western Australia	5,240	$372
Between 5 and 10 percentage points above the national average			
South Metro	Western Australia	4,529	$275
South West	Western Australia	2,459	$138
Central South Metro	Western Australia	3,615	$243
North Metro	Western Australia	3,293	$192

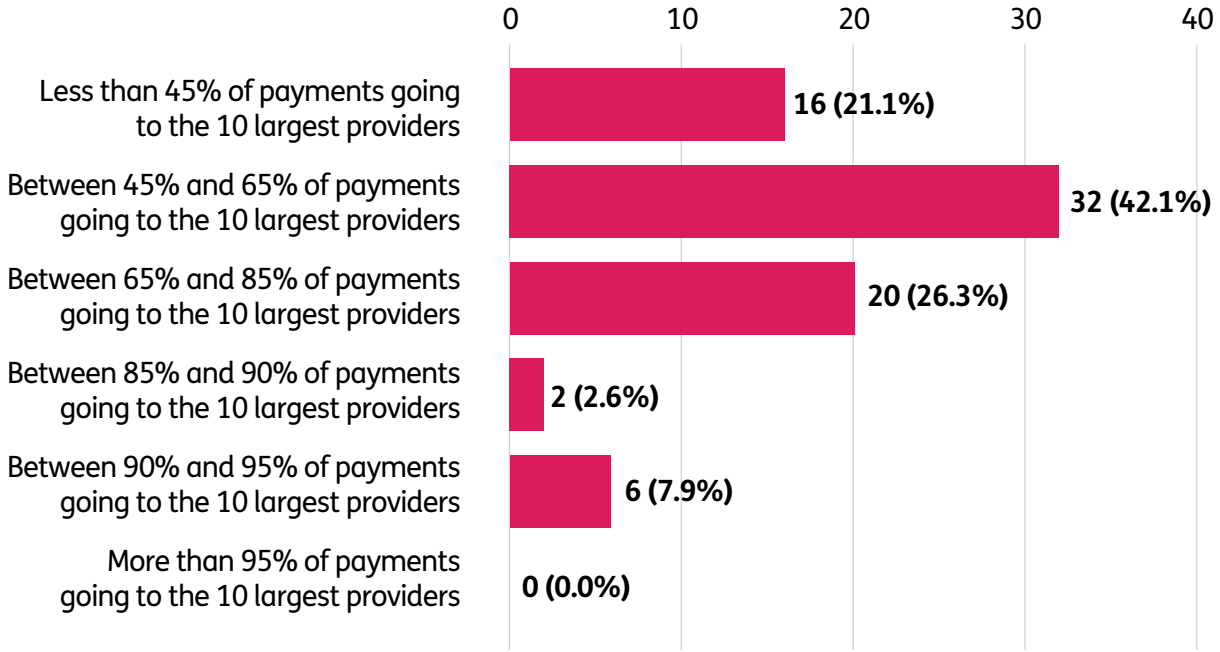
Market concentration

Understanding the distribution of payments to service providers in a region can indicate whether a small number of providers receive most of the payments from the NDIA, or whether a large number of providers are receiving the payments. Where only a small number of providers are receiving a large amount of the payments, the market is considered to be more concentrated and could mean that there is less competition in the region. On average across regions, 62 per cent of payments go to the largest 10 providers.

There are eight regions where 85 per cent or more of payments go to the largest 10 providers (11%) and 16 regions where less than 45 per cent of payments went to the 10 largest providers (21%).

All of the eight regions where more than 85 per cent of payments go to the 10 largest providers, are regional and remote areas in the Northern Territory, Western Australia and South Australia.

Figure 27: Market concentration – number of bilateral regions – gap to benchmark[25]



[25] 76 of the 80 geographical regions are included in the analysis as these regions commenced on or prior to 1 April 2019.

Figure 28: Market concentration region breakdown – 31 March 2020

Region	State/Territory	Active participants	Annualised plan budget ($m)
Less than 45% of payments going to the 10 largest providers			
Hunter New England	New South Wales	21,204	$1,437
Nepean Blue Mountains	New South Wales	7,182	$455
South Western Sydney	New South Wales	15,895	$922
Sydney	New South Wales	6,666	$445
Western Sydney	New South Wales	13,482	$868
Hume Moreland	Victoria	6,563	$333
North East Melbourne	Victoria	10,082	$607
Western Melbourne	Victoria	7,769	$443
Beenleigh	Queensland	6,499	$504
Brisbane	Queensland	12,786	$1,075
Caboolture/Strathpine	Queensland	6,272	$512
Ipswich	Queensland	5,982	$390
Maroochydore	Queensland	5,335	$442
Robina	Queensland	6,375	$437
Toowoomba	Queensland	4,927	$367
North Metro	Western Australia	3,293	$192
Between 45% to 65% of payments going to the 10 largest providers			
ACT	Australian Capital Territory	7,488	$444
Central Coast	New South Wales	6,949	$411
Illawarra Shoalhaven	New South Wales	6,974	$481
Mid North Coast	New South Wales	4,718	$316
Murrumbidgee	New South Wales	5,265	$342
North Sydney	New South Wales	8,502	$684
Northern NSW	New South Wales	5,537	$382
South Eastern Sydney	New South Wales	7,884	$536
Southern NSW	New South Wales	3,546	$219
Western NSW	New South Wales	4,939	$376
Barwon	Victoria	8,030	$464
Bayside Peninsula	Victoria	11,420	$833
Brimbank Melton	Victoria	5,592	$313
Central Highlands	Victoria	4,178	$228
Goulburn	Victoria	2,746	$146
Inner East Melbourne	Victoria	7,643	$590
Loddon	Victoria	5,313	$280
Outer East Melbourne	Victoria	7,546	$519
Ovens Murray	Victoria	2,717	$142
Southern Melbourne	Victoria	8,697	$482
Cairns	Queensland	3,231	$277
Mackay	Queensland	2,524	$159
Townsville	Queensland	4,809	$330

Figure 28: Market concentration region breakdown – 31 March 2020 cont.

