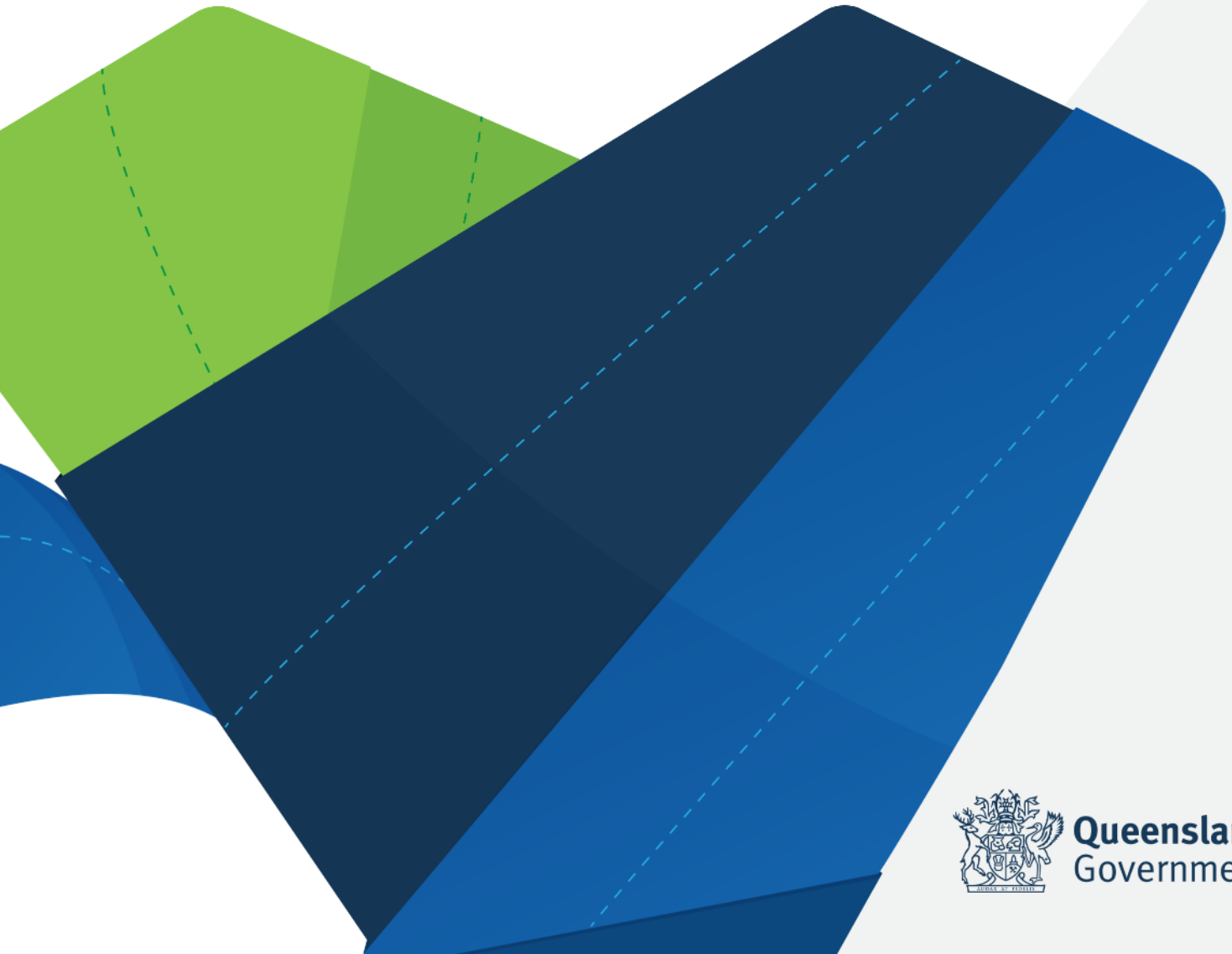
Management of COVID-19 outbreaks in hospital settings

Interim guideline version 1.1 - 23 February 2021

Note: This is an interim guideline and is subject to change.

Knowledge about COVID-19 is evolving; Queensland Health will review and update this interim guideline as new information becomes available.



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1 Introduction

This document provides interim guidance on the public health management of an outbreak of COVID-19 in a Queensland Health hospital setting, including exposure assessment and contact tracing for healthcare workers (HCW), patients and visitors in hospitals following the identification of a confirmed case of COVID-19 in the facility (not managed under recommended transmission-based precautions), to inform risk management and public health action. The document sets out guidance on the roles and responsibilities of relevant teams during the phases of the investigation, which may include:

- an initial rapid assessment to enable identification, assessment and quarantine of those healthcare workers, patients and visitors who are most likely to be close contacts
- interim implementation of restrictions and service closures while a more thorough outbreak investigation and response occurs and
- a more detailed contact assessment to guide subsequent actions, including application of work restrictions for asymptomatic HCW contacts.

These actions take place in the context of an incident management framework, in accordance with the Queensland Health *Guideline for the management of outbreaks of communicable diseases in healthcare facilities*.

