Safer Care Victoria

October 2021

# Learning from healthcare worker COVID-19 infections

A report on investigations into infections acquired through occupational exposure

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State Government

# Background

**Healthcare workers (HCWs) are at the frontline of the COVID-19 pandemic response and are therefore at heightened risk of infection. Continually improving the safety and wellbeing of HCWs is the primary purpose of the HCW Infection Prevention and Wellbeing Taskforce (the taskforce).**

## Why share these lessons learned?

Since the coronavirus (COVID-19) pandemic reached Victoria, 4,170 HCWs are known to have contracted COVID-19 (HCW infections), as captured in the Public Health Event Surveillance System (PHESS), now transitioned to customer relationship management (CRM) system.

There are no active HCW infections at the time of writing. However, we need to ensure the Victorian healthcare sector learns from the HCW infections that occurred throughout the first phase[1] and second phase[2] of the COVID-19 pandemic in Victoria. Identifying lessons learned is critical to inform infection prevention and control recommendations, as well as policies and procedures, to keep our workforce and communities safe.

This report was produced through a collaboration between Safer Care Victoria and WorkSafe Victoria, as part of the taskforce. Information from health services and residential aged care facilities (RACFs) was collected regarding HCWs who acquired COVID-19 through occupational exposure. Health services and RACFs were requested to complete their reviews and submit individual and/or cluster investigation reports in a timely manner. The threshold to undertake a cluster review is two or more epidemiologically linked cases with symptom onset within 14 days.

## Data and method

From July 2020, health services and RACFs provided de-identified investigation report data through an online form. The findings in this report are based on analysis of data from 137 reports. These reports were provided voluntarily to help identify common contributing factors and opportunities for system-wide improvement.

The investigation reports included:

- **223** cases of HCW infections acquired in nine metropolitan public and private hospitals, from a total of **124** investigation reports
- **74** cases of HCW infections acquired in private RACFs, from a total of 13 investigation reports. These were submitted by four metropolitan health services who had staff seconded to various RACFs, and two private metropolitan RACFs.

In this report, analysis, and findings from investigations into HCW infections acquired in hospital settings, and those acquired in RACFs, are presented separately.

[1] *First Phase: 19 January 2020 to 9 April 2020*

[2] *Second Phase: 26 May 2021 to 31 October 2021*

In their investigation reports, health services identified contributing factors from a list of common contributing factors. Where health services identified other contributing factors in free text, these were thematically coded and either classified under the existing list or added as new contributing factors. A frequency count analysis was then conducted to identify the 10 most frequent contributing factors in the reports. The complete list of contributing factors can be found in Appendices 1 and 2.

This report highlights:

- existing guidance that could be used to address the contributing factors
- current work underway through the taskforce that will address the contributing factors
- areas where further work may be required.

## Limitations of this report

The data collected by the SCV/WorkSafe project was voluntarily reported by health services and RACFs. In addition, reports could only be included in this analysis if they identified one or more factors that may have contributed to the HCW becoming infected. Therefore, the findings in this report are based on a limited sample of 297 HCW infections in Victoria in 2020, from a total of 4,170 (approximately eight per cent). Therefore, the findings may not be representative of the entire cohort.

## Areas for further work

This investigation highlighted the lack of robust processes within health services and RACFs for investigating HCW infections in a timely manner, to enable rapid learning. To assist health services and RACFs to manage further HCW infections (for example, in the event of a third wave), SCV and WorkSafe are developing a rapid review tool.

This rapid review tool will guide health services in investigating workplace acquired HCW infections. It is designed to help:

- understand why HCW infections occurred
- focus on the system in which HCWs work, rather than the behaviour of individual HCWs
- review controls that were in place to prevent or minimise HCW infections
- identify opportunities to strengthen risk controls to prevent future HCW infections.

The tool will be piloted with selected services prior to its release for broader use.

The limitations of this dataset highlighted the need for an adequately resourced, ongoing and standardised process for data collection, analysis and sharing of lessons learned. This will require further system-level coordination and planning, with an eye to the ongoing risk of a third wave.

# HCW infections acquired in hospital settings

Of the 223 cases of HCW infections associated with hospital settings, all were thought to have been acquired in the workplace. Most involved female registered nurses, aged between 21 and 40 years of age. As a result of these 223 cases, 387 other staff were furloughed. The outcome in almost all cases was isolation at home or in a hotel, with a very small number requiring hospital admission.