Region	State/Territory	Active participants	Annualised plan budget ($m)
Between 45% to 65% of payments going to the 10 largest providers cont.			
Barossa, Light and Lower North	South Australia	1,617	$79
Eastern Adelaide	South Australia	2,886	$212
Northern Adelaide	South Australia	11,105	$665
Western Adelaide	South Australia	2,940	$195
Yorke and Mid North	South Australia	1,372	$73
TAS North	Tasmania	2,303	$180
South Metro	Western Australia	4,529	$275
North East Metro	Western Australia	5,240	$372
Central South Metro	Western Australia	3,615	$243
Between 65% to 85% of payments going to the 10 largest providers			
Far West	New South Wales	504	$39
Inner Gippsland	Victoria	3,890	$214
Mallee	Victoria	1,523	$100
Outer Gippsland	Victoria	1,696	$102
Western District	Victoria	3,125	$191
Bundaberg	Queensland	2,251	$145
Maryborough	Queensland	2,778	$233
Rockhampton	Queensland	3,895	$256
Adelaide Hills	South Australia	1,215	$73
Eyre and Western	South Australia	1,004	$67
Limestone Coast	South Australia	1,116	$70
Murray and Mallee	South Australia	1,380	$89
Southern Adelaide	South Australia	7,209	$493
TAS North West	Tasmania	2,047	$160
TAS South East	Tasmania	1,735	$122
TAS South West	Tasmania	2,258	$203
Darwin Remote	Northern Territory	302	$27
Darwin Urban	Northern Territory	1,808	$218
South West	Western Australia	2,459	$138
Wheat Belt	Western Australia	719	$40
Between 85% to 90% of payments going to the 10 largest providers			
Far North (SA)	South Australia	395	$29
Fleurieu and Kangaroo Island	South Australia	888	$59
Between 90% to 95% of payments going to the 10 largest providers			
Barkly	Northern Territory	153	$18
Central Australia	Northern Territory	459	$103
East Arnhem	Northern Territory	175	$21
Katherine	Northern Territory	155	$27
Kimberley-Pilbara	Western Australia	896	$71
Goldfields-Esperance	Western Australia	431	$29

3.4 Thin markets

The COVID-19 pandemic has limited the face to face work that can be done to address market challenges in the NDIS. The previously announced Thin Markets work continues, which recognises that a 'one-size-fits-all' approach to delivering the NDIS is not suitable to address market gaps faced by certain geographic locations, particular cohorts or disability support types.

Trial projects to address thin market challenges are being implemented (where possible considering any COVID-19 limitations) in jurisdictions in consultation with the DSS and the relevant state or territory government. The trials aim to address specific thin market issues informed by the available data and validated by respective governments. Initial trials will address specific thin market challenges while testing a range of market interventions, including types of commissioning arrangements. Trials will support the NDIA's broader response into markets to ensure participant access to supports and attainment of outcomes.

3.5 NDIS Pricing

Price limits for selected supports have increased by 10 per cent for a period of up to six months to support participants and providers during the COVID-19 pandemic.

COVID-19 response

The NDIA has responded to COVID-19 through implementing a price increase for selected supports, and changed the existing cancellation rules as self-isolation and quarantine measures are enforced.

Temporary increases in price limits

The NDIA has increased price limits for a number of items in the NDIS Support Catalogue. A 10 per cent price increase was applied to 402 items in the NDIS Support Catalogue. These items are identified by the addition of "(Includes COVID Loading.)" to the description of the item. The change was effective from 25 March 2020. This increase is temporary for up to six months and the need for the increase will be reviewed at around three months. The support categories that the temporary increase applies to are; daily living (core support excluding supported independent living and capacity building support) and social and community participation (core supports).

Cancellations policy

The NDIA has also reviewed the short notice cancellation policy, as participants will reduce face-to-face supports with providers or cancel appointments as self-quarantine continues to become more widespread.

A revised definition of short notice cancellations was effective from 25 March 2020 until further notice. The previous 10 per cent discount on the price paid for cancellations ("the 90 per cent rule") was removed from 30 March 2020.

Where a provider has a short notice cancellation (or no show) they are able to recover 100 per cent of the fee associated with the activity, subject to the terms of the service agreement with the participant (90 per cent until 29 March 2020). Providers are only permitted to charge for a short notice cancellation (or no show) if they have not found alternative billable work for the relevant worker and are required to pay the worker for the time that would have been spent providing the support.

A cancellation is a short notice cancellation if the participant:

- does not show up for a scheduled support within a reasonable time, or is not present at the agreed place and within a reasonable time when the provider is travelling to deliver the support; or

- has given less than 10 clear business days' notice for any other support.

Increased access to Support Coordination

The support items for Support Coordination have been duplicated into the Core Support Category – Assistance with Daily Life – so that participants can have greater access to support coordination services if they need them.

Annual Price Review

The NDIS Annual Price Review 2020–21 continues. This review is examining whether the existing pricing framework and other pricing related policies under the NDIS continue to be appropriate, or whether modifications are required.

The Annual Price Review will consider:

- ways to increase flexibility for participants and reduce administrative burden for providers.
- suggestions to improve the pricing framework, Price Guide and Support Catalogue to improve requirements under the NDIS.
- price limits for 1:1 core supports such as how and where disability support workers are utilised, high intensity and standard services and considerations for time of day and day of week.
- group-Based Supports price limits and how the cost of associated tasks should be applied.
- capacity building supports:
  - the adequacy of current prices and indexation.
  - whether different price limits might be appropriate for different times of day, or days of week.
- plan management supports and associated costs.
- regional, remote and very remote areas:
  - application of the Modified Monash Model to the NDIS.
  - the costs of delivering services in outer regional areas.
- provider claiming:
  - cancellations, provider travel and establishment fees.