The infection control guidance in this document is consistent with the Queensland Health *Interim infection prevention and control guidelines for the management of COVID-19 in healthcare settings*.

All case and contact definitions are based on the *Coronavirus Disease 2019 (COVID-19) CDNA National Guidelines for Public Health Units*.

The recommendations are based on currently available information about COVID-19. The recommendations might not anticipate every potential scenario. Expert clinical judgement based on all available information should be used to summarise exposure risk, assign contact category and determine the need for work restrictions/quarantine.

2 Scope

This document focuses specifically on cases not managed under recommended transmission-based precautions, clusters or outbreaks within a Queensland Health hospital setting and refers to the management of cases associated with a private hospital setting.

Out of scope for this document is the management of cases, clusters or outbreaks in other healthcare settings such as GP practices.

3 Governance

The roles and responsibilities outlined below are in accordance with the Queensland Health *Public Health Subplan*.

The Chief Health Officer provides strategic leadership across Queensland Health, non-government health services, and local and state government agencies on the Queensland Health response to the COVID-19 pandemic. The Chief Health Officer has the authority to activate the State Health Emergency Coordination Centre (SHECC).

The Chief Health Officer and the Deputy Chief Health Officer together lead the public health response to the COVID-19 pandemic in Queensland.

The Health Service Directive for the management of public health events of state significance has been activated since 20 January 2020, requiring all Hospital and Health Services (HHS) to follow the direction of the Chief Health Officer for the COVID-19 response.

The SHECC has been stood up for the response and is supported by the Public Health Incident Management Team (COVID-19 IMT) and the Compliance Team.

The COVID-19 IMT:

- provides expert public health advice and direction in consultation with the Public Health Unit Network
- contributes to the development of National public health and residential care guidelines to inform the COVID-19 response
- provides infection control advice and direction, in consultation with the Statewide Infection Clinical Network
- provides operational leadership and a coordination role for the public health response to COVID-19 incidents including complex cases, clusters and outbreaks, and incidents in which a public health unit (PHU) requires support from other PHUs and
- provides enhanced surveillance, reporting and risk analysis to help inform the response and control of COVID-19.

The COVID-19 IMT and Compliance Team work together with other areas within Queensland Health and externally with relevant government and non-government agencies and stakeholders to mitigate and manage the risks associated with COVID-19.

3.1 Contact tracing legislative requirements

Contact tracing functions must be performed by appointed contact tracing officers

Public servants performing contact tracing functions to inform the public health management for notifiable conditions must be appointed as contact tracing officers (CTO) to require people to provide information, as per Chapter 3 of the

Public Health Act 2005 (Qld) (the Act). This allows contact tracing data to be included as notifiable conditions information in the Notifiable Conditions Register and to be shared and reported on to inform the **public health response**.

If the employee is not appointed under the Act as a CTO and they perform contact tracing functions, all information must be obtained voluntarily and with informed consent of the case and/or contact. To protect the person's privacy, all employees must follow the privacy principles in the *Information Privacy Act 2009* (Qld). This includes the requirement to provide advice in relation to the purposes for which personal information is collected, held, used and disclosed, before or at the same time as the information is collected. Relying on the case providing information voluntarily could provide a significant barrier to the rapid containment of an outbreak in a hospital setting.

3.2 Roles and responsibilities of the Hospital and Health Service

The roles and responsibilities outlined below are in accordance with the Queensland Health *Public Health Subplan*.

A single confirmed case of COVID-19 in a patient (not managed under recommended transmission-based precautions), staff member or visitor of a hospital where there has been exposure in the facility is classified and defined as an outbreak trigger and requires an immediate response.

In public sector facilities, the HHS must activate and implement its outbreak control plan (OCP) in accordance with the Queensland Health *Guideline for the management of outbreaks of communicable diseases in healthcare facilities*, including the establishment of a hospital Incident Management Team (IMT). The chairperson of the hospital IMT will usually be the Incident Controller of the HHS IMT or the facility site commander, infection control committee chairperson or the HHS Chief Executive (or delegate). In private health facilities, the HHS will provide expert public health advice as required to support the facility's outbreak response.

An immediate and proactive approach to managing the outbreak is required. An initial rapid assessment should identify and confirm the known facts of the incident. This should enable identification, assessment and quarantine of those HCW, patients and visitors who are most likely to be close contacts. This will also allow interim implementation of effective restrictions and service closures.

A more detailed contact assessment to guide subsequent actions should commence immediately. As a starting position, all staff on relevant and overlapping shifts in the relevant geographical workspace should be regarded as potentially at risk and requiring assessment. Potential sources of information might include shift rosters, patient allocation lists, patient documentation and tearoom logs, in addition to interviews with the case and potential contacts. It is important to consider all groups who may have been present –

medical, nursing, allied health, paramedics, pharmacy, cleaners, pastoral care, security, contractors, students, administrative staff and visitors. In addition to face-to-face contact during the course of patient care, other settings such as tearooms, shared work areas, staff working across different areas, changing rooms and bathrooms should be considered as potential locations where transmission may occur.