The most frequently reported suspected location of transmission was on acute wards (COVID-19 and non-COVID-19 wards). One major metropolitan health service recorded 12 HCW infections at a transitional care facility, which was similar in setting to a RACF.

**Table 1: Top 10 most frequent factors contributing to HCW infections in hospital settings identified by health services**

| Contributing factor identified in investigation reports (See Appendix 1 for full list) | Examples provided in investigation reports | Guidelines and statewide interventions |
|---|---|---|
| Use of PPE | PPE breaches including:<br>• issues with fit of respirators<br>• not wearing correct PPE for the situation<br>• incorrect wearing of PPE (for example, N95 worn upside down)<br>• frequently touching face or adjusting mask and eye protection | • DH Coronavirus (COVID-19) – A guide to the conventional use of personal protective equipment (PPE) guidance[1]<br>• DH *Victorian Respiratory Protection Program Guidelines*[2] incorporates the appropriate provision, use, storage, and training associated with Respiratory Protective Equipment (RPE), such as P2/N95 masks<br>• DH monitoring of RPP guideline implementation in Public Health Services<br>• DH acknowledgement of potential likelihood of aerosol transmission of COVID-19[3]<br>• Need for improved access to a variety of N95 masks to address fit issues (identified through the COVIDSafe plan audits and fit testing)<br>• Coronavirus (COVID-19) PPE Spotter Guidance[4,5,6] |
| PPE policies, guidelines, and procedures | Lack of (or underdeveloped) policies, guidelines and procedures on selection, use, maintenance, and disposal of PPE | |
| Surveillance systems to investigate individual infections and wider outbreaks | Lack of adequate contact tracing systems and review mechanisms to fully understand the source of HCW infections within a health service | • Surveillance testing of healthcare workers[7]<br>• Rollout of new Salesforce CRM (customer relationship management) platform to improve DH contact tracing capability<br>• Guidance on Daily Staff Attestations[8] |

| Contributing factor identified in investigation reports<br>(See Appendix 1 for full list) | Examples provided in investigation reports | Guidelines and statewide interventions |
|---|---|---|
| Dealing with challenging patients | Staff were required to provide care in acute care settings to complex patients (often COVID positive) from RACF who had challenging behaviours (for example, confused, aggressive, yelling, and non-compliant with PPE use) | • Weekly information sharing workshops, chaired by the Chief Medical Officer, to rapidly disseminate lessons learned<br>• Nil guidance/interventions identified relating to this contributing factor |
| Patient use of surgical mask, hand hygiene, physical distancing and cough etiquette | Patients who either refuse to wear masks or are non-compliant due to cognitive issues | • Weekly information sharing workshops, chaired by the Chief Medical Officer, to rapidly disseminate lessons learned<br>• Nil guidance/interventions found directly relating to this contributing factor<br>• In these cases, staff need to ensure they are protected by:<br>– ensuring PPE is used in line with the A guide to the conventional use of personal protective equipment (PPE) guidance<br>– complying with DH Coronavirus (COVID-19) Infection Control guideline[9] |
| Space to maintain physical distancing in staff areas, wards and corridors | Lack of adequate space in staff areas, wards, corridors and lifts (excluding break/tea rooms) to accommodate staff and patients while maintaining 1.5 metre social distancing or 4 $m^2$ occupancy rule | • DH physical distancing in health services guidance[10]<br>• SCV audits of health service amenities (November–December 2020)<br>• DH funding to health services to improve infrastructure to meet physical distancing requirements<br>• WorkSafe Victoria inspector visits commenced February 2021 (virtual visits were conducted prior to February 2021)<br>• Opportunity to improve physical distancing measures in non-clinical areas (identified through the COVIDSafe plan audits). Each health service received audit results to inform practice, with the final summary report yet to be collated and published<br>• On 4 September 2020, the DH Secretary wrote to all CEOs asking for an audit of staff amenities to ensure that they can meet physical distancing requirements. Funding of $4.6 million was provided to health services to identified gaps to ensure safe staff amenities<br>• COVID-19 Best practice approaches for safe staff amenities for health services guidance[11] |