Changes to activity based transport

In March 2020, changes were made to the NDIS pricing arrangements so that providers of community participation supports may now, at the request of a participant, transport a participant to, or from, or as part of, a community participation support. In these cases, the provider is entitled, with the agreement of the participant, to bill the participant's plan for the time that support workers spend providing the transport support (as part of the community participation support). They are also entitled to bill for any non-labour costs associated with transporting the participant (again, as part of the community participation support).

The support worker's time can be claimed at the agreed hourly rate for the relevant support item for the total time the support worker provides support to one or more participants, including time spent accompanying and/or transporting the participant. Where a provider is transporting two or more participants on the same trip, the support worker's time should be claimed at the appropriate group rate for the relevant support. This claim should be made using the relevant community participation support item and against the participant's core budget. In essence, the employee's time to transport, or to accompany, the participant to the community participation support is a part of the community participation activity and should be billed accordingly.

If a provider incurs costs, in addition to the cost of a support worker's time, when accompanying and/or transporting participants in the community (such as road tolls, parking fees and the running costs of the vehicle), they may negotiate with the participant for them to make a reasonable contribution towards these costs. The NDIA considers that the following would be reasonable contributions:

- up to $0.85 a kilometre for a vehicle that is not modified for accessibility
- up to $2.40 a kilometre for a vehicle that is modified for accessibility or a bus
- other forms of transport or associated costs up to the full amount, such as road tolls, parking, public transport fares.

These non-labour costs should be claimed against the relevant activity based transport support item in the community participation support category.

3.6 Specialist Disability Accommodation

Encouraging disability housing innovation.

In October 2019, the NDIA released three major initiatives to support growth, innovation and sustainability in the SDA market. These are the SDA Design Standard, SDA Innovation Plan and Limited Cost Assumptions Review. Work supporting the implementation of the SDA Design Standard and Innovation Plan initiatives continued in this quarter, and efforts continued to support broader legislative reform to remove barriers for participants to share their SDA accommodation with families and others.

The release of the **SDA Design Standard** brings clarity to providers for home design requirements and guidelines to seek pre-certifications for the enrolment of a dwelling as SDA, at both the planning and final-as-built stages. From 1 July 2021, all dwelling enrolment applications for SDA will be required to include a certificate from a third-party accredited SDA assessor. This certificate will nominate the design category the dwelling will satisfy, based on the standard. A training course for accreditation of assessors was successfully trialled in February 2020 and is currently being prepared for broader release to suitable professional candidates.

The **SDA Innovation Plan** was developed with the input of participants and other stakeholders to identify and promote innovative SDA options, and is based on three key pillars: design in partnership, participants and their community, and promote the leading edge. The Innovation Plan will look to promote and enable the availability of innovative accommodation and ensure the flexibility to discover new and better ways to provide SDA.

The NDIA commenced activity under the SDA Innovation Plan this quarter. Key activities to date have included engagement with a broad group of stakeholders, canvassing their ideas on innovation in SDA and facilitating participant preferences. The NDIA is also conducting a literature review and environmental scan to establish a definitive literature base for SDA.

3.7 Digital Partnership Program

The NDIA has released a discussion paper on the Digital Partnership Program.

The NDIA has developed a Digital Partnership Program (DPP), which will manage controlled and secure access to some of the NDIA's data and systems. Access will be managed via Application Programming Interfaces (APIs). These APIs are being created so providers and software developers can create new tools, apps and digital marketplaces to improve how participants, providers and the NDIA all connect and work together.

The NDIA released a preliminary discussion paper in December 2019 to seek input on how the program could best succeed. Feedback received during the first consultation round was taken into consideration in the further development of the DPP and was included in a second discussion paper. Those interested in the digital future of the NDIA were invited to respond to the discussion paper. The consultation period was extended from March 2020 to 14 April 2020 due to the impacts of COVID-19.

In March 2020, APIs were made available for registered providers. These APIs enabled providers to connect their own systems and automate transactions that are usually completed in the myplace provider portal. This includes transactions such as payment requests, service bookings, quotations, notifications and file uploads. Registered providers were encouraged to provide feedback on the current APIs as well as any additional feedback via the DPP discussion paper.

Part Four:

Information, linkages and capacity building (ILC)

4

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4 Part Four: Information, linkages and capacity building (ILC)

The NDIA has extended closing dates for current grant rounds and will be flexible in project timeframes due to the COVID-19 pandemic.

4.1 Information, linkages and capacity building

Grants for two ILC investment programs were announced this quarter (totalling $67.7 million), with an additional grant round opened for applications.[26]

The ILC program seeks to build the capacity of people with disability and communities to enable people with disability to achieve their goals and be included in all aspects of community life. Delivering ILC activities serves as a catalyst for change and is focused on creating greater inclusion for people with disability.

In December 2018, the NDIA introduced the 'ILC Investment Strategy Towards 2022' which guides the investment of ILC funds from 2019-20 to 2021-22. Through the ILC Investment Strategy, the NDIA is providing grants to organisations to deliver activities that enable people with disability, their families and their carers to benefit from a more inclusive, accessible and connected Australia.

The NDIA has awarded 198 ILC grants totalling $239 million through the first rounds of the four programs of the ILC Investment Strategy. These grants provide funding certainty for many organisations who have secured three year funding arrangements. The ILC Investment Strategy sees ILC administered through four discrete but complementary programs:

- **National Information Program:** providing accessible, quality and consistent information about disability types and service and support options in both community and mainstream settings (complementing the upcoming National Disability Information Gateway).
- **Individual Capacity Building (ICB) Program:** enabling systematic, nationwide access to peer support, mentoring and other skills-building for people with disability. This program will be primarily delivered through a national network of Disabled Peoples Organisations and Family Organisations (DPO/FO).
- **Mainstream Capacity Building (MCB) Program:** ensuring equity of access to and increased inclusion of people with disability in mainstream services.
- **Economic and Community Participation (ECP) Program:** increasing the social and economic participation, including employment outcomes, of people with disability.

[26] Refer to Appendix N for the State and Territory breakdown of the ILC grants that have already been announced.

In line with the ILC Investment Strategy, the NDIA rolled out the first rounds of each of the four programs throughout 2019. In this quarter, the NDIA announced the outcome of the Mainstream Capacity Building Program and the Economic and Community Participation Program.

The **MCB Program** opened on 9 September 2019 and closed on 21 October 2019. This first round is focused on building the capacity of mainstream health organisations by making sure they have the knowledge and skills they need to meet the needs of people with disability. The outcomes of this grant round were announced on 21 February 2020, with $35.1 million being awarded for 28 grants across Australia.

The **ECP Program** opened on 9 September 2019 and closed on 21 October 2019. The outcomes of this grant round were announced on 21 February 2020, with $32.7 million being awarded for 28 grants across Australia to promote pathways to employment (including self-employment) and drive inclusive practices to help people with disability participate in community life.

This quarter, the NDIA also announced the second round of **ICB Program** funding. This grant round will fund projects that enable systematic, nationwide access to peer support, mentoring and other skills-building for people with disability, carers and families.

Applications for this round opened on 11 March 2020. The application period was extended by two weeks to allow additional time for organisations to complete their grant application in response to the impacts of the COVID-19 pandemic. This grant round closed on 6 May 2020. In line with the ILC Investment Strategy that seeks to build the resilience of the Disabled Peoples Organisations, this round is targeted at disabled peoples organisations and family organisations, alongside organisations that seek to improve the welfare of a specified community, demonstrate a clear connection to the community they represent, and demonstrate a commitment to the social model of disability. In this grant round, the priority communities are Aboriginal and Torres Strait Islander communities, Lesbian, Gay, Bisexual, Transgender, Intersex, Queer/Questioning and Asexual and Plus (LGBTIQA+) communities, CALD communities, people experiencing homelessness or who are at risk of homelessness, and children and young people (0-24 years).

Figure 29: Summary of ILC grant rounds commissioned under the ILC Investment Strategy

Task	National Information Program	Individual Capacity Building Program	Mainstream Capacity Building Program	Economic and Community Participation Program
Value of round[27]	**$65 million**	**$105.9 million**	**$35.1 million**	**$32.7 million**
2019/20 Round 1				
Number of successful applications	37	105	28	28
Grant round application period	5 April – 10 May 2019	19 August – 30 September 2019	9 September – 21 October 2019	9 September – 21 October 2019
Assessment period	June – August 2019	September – November 2019	November – December 2019	November – December 2019
Grants announced	October 2019	December 2019	February 2020	February 2020
Grant agreements finalised	November 2019	February 2020	March 2020	March 2020

Delivery of ILC is also a prime activity undertaken through the NDIS PiTC who provide LAC and ECEI Services. The activities delivered by the grant funded organisations complements and enhances the work of the Partners in the Community Program. Partner delivery of ILC is a critical element to the successful delivery of ILC and to ensuring that:

- people with disability, their families and carers have the information and capability that they need to participate in the community and the economy.
- people with disability, their families and carers are connected to their local community and mainstream services.
- local communities and mainstream services have the skills, knowledge and capability to support the inclusion of people with disability, their families and carers.

With the conclusion of the first round of ILC Program Funding, the NDIA is working alongside Partners to support a consistent national approach to the delivery of ILC.

[27] All figures include GST.

Part Five:

Financial sustainability

5

5 Part Five: Financial sustainability

A financially sustainable Scheme focuses on outcomes to support participants now and across their lifetimes.

5.1 Participants, committed support and payments across the Scheme

The Scheme is projected to continue to grow and to reach about 500,000 participants within the next three years.

The number of participants, payments to providers and the amount of support committed in plans, reflects the rapid roll-out of the NDIS. The Scheme is projected to continue to grow and to reach about 500,000 participants within the next three years, of which about 478,000 are expected to be aged 0 to 64. This is equivalent to a prevalence rate of 2.1 per cent of the projected Australian general population aged 0 to 64, consistent with the original estimate by the 2011 Productivity Commission.

Scheme costs for all participants are projected to be about 0.9 per cent of GDP for 2019-20, 1.2 per cent in 2022-23, and 1.4 per cent for 2029-30. This includes participants who remain in the Scheme past 65 years, noting that the Commonwealth has committed to funding these participants. This projection is in line with the estimates shown in the 2017 Productivity Commission report on NDIS Costs at 2022-23, after allowing for costs not included in the Productivity Commission estimate, such as the introduction of school transport, personal care in schools, developmental delay and the incomplete implementation of the National Injury Insurance Scheme.

It should be noted that while the NDIA is committed to ensuring continuity of service for participants during the COVID-19 pandemic, the impact on Scheme projections are unknown at this stage and have not been modelled.

Figure 30: Committed supports ($m) and payments

	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019-20 YTD*
Active participants	7,285	17,155	29,719	89,610	172,333	286,015	364,879
Total committed ($m)	132.7	496.7	939.1	3,234.4	7,741.0	14,567.7	17,310.3
Total paid ($m)	85.8	370.9	704.3	2,184.5	5,423.7	10,247.4	11,236.6
% utilised to date	65%	75%	75%	68%	70%	70%	

*There is a lag between when support is provided and when it is paid - hence, payments will increase.