| Contributing factor identified in investigation reports<br>(See Appendix 1 for full list) | Examples provided in investigation reports | Guidelines and statewide interventions |
|---|---|---|
| Contaminated work environment | Staff were unclear as to which spaces were clean or dirty (for example, nurses' station) or felt they were handling material or equipment that was contaminated | • DH guidance on COVID-19 Best practice approaches for safe staff amenities for health services<br>• Cleaning procedures are outlined in the DH Coronavirus (COVID-19) Infection Control guideline<br>• Environment Protection Authority (EPA) Guidance on *Coronavirus (COVID-19) Disposing Clinical Waste*[12]<br>• Opportunity to improve cleaning processes identified through COVIDSafe plan audits. The final summary report will be collated with the SCV audit report and distributed to health services to inform practice<br>• Ventilation systems and infrastructure requirements in COVID-19 wards[13,14] |
| Facility/ward not fit for purpose | Subacute ward with poor ventilation is not designed for acute care of infectious persons<br>Acute hospital facilities are not equipped to manage the specific care requirements of aged care residents | • Victorian Health Building Authority health technical advice on Heating Ventilation and Air Conditioning system strategies to airborne infectious outbreaks<br>• WorkSafe Victoria guidance on Prevention and management of exposure to coronavirus (COVID-19) in the healthcare and social assistance industry[15]<br>• Victorian Health Building Authority audits of ventilation in public hospitals |
| Ward area and related levels of exposure | Subacute ward with poor ventilation is not designed for acute care of infectious persons<br>Acute hospital facilities are not equipped to manage the specific care requirements of aged care residents | • DH provision of funding to health services to improve infrastructure to meet physical distancing requirements<br>• DH guidance on Creating coronavirus (COVID-19) zones in acute care[16] |
| PPE donning and doffing task design | Issues related to complexity or impracticality of PPE donning and doffing, which may inadvertently create exposure to COVID-19 | • DH guidance on the Standard sequence for putting on (donning) and taking off (doffing) PPE[17]<br>• Introduction of mandatory PPE spotters<br>• PPE spotter guidance |

# HCW infections acquired in private residential aged care facilities

Of the 74 HCW infections reported across 13 detailed investigation reports, all were likely to have been acquired in the workplace. Almost all HCWs were female registered nurses, with a smaller proportion being personal care attendants (PCAs). The investigation reports stated HCW infections were most frequently associated with contaminated shared spaces (for example, staff rooms, donning/doffing areas), contact with known COVID-19 positive residents, or contact with staff who had been exposed to known COVID-19 positive residents.

As a result of these 74 HCW infection cases, 77 other staff were furloughed. The outcome in almost all cases was isolation at home or in a hotel, with a very small number requiring hospital admission.

**Table 2: Top 10 most frequent factors contributing to HCW infections in private RACF settings identified by health services and private RACFs**

| Contributing factors identified in investigation reports (See Appendix 2 for full list) | Examples provided in investigation reports | Existing guidance and new statewide interventions |
|---|---|---|
| HCW fatigue (work scheduling) | Work scheduling that may contribute to increased fatigue, such as long shifts or successive night shifts | • DH funded Aged Care Surge Workforce Program<br>• WorkSafe Victoria's Preventing and managing the increased risk of employee fatigue in healthcare during coronavirus (COVID-19) guidance[18]<br>• WorkSafe conducted webinars on fatigue risk management for RACF employers<br>• WorkSafe are developing a social media campaign on fatigue risk management for RACF employers |
| Fatigue (staff) | Fatigue as a contributing factor that may have led to complacency or lowered alertness around potential sources of COVID-19 exposure. | |
| Clinical workload | Increased clinical workload for HCWs due to work scheduling | • Advice on rostering contained in WorkSafe Victoria's Preventing and managing the increased risk of employee fatigue in healthcare during coronavirus (COVID-19) guidance. |