5.2 Current pressures and responses to financial sustainability

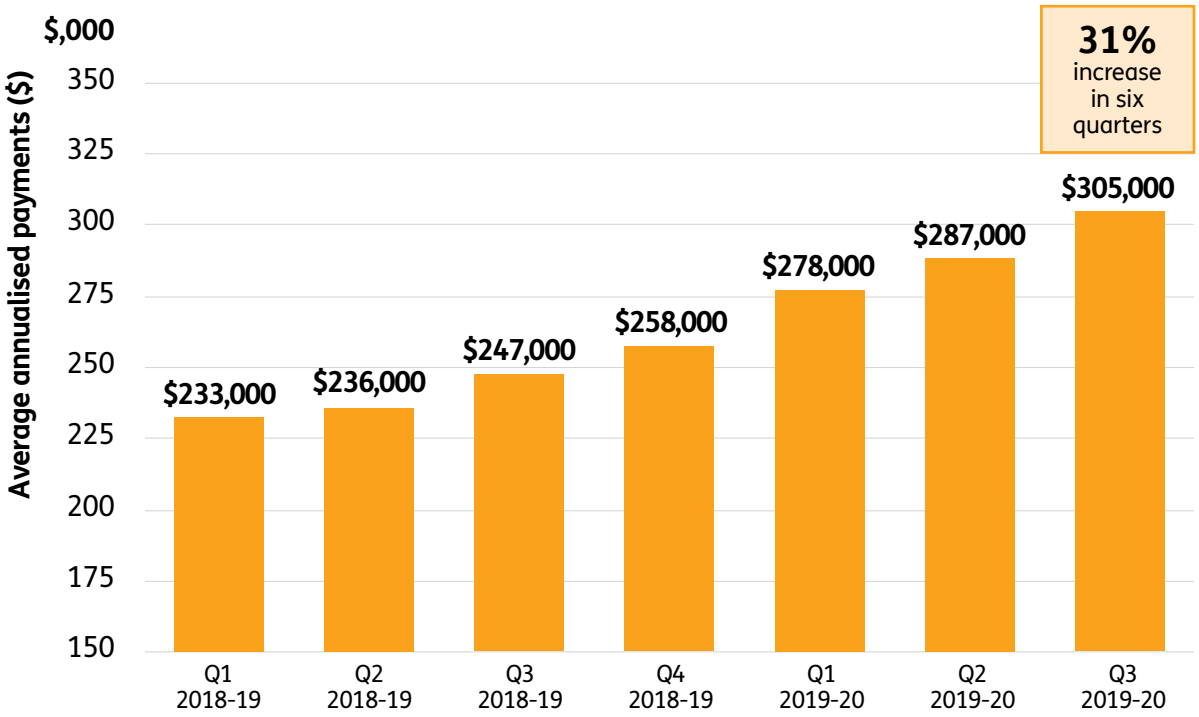
The drivers of costs to the NDIS include the number of participants, the amount of support allocated to each plan, how that allocated amount will change over time, the utilisation of individual supports, and the rate at which participants exit the Scheme. It is the responsibility of the NDIA to monitor primary pressures, detect any associated risks and manage them appropriately, using the insurance-based structure as a means to evaluate emerging experience against expectations.

While the NDIA Board and management acknowledges the uncertainty in the face of the COVID-19 pandemic, the sustainability of the Scheme is still a priority. Specific current pressures include:

- the support costs for participants in supported independent living are a material component of Scheme cost and continue to increase significantly above normal inflation. The quarterly average payment per participant has increased by 5% per quarter (on average) over the last six quarters, and by 31% across the six quarters combined (see Fig 31).

- interfaces and boundaries with mainstream services, and community and informal supports.

Figure 31: Average annualised payments per participant by quarter – SIL participants[28]



[28] The payments are for all supports provided to participants in SIL (and not just the SIL daily activity payments).

The NDIA is working on a policy to reform SIL. Specifically, the NDIA is working on consistent and equitable decisions for those seeking access to SIL, and also working on better aligning a participant's support package to their circumstances through the reference package and guided planning process. This means making sure the right assessment questions and tools are being used to inform plan decisions.

In addition, the NDIA is looking at more contemporary options for people who require a high level of support. Traditionally, group homes, congregate living or SIL are commonly seen as a living arrangement solution for people with a disability who have a high need for ongoing care. However, a number of alternative accommodation options have emerged, and are termed Contemporary Individual Living Options (ILOs). These ILOs have the potential to create a more tailored solution to care and support needs for the subset of Scheme participants with higher needs. Further, ILOs help to increase choice and control for participants and improve outcomes. With the COVID-19 pandemic, exploration of these options with participants is on hold, but will continue when it is appropriate to do so.

Part Six:

Staff, advisory groups and the NDIS community

6

6 Part Six: Staff, advisory groups and the NDIS community

The NDIA is supporting participants and the disability community through the COVID-19 pandemic.

6.1 A high performing NDIA delivering in uncertain times

Staff and partners continue to support participants remotely.

At 31 March 2020, the total NDIS workforce was 11,947, including 4,221 Full Time Equivalent (FTE) Australian Public Service employees, 1,904 labour hire contractors and consultants, and 5,651 people employed by NDIA's Partners. This is an increase of 8.13 per cent of the total workforce (including NDIA Partners) since the end of 2018–19 financial year (total workforce increase of 900).

The NDIA has continued to deliver in filling the additional 800 Australian Public Service positions for the 2019-20 financial year, as announced by Minister Stuart Robert on 17 October 2019. The number of NDIA Australian Public Service employees has increased by 26 per cent (896 employees) since the end of the 2018-19 financial year.

The NDIA continues to build the capability of staff and partners to ensure experience and expertise to support a better life for participants, their families and carers. This investment included 222 new planners and 257 LAC participating in the New Starter Induction program during the quarter. This program will be deployed virtually while physical distancing measure are in place.

In addition, the NDIA has collaborated with the Disability Advocacy Network of Australia (DANA) to raise disability awareness amongst staff and help improve the participant experience. Through DANA, the NDIA worked with groups such as Australian Autism Alliance, Prader-Willi Syndrome Australia and Down Syndrome Australia to build knowledge and real life stories. As a result of this project, the NDIA has produced 12 videos and snapshots on specific disabilities, an eLearning module for staff, and a half day workshop. A further seven snapshots will be produced in the next quarter.

Further, the NDIA has continued its development of training programs designed to improve planner awareness and understanding, especially in remote hard to reach participant areas. The NDIA is progressively rolling out training programs focused on disability and cultural awareness to improve the service experience for Aboriginal and Torres Strait Islander peoples, LGBTIQA+, and CALD people.

Joint Planning workshops for Planners and LACs were launched in Robina, QLD in February 2020. These workshops include the process and technology supporting the Joint Planning meetings and 'Rehearsal for Reality' sessions to provide confidence and skill improvement in managing these face-to-face participant interactions. Rollout of further workshops has been paused given the COVID-19 pandemic.

There continues to be high engagement with the NDIA Just Brilliant Leadership Series. This quarter, an additional 127 (692 in total) staff commenced the Learning to Lead program (aimed at entry level team leaders), together with a further 102 (374 in total) commencing the Leadership Excellence program (aimed at senior level leaders). The satisfaction rating across the leadership programs is 96 per cent. Introductory programs for both entry level and senior leaders will continue to be delivered virtually in the next quarter. A strategic leadership program for the SES cohort was expected to be launched this quarter but has paused due to the COVID-19 response.

6.2 Public data sharing and the latest release of information

The NDIA continues to release world-leading disability data to improve market innovation and inform participant outcomes.

On 31 March 2020, the NDIA released its fourth update to the Data and Insights page.

This release included:

- four detailed reports on the following focus areas:
  - analysis of participants by gender
  - people with an intellectual disability in the NDIS
  - people with disability and their NDIS goals
  - the NDIS Market (31 December 2019).
- new data cubes on participant goals, projected participant numbers and participants by statistical areas SA3 and SA4, based on 31 December 2019, was released. This data is available on the downloadable data page.
- a refresh of all previously released data-cubes and tables to include 31 December 2019 data.
- the NDIS Data and insights website was made easier to use with new colours and formatting so staff and the Australian community can better access the data and information.

Information was also released on 30 July 2019, 30 September 2019 and on 10 December 2019. These data releases included the release of downloadable data and tables on:

- participant numbers and plan budgets, SDA participants and SIL participants
- provider registration, active providers, utilisation of plan budgets and market concentration
- participant splits by Commonwealth Electorate Divisions, Statistical Area 2 and Local Government Areas
- service District to Local Government Area mapping
- participant numbers by diagnosis
- baseline outcome indicators and longitudinal outcome indicators
- plan management types

'Deep-dive' reports and analyses were also released on:

- participants with autism spectrum disorder (ASD)
- outcomes report for Participants, and an outcomes report for families/carers
- employment in the NDIS
- people with a psychosocial disability in the NDIS
- the NDIS Market (30 June 2019)
- Aboriginal and Torres Strait Islander participants
- CALD participants

Data sharing protocols

The NDIA released its Public Data Sharing Policy on 30 September 2019. The NDIS Public Data Sharing Policy is the NDIA's statement on what data the NDIA will share, and how the NDIA makes decisions on releasing that data. The policy covers data sharing and release to the general public.

The NDIS Public Data Sharing Policy is aligned to the draft Data Sharing and Release Act (on track to be legislated in mid-2020).

FAIR WORK AUSTRALIA

ORDER

Fair Work Act 2009
s.302 - Equal remuneration order

Equal Remuneration Case

Australian Municipal, Administrative, Clerical and Services Union and others
(C2010/3131)

SOCIAL, COMMUNITY, HOME CARE AND DISABILITY SERVICES INDUSTRY AWARD 2010
[MA000100]

VICE PRESIDENT WATSON
SENIOR DEPUTY PRESIDENT ACTON
COMMISSIONER HARRISON
COMMISSIONER CARGILL

SYDNEY, 22 JUNE 2012

Further to a decision [[2012] FWAFB 5184] issued by Fair Work Australia on 22 June 2012, the following equal remuneration order is made:

Table of contents

1. Title

This Order is the Social, Community and Disability Services Industry Equal Remuneration Order 2012.

2. Commencement and obligations

2.1 This Order shall commence on 1 July 2012 and shall continue in force and effect until further order of Fair Work Australia.

2.2 The monetary obligations imposed on employers by this Order may be absorbed into overaward payments. Nothing in this Order requires an employer to maintain or increase any overaward payment.

2.3 Where agreed between the employer and a full-time or part-time employee, an employer may introduce remuneration packaging in respect of the monetary obligations imposed by this Order. The terms and conditions of such a package must not, when viewed objectively, be less favourable than the entitlements otherwise available under the Award and this Order.

3. Definitions and interpretation

In this Order, unless the contrary intention appears:

Act means the *Fair Work Act 2009* (Cth)

agreement-based transitional instrument has the meaning in the *Fair Work (Transitional Provisions and Consequential Amendments) Act 2009* (Cth)

Award means the *Social, Community, Home Care and Disability Services Industry Award 2010*

award-based transitional instrument has the meaning in the *Fair Work (Transitional Provisions and Consequential Amendments) Act 2009* (Cth)

crisis assistance and supported housing sector means the provision of crisis assistance and supported housing services

on-hire means the on-hire of an employee by their employer to a client, where such employee works under the general guidance and instruction of the client or a representative of the client

social and community services sector means the provision of social and community services including social work, recreation work, welfare work, youth work or community development work, including organisations which primarily engage in policy, advocacy or representation on behalf of organisations carrying out such work and the provision of disability services including the provision of personal care and domestic and lifestyle support to a person with a disability in a community and/or residential setting including respite centre and day services

Social, Community and Disability Services Industry means the crisis assistance and supported housing sector and the social and community services sector

transitional minimum wage instrument has the meaning in the *Fair Work (Transitional Provisions and Consequential Amendments) Act 2009* (Cth)

4. Coverage and application

4.1 This Order covers employers throughout Australia in the Social, Community and Disability Services Industry and their employees in the classifications listed in Schedules B and C of the Award.