| Contributing factors identified in investigation reports<br>(See Appendix 2 for full list) | Examples provided in investigation reports | Existing guidance and new statewide interventions |
|---|---|---|
| PPE donning and doffing task design | Issues related to complexity or impracticality of PPE donning and doffing, which may inadvertently create exposure to COVID-19. One report stated staff could be donning and doffing PPE up to 50 times per shift | • DH guidance on the Standard sequence for putting on (donning) and taking off (doffing) personal protective equipment (PPE)<br>• Monash Health free face-to-face PPE training program for Victorian residential aged care.[19] A virtual reality tool was funded as part of this program to support aged care workers refresh their skills following face to face training and train other staff<br>• Victorian Aged Care Response Centre (VACRC) prevention visits<br>• Aged Care Safety and Quality Infection Control spot checks[20]<br>• WorkSafe Victoria inspector visits to RACFs |
| Resident use of surgical mask, hand hygiene, physical distancing and cough etiquette | Residents not adhering to surgical mask use, hand hygiene, physical distancing and cough etiquette | Nil guidance/interventions identified |
| Physical health co-morbidities (complexity and seriousness) | Residents with complex or serious physical health comorbidities that are more difficult to manage | Nil guidance/interventions identified |
| Staff sick leave/staff availability | Reduced workforce supply and stability, including (at times) not being sure which staff would be working | • DH Coronavirus (COVID-19) Plan for the Victorian Aged Care Sector[21]<br>• DH funded Aged Care Surge Workforce Program<br>• Financial support for COVID-19 (for example, Worker Mobility Reduction Payments,<br>COVID-19 Test Isolation Payment, Worker Support Payment)[22]<br>• Frontline worker accommodation[23] |
| Staff stressed/distracted/feeling rushed | Stress related to the high volume of complex COVID-19 positive residents and reduced staff availability | • WorkSafe Victoria guidance on work-related stress[24]<br>• WorkSafe Victoria webinars for RACF employers on stress and trauma in the context of COVID-19<br>• WorkSafe Victoria are currently developing guidance on dealing with trauma in the context of COVID-19 for RACF employers<br>• Establishment of the Healthcare worker wellbeing centre and healthcare worker wellbeing grants program[25,26] |

| Contributing factors identified in investigation reports<br>(See Appendix 2 for full list) | Examples provided in investigation reports | Existing guidance and new statewide interventions |
|---|---|---|
| Number of COVID-19 positive residents in isolation | High-risk environment related to poorly ventilated settings with high resident density | • DH guidance on Creating coronavirus (COVID-19) zones in residential aged care facilities[27] |
| Linen disposal | Reduced frequency in disposing of potentially contaminated linen | • DH guidance on How to clean and disinfect after a COVID-19 case in non-healthcare settings[28]<br>• Victorian Health Building Authority Clinical and related waste guidelines: supplement for healthcare staff[29] |

# Appendix 1 – Contributing factors from health service reviews of HCW infections

The below AcciMap visually represents factors in the system that contributed to HCW infections, aggregated from 124 submissions up to 31 December 2020. The numbers in brackets represent how many times each factor appeared in the data.

***HCW infections (submissions n=124) – SharePoint data 31/12/2020***

*Orange text shows factors that appeared 10 times or more; purple text shows factors that appeared between 4 and 9 times; red text shows factors that, although not appearing many times, may warrant attention.*

**Government, regulators and external influences**

- **GOVERNMENT & REGULATORS**
  - National guidelines [1]
  - State guidelines [10]
  - Other COVID information for HCWs (exc. Guidelines) [4]
  - Governmental pressure [1]
  - NEAT Targets [1]
- **UNIONS & EMPLOYER ASSOCIATIONS**
- **SUPPLIERS**
  - External PPE supply chain [6]
- **EXTERNAL CARE PROVIDERS**
  - Surrounding health service diversions [2]
- **OTHER**

**Organisation and management**

- **MANAGEMENT SYSTEMS**
  - Surveillance systems both to investigate individual infections and wider outbreaks [18]
  - PPE policies, guidelines and procedures [13]
  - Decontamination of high touch surfaces and ventilation [9]
  - Cleaning procedures and schedules [10]
- **LEADERSHIP**
  - Reporting culture (incident reporting) [4]
  - Learning culture (reviewing incident reports) [1]
  - Culture-speaking up for safety [5]
- **SUPERVISORS**
  - Support from other departments [4]
- **PATIENT MANAGEMENT**
  - Bed management [5]
  - Transfer to appropriate ward [5]
- **WORK SYSTEMS**
  - Protected time for teaching/learning [3]
  - Out-of-hours support [2]
  - Quality of training [1]
- **PLANNING**
  - Planning for service demand [5]
  - Mobile or temporary staff [2]
- **WORK SCHEDULING**
  - HCW fatigue [7]
  - Time for hygiene compliance [3]
  - Sharing staff between COVID and non-COVID wards [2]
  - HCW roster [4]
  - Clinical workload [4]
- **TRAINING**
  - PPE training [7]
  - Training update frequency [4]
  - Availability of PPE reminders ie. posters [5]