4.2 This Order covers any employer which supplies labour on an on-hire basis in the Social, Community and Disability Services Industry in respect of on-hire employees in classifications covered by Schedules B and C of the Award, and those on-hire employees, while engaged in the performance of work for a business in that industry.

5. Transitional Rates

5.1 Clauses 5.2 to 5.7 of this Order apply to an employer which from the first full pay period on or after 1 July 2012:

(a) was obliged, or

(b) but for the operation of an agreement-based transitional instrument or an enterprise agreement would have been obliged, or

(c) if it had been an employer in the industry or of the occupations covered by this Order on 1 July 2012 would have been obliged

to pay minimum wages in accordance with clause A.3.9 of Schedule A to the Award.

5.2 The payment in clause 5.3 of this Order shall be referred to as the "Transitional Minimum Wage".

5.3 The employer must pay an employee no less than either:

(a) the minimum wage for the relevant classification in the Award, or

(b) the minimum wage in the relevant transitional minimum wage instrument and/or award-based transitional instrument for the classification concerned

whichever is higher.

5.4 The employer must apply any increase in minimum wages in the Award to the amounts in clause 5.3 of this Order.

5.5 In addition to the Transitional Minimum Wage in clause 5.3 of this Order, the employer must pay an employee a Transitional Equal Remuneration Payment as follows:

(a) From the first full pay period on or after 1 December 2012 until the final pay period immediately before 1 December 2013, a payment equal to the difference between the Final Rate in clause 6.2 of this Order and the Transitional Minimum Wage in clause 5.3 of this Order, as increased from time to time, for the relevant classification in the Award, divided by nine.

(b) From the first full pay period on or after 1 December 2013 until the final pay period immediately before 1 December 2014, a payment equal to the difference between the Final Rate in clause 6.2 of this Order and the Transitional Minimum Wage in clause 5.3 of this Order, as increased from time to time, for the relevant classification in the Award, divided by nine then multiplied by two.

(c) From the first full pay period on or after 1 December 2014 until the final pay period immediately before 1 December 2015, a payment equal to the difference between the Final Rate in clause 6.2 of this Order and the Transitional Minimum Wage in clause 5.3 of this Order, as increased from time to time, for the relevant classification in the Award, divided by nine then multiplied by three.

(d) From the first full pay period on or after 1 December 2015 until the final pay period immediately before 1 December 2016, a payment equal to the difference between the Final Rate in clause 6.2 of this Order and the Transitional Minimum Wage in clause 5.3 of this Order, as increased from time to time, for the relevant classification in the Award, divided by nine then multiplied by four.

(e) From the first full pay period on or after 1 December 2016 until the final pay period immediately before 1 December 2017, a payment equal to the difference between the Final Rate in clause 6.2 of this Order and the Transitional Minimum Wage in clause 5.3 of this Order, as increased from time to time, for the relevant classification in the Award, divided by nine then multiplied by five.

(f) From the first full pay period on or after 1 December 2017 until the final pay period immediately before 1 December 2018, a payment equal to the difference between the Final Rate in clause 6.2 of this Order and the Transitional Minimum Wage in clause 5.3 of this Order, as increased from time to time, for the relevant classification in the Award, divided by nine then multiplied by six.

(g) From the first full pay period on or after 1 December 2018 until the final pay period immediately before 1 December 2019, a payment equal to the difference between the Final Rate in clause 6.2 of this Order and the Transitional Minimum Wage in clause 5.3 of this Order, as increased from time to time, for the relevant classification in the Award, divided by nine then multiplied by seven.

(h) From the first full pay period on or after 1 December 2019 until the final pay period immediately before 1 December 2020, a payment equal to the difference between the Final Rate in clause 6.2 of this Order and the Transitional Minimum Wage in clause 5.3 of this Order, as increased from time to time, for the relevant classification in the Award, divided by nine then multiplied by eight.

5.6 The payments in clauses 5.3 and 5.5 of this Order shall be regarded as part of the ordinary rate of pay for all purposes.

5.7 Clauses 5.2 to 5.6 of this Order cease to apply to an employer immediately before the beginning of the first full pay period on or after 1 December 2020.

6. Final Rates

6.1 The payments in clause 6.2 of this Order shall be referred to as the "Final Rate".

6.2 From the first full pay period on or after 1 December 2020, the employer must pay an employee in a classification listed in Schedules B and C of the Award:

(a) the applicable minimum wage in clause 15 of the Award, and

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(b) a Final Equal Remuneration Payment equal to the following percentage of the applicable minimum wage in clause 15 of the Award:

Classification in Schedules B and C of the Award	**Final Equal Remuneration Payment Percentage**
Social and community services employee level 2	23%
Social and community services employee level 3 Crisis accommodation employee level 1	26%
Social and community services employee level 4 Crisis accommodation employee level 2	32%
Social and community services employee level 5 Crisis accommodation employee level 3	37%
Social and community services employee level 6 Crisis accommodation employee level 4	40%
Social and community services employee level 7	42%
Social and community services employee level 8	45%

6.3 The Final Rate in clause 6.2 of this Order is equal to the following percentage of the applicable minimum wage in clause 15 of the Award:

Classification in Schedules B and C of the Award	**Final Rate Percentage**
Social and community services employee level 2	123%
Social and community services employee level 3 Crisis accommodation employee level 1	126%
Social and community services employee level 4 Crisis accommodation employee level 2	132%
Social and community services employee level 5 Crisis accommodation employee level 3	137%
Social and community services employee level 6 Crisis accommodation employee level 4	140%
Social and community services employee level 7	142%
Social and community services employee level 8	145%

6.4 The payments in clause 6.2 of this Order shall be regarded as part of the ordinary rate of pay for all purposes.

7. Payment

Payments made by an employer in accordance with this Order must be paid weekly or fortnightly by cash, cheque or electronic funds transfer into the bank or financial institution

account nominated by the employee, unless other arrangements are made in an enterprise agreement approved under the Act.