**Work environment**

- **ENVIRONMENT**
  - Space to maintain physical distancing in staff areas, wards and corridors [16]
  - Facility / ward not fit for purpose [15]
  - Single patient room with ensuite [9]
  - Splash / puncture injury with contaminated material [3]
  - Ability to maintain physical distancing in staff/tea rooms [3]
  - Noise / heat / cold [2]
  - Ventilation [1]
  - Contaminated work environment [16]
  - Ward area and related levels of exposure [12]
  - Layout [8]
  - Patient visibility [5]
  - Overcrowded ward / work space [3]
  - Lighting [2]
  - Patient's own home [1]
- **EQUIPMENT PROVISION & MAINTENANCE**
  - Availability of appropriate PPE [6]
  - Equipment malfunction or not fit for purpose [4]
  - Availability of appropriate cleaning products [2]
  - Management of non-disposable equipment [1]
  - Linen disposal [3]
  - Management of used disposable equipment [2]
  - PPE internal supply chain [1]

**Team**

- **TEAM DESIGN**
  - Team roles [3]
  - Staff sick leave / staff availability [3]
  - Task delegation [2]
  - Staff feedback [2]
  - Advice to staff regarding work attendance [2]
  - Effectiveness of followership [2]
  - Effectiveness of leadership [1]
  - Remote supervision [1]
  - PPE spotters [1]
- **COMMUNICATION**
  - Contact with other staff who have been exposed to COVID +ve patients [7]
  - Staff communication [5]
  - Provision of information to staff [4]
  - Documentation in clinical records [3]
  - Collection of information from staff [1]
  - Clinical handover [1]
  - Respect for colleagues [1]

**Task and technology**

- **EQUIPMENT**
  - Availability of COVID-19 PCR testing/ results [6]
  - Shared use of work tools and equipment including admin tools [5]
  - Availability / use of decision-making aids [2]
  - COVID-19 status alert in EMR [2]
  - Accuracy of COVID-19 PCR results [1]
- **WORK DESIGN**
  - Task design and physical distancing [11]
  - PPE donning and doffing task design [11]
  - Unfamiliar task [6]
  - Hand hygiene [6]
  - Performing high-risk (aerosolising) procedure on patient [6]
  - Multi-tasking [4]
  - Difficult task [2]
  - Donning & doffing at patient's home [1]
  - Patients with aerosol-generating behaviours (spitting, coughing, yelling etc) [1]

**Staff**

- **STAFF**
  - HCW occupational group [24]
  - Distraction [9]
  - Level of experience [7]
  - Student presence [2]
  - Compliance / adherence to infection control procedures [1]
  - Workstation lack of distancing [1]
  - Fatigue [10]
  - Stress [8]
  - Rushed [7]
  - Mental health [1]
  - Working in more than one health service [1]
  - Sharing food with others [1]
- **EQUIPMENT CAPABILITY**
  - Use of PPE [20]
  - Donning and doffing of PPE [7]
  - PPE fitment issues [4]
  - Handling material or equipment contaminated with COVID [3]
  - Cleaning equipment or areas that have been in proximity to COVID +ve patients [5]
  - Trust of PPE [3]
  - Sanitation of workplace [2]
  - Using phone [1]

**Patient**

- **PATIENT/CONSUMERS**
  - Dealing with challenging patients [18]
  - Patient use of surgical mask, hand hygiene, physical distancing and cough etiquette [14]
  - Asymptomatic COVID infection (not suspected/not diagnosed) [10]
  - Number of COVID patients in isolation on the ward [9]
  - Language and communication [9]
  - Difficulties in avoiding mixing infected and uninfected patients [7]
  - Physical health co-morbidities (complexity and seriousness) [4]
  - Confused patient with COVID [4]
  - Family / close contact visit [3]
  - Social health issues [3]

# Appendix 2 – Contributing factors from aged care reviews of HCW infections

The below AcciMap visually represents factors in the system that contributed to HCW infections, aggregated from 13 submissions up to 31 December 2020. The numbers in brackets represent how many times each factor appeared in the data.