8. Access to the Order

The employer must ensure that copies of this Order are available to all employees to whom it applies either on a noticeboard which is conveniently located at or near the workplace or through electronic means, whichever makes them more accessible.

VICE PRESIDENT WATSON

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Australian Government Fair Work OMBUDSMAN

Pay Guide

Social, Community, Home Care and Disability Services Industry Award 2010 [MA000100]

Published 28 November 2019

Pay rates change from 1 July each year, the rates in this guide apply from 01 December 2019.

Information about the definition and operation of allowances, penalties and overtime can be found in the award and the Pay and Conditions Tool.

The best way to get general pay and conditions advice is to register for My account on our website. Once you have registered you can ask questions and save replies, view tailored information relevant to you and save pages, pay rates and awards.

The rates in this pay guide **don't apply** to employees in the Social and Community Services or Crisis Accommodation streams who were or would have been previously covered by a pre-modern award. Pay guides for these employees can be found on the Social and community services industry pay rates page on our website.

Equal Remuneration Order arrangements

An Equal Remuneration Order was made on 22 June 2012 with respect to employees in the Social and Community Services and Crisis Accommodation classifications of the award. The order preserves a transitional minimum wage applicable at the first full pay period on or after 01 July 2012 and provides an additional Transitional Equal Remuneration Payment (TERP). The TERP is introduced over 9 payments from the first full pay period on or after 01 December 2012 until the final pay period before 01 December 2020. Rates in this pay guide include the TERP.

The rates set out in this pay guide will change for all classifications from 01 July each year to take into account the Fair Work Commission's annual wage review and for Social and Community Services and Crisis Accommodation classifications will also change at 01 December each year to take into account the Equal Remuneration Order.

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Rates of pay

Social and community services employee - Full-time & part-time

The rates in this guide **don't apply** to Social and community services employees who were or would have been previously covered by a pre-modern award. Pay guides for these employees can be found on the Social and community services industry pay rates page on our website.

Table 1 of 2

Classification	Weekly pay rate	Hourly pay rate	Saturday	Sunday	Public holiday	Afternoon shift	Night shift
Level 1 - pay point 1	$805.50	$21.20	$31.80	$42.40	$53.00	$23.85	$24.38
Level 1 - pay point 2	$832.70	$21.91	$32.87	$43.82	$54.78	$24.65	$25.20
Level 1 - pay point 3	$862.50	$22.70	$34.05	$45.40	$56.75	$25.54	$26.11
Level 2 - pay point 1	$1,038.84	$27.34	$41.01	$54.68	$68.35	$30.76	$31.44
Level 2 - pay point 2	$1,071.36	$28.19	$42.29	$56.38	$70.48	$31.71	$32.42
Level 2 - pay point 3	$1,104.00	$29.05	$43.58	$58.10	$72.63	$32.68	$33.41
Level 2 - pay point 4	$1,133.50	$29.83	$44.75	$59.66	$74.58	$33.56	$34.30
Level 3 - pay point 1	$1,158.60	$30.49	$45.74	$60.98	$76.23	$34.30	$35.06
Level 3 - pay point 2	$1,191.96	$31.37	$47.06	$62.74	$78.43	$35.29	$36.08
Level 3 - pay point 3	$1,217.32	$32.03	$48.05	$64.06	$80.08	$36.03	$36.83
Level 3 - pay point 4	$1,242.19	$32.69	$49.04	$65.38	$81.73	$36.78	$37.59
Level 4 - pay point 1	$1,330.81	$35.02	$52.53	$70.04	$87.55	$39.40	$40.27
Level 4 - pay point 2	$1,365.62	$35.94	$53.91	$71.88	$89.85	$40.43	$41.33
Level 4 - pay point 3	$1,400.69	$36.86	$55.29	$73.72	$92.15	$41.47	$42.39
Level 4 - pay point 4	$1,431.90	$37.68	$56.52	$75.36	$94.20	$42.39	$43.33
Level 5 - pay point 1	$1,517.59	$39.94	$59.91	$79.88	$99.85	$44.93	$45.93
Level 5 - pay point 2	$1,550.15	$40.79	$61.19	$81.58	$101.98	$45.89	$46.91
Level 5 - pay point 3	$1,586.30	$41.74	$62.61	$83.48	$104.35	$46.96	$48.00
Level 6 - pay point 1	$1,655.00	$43.55	$65.33	$87.10	$108.88	$48.99	$50.08
Level 6 - pay point 2	$1,691.60	$44.52	$66.78	$89.04	$111.30	$50.09	$51.20
Level 6 - pay point 3	$1,728.20	$45.48	$68.22	$90.96	$113.70	$51.17	$52.30
Level 7 - pay point 1	$1,787.94	$47.05	$70.58	$94.10	$117.63	$52.93	$54.11
Level 7 - pay point 2	$1,825.43	$48.04	$72.06	$96.08	$120.10	$54.05	$55.25
Level 7 - pay point 3	$1,862.66	$49.02	$73.53	$98.04	$122.55	$55.15	$56.37
Level 8 - pay point 1	$1,936.62	$50.96	$76.44	$101.92	$127.40	$57.33	$58.60
Level 8 - pay point 2	$1,974.56	$51.96	$77.94	$103.92	$129.90	$58.46	$59.75
Level 8 - pay point 3	$2,012.78	$52.97	$79.46	$105.94	$132.43	$59.59	$60.92

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