***HCW infections (submissions n=13) – SharePoint data 31/12/2020***

*Orange text shows factors that appeared 4 times or more; purple text shows factors that appeared 2 and 3 times; red text shows factors that, although not appearing many times, may warrant attention.*

### Government, regulators and external influences

**GOVERNMENT & REGULATORS**

- National guidelines [1]
- State guidelines [3]

**UNIONS & EMPLOYER ASSOCIATIONS**

**SUPPLIERS**

- External PPE supply chain [3]

**EXTERNAL CARE PROVIDERS**

**OTHER**

### Organisation and management

**MANAGEMENT SYSTEMS**

- PPE policies, guidelines and procedures [2]
- Surveillance systems both to investigate individual infections and wider outbreaks [1]
- Decontamination of high touch surfaces and ventilation [1]
- Cleaning procedures and schedules [1]

**LEADERSHIP**

- Culture-speaking up for safety [1]
- Reporting culture [1]

**SUPERVISORS**

- Support from other departments [1]

**RESIDENT MANAGEMENT**

- Bed management [3]
- Transfer to appropriate room [1]

**WORK SYSTEMS**

- Out-of-hours support [2]
- Quality of training [1]
- Protected time for teaching/learning [1]

**PLANNING**

- Planning for service demand [3]
- Mobile or temporary staff [3]

**WORK SCHEDULING**

- HCW fatigue [6]
- HCW roster [2]
- Clinical workload [6]

**TRAINING**

- Availability of PPE reminders ie. posters [4]
- PPE training [3]

### Work environment

**ENVIRONMENT**

- Space to maintain physical distancing in staff areas, rooms and corridors [4]
- Layout [4]
- Single resident room with ensuite [3]
- Room and related levels of exposure [3]
- Ability to maintain physical distancing in staff/tea rooms [2]
- Facility / room not fit for purpose [1]
- Resident visibility [1]
- Lighting [1]
- Contaminated work environment [1]

**EQUIPMENT PROVISION & MAINTENANCE**

- Linen disposal [5]
- PPE internal supply chain [4]
- Availability of appropriate PPE [3]
- Management of used disposable equipment [2]
- Maintenance of equipment [2]
- Equipment malfunction or not fit for purpose [1]
- Availability of appropriate cleaning products [1]
- Linen availability [1]
- Rubbish not collected regularly [1]
- Unable to clean shared equipment [1]

### Team

**TEAM DESIGN**

- Staff sick leave / staff availability [5]
- Team roles [3]
- Effectiveness of leadership [2]
- Task delegation [2]
- Staff feedback [1]
- Staff unaware of rostering [1]
- Effectiveness of followership [1]
- Remote supervision [1]
- Advice to staff regarding work attendance [1]

**COMMUNICATION**

- Clinical handover [4]
- Collection of information from staff [4]
- Contact with other staff who have been exposed to COVID +ve residents [4]
- Staff communication [3]
- Documentation in clinical records [2]
- Provision of information to staff [1]

### Task and technology

**EQUIPMENT**

- Shared use of work tools and equipment including admin tools [3]
- Availability of COVID-19 PCR testing/ results [3]
- Accuracy of COVID-19 PCR results [1]
- Availability of thermometers [1]
- Shared administration area with shared equipment [1]
- No pat slide, no slide sheets, hover mats [1]
- No wipes of BP cuffs etc. [1]

**WORK DESIGN**

- PPE donning and doffing task design [5]
- Unfamiliar task [3]
- Task design and physical distancing [2]
- Hand hygiene [2]
- Difficult task [2]
- Insufficient area for donning & doffing [1]
- PPE donning and doffing frequency [1]
- Unfamiliar with facility [1]
- Resident identification [1]
- Multi-tasking [1]
- Performing high-risk (aerosolising) procedure on patient [1]
- Adherence to IPC measures when performing aerosol-generating procedures [1]

### Staff

**STAFF**

- Fatigue [6]
- Stress [5]
- Distraction [5]
- Rushed [5]
- Mental health [4]
- Physical health [3]
- Level of experience [2]
- Healthcare worker occupational group [2]
- Working in more than one health service [2]

**EQUIPMENT CAPABILITY**

- Sanitation of workplace [4]
- Donning and doffing of PPE [3]
- Handling material or equipment contaminated with COVID [3]
- Use of PPE [2]
- Felt everything in the environment was infected [1]
- Quality of PPE [1]
- Using phone [1]
- Cleaning equipment or areas that have been in proximity to COVID +ve patients [1]

### Resident

**RESIDENT/CONSUMERS**

- Patient use of surgical mask, hand hygiene, physical distancing and cough etiquette [6]
- Physical health co-morbidities (complexity and seriousness) [6]
- Number of COVID patients in isolation on the room [5]
- Language and communication [3]
- Difficulties in avoiding mixing infected and uninfected patients [3]
- Asymptomatic COVID infection (not suspected/not diagnosed) [3]
- Patients touching/ reaching for staff [2]
- Social health issues [1]

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*The links below were accurate at the time this report was finalised.*

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