Among the outbreak management functions, the hospital IMT will oversee the joint public health and facility procedure for case investigation, contact tracing and workplace exposure risk assessment (refer Appendix A), to inform outbreak control strategies. To achieve this, the IMT must:

- access sufficient appointed CTOs to support the response
- request additional CTO resources via the HHS HEOC where these are not immediately available.

Appointed CTOs are required to undertake the following:

- case investigation to ascertain exposure and infectious periods in relation to the facility
- investigation of potential source of infection
- contact tracing in the community
- contact tracing in the facility
- workplace exposure risk assessment for all potential contacts in the facility
- identifying, informing and managing close contacts including referrals for the issuance of quarantine directions, implementing follow-up and monitoring testing compliance and results
- identifying, informing and managing all case contacts
- maintaining a high level of vigilance and surveillance for new cases
- capturing all necessary information in relation to cases and contacts, including adverse outcomes
- maintaining privacy and confidentially in accordance with the *Public Health Act 2005* and the *Information Privacy Act 2009*.

During periods of simultaneous community and hospital case investigations, where large scale contact tracing activity is required, the resources of the IPC teams and PHU are likely to be stretched. The HHS Health Emergency Operations Centre (HEOC) is responsible for ensuring sufficient resources to implement the public health response in a timely and efficient manner, including ensuring sufficient numbers of staff trained in contact tracing and able to be rapidly deployed and appointed to support the outbreak response. Where additional resources from outside of the HHS are required, the HEOC should submit an urgent request for these resources through the State Health Emergency Coordination Centre (SHECC).

3.2.1 Role of the public health unit (PHU) in hospital contact tracing

Case investigation

The PHU will undertake the case investigation, including investigation of potential sources in the community, as outlined in the *Coronavirus Disease 2019 (COVID-19) CDNA National Guidelines for Public Health Units*.

The PHU will interview all confirmed COVID-19 cases and ascertain date of onset of illness, infectious period and exposure period. The PHU will identify contacts in the household and broader community and possible exposure source.

If the case movement investigation determines that there is no risk to the healthcare facility, details about their illness should not be disclosed to that facility.

If the case is found to have been infectious while in the hospital setting, the PHU will undertake the following:

Initial notification

- Ensure the case is aware that the hospital will be notified, and an appointed contact tracing officer (as per hospital IMT) may contact them to gather more information to identify contacts in the hospital setting as per the *Guideline on Management of Outbreaks of Communicable Diseases in healthcare facilities*.
- Urgently advise the COVID-19 IMT of the incident.
- Urgently notify the HHS Health Emergency Operations Centre (HEOC) or equivalent.
- Assist with the initial rapid assessment of the situation to identify urgent actions including immediate removal of high exposure risk HCW and interim implementation of restrictions and service closures, while a more thorough outbreak investigation and response occurs.
- Provide the hospital IMT with the following documents and information:
  - the case and contact data collection tool with the fields required for data entry and follow-up
  - COVID-19 contact phone call script and COVID-19 quarantine fact sheet.
- Provide oversight to information management, including data quality relating to mandatory fields.
- Provide a public health liaison officer to participate in the hospital IMT.
- Identify and provide contact details for the PHU lead and liaison officer to the hospital IMT.
- Provide ongoing support as required for the hospital IMT.

Contact tracing, quarantine and follow-up

- Ensure good information flow between contact tracers in the hospital and the PHU through appropriate information sharing processes.

- Maintain contact information utilising the agreed line listing and entering of data into WorldCare.
- Maintain oversight of contact tracing outcome data including quarantine and testing data
  - Emergency Officers (general), usually situated in the local PHU, will issue quarantine directions together with written information regarding quarantine to all close contacts.
- Confirm mechanism for follow-up of all contacts in quarantine, including symptom checks, compliance checks and testing.
- Notify the hospital IMT of any hospital contact/s in quarantine who develop COVID-19 symptoms, including identified HCW or other staff.

3.2.2 Role of the hospital infection prevention and control unit in hospital contact tracing

The hospital IPC unit will undertake the following:

- Nominate a staff member from the IPC unit to participate in the hospital IMT.
- Identify and provide contact details for the IPC lead to the hospital IMT. The lead or delegate will serve as the liaison person or point of contact between the IPC unit and the hospital IMT during office hours, afterhours, weekends and public holidays.
- Work with the PHU and hospital IMT to facilitate initial rapid assessment to enable identification, assessment and quarantine of those healthcare workers, patients and visitors who are most likely to be close contacts.
- Implement interim restrictions and service closures while a more thorough outbreak investigation and response occurs.
- With the CTO(s) assigned to the response and/or other relevant members of the hospital IMT, lead a detailed assessment of potential exposures and sources of transmission risk, to guide ongoing outbreak control actions across the facility, utilising all relevant sources of information.
- Liaise with the hospital executive to ensure appropriate industrial/human resources processes are in place to exclude close contacts from the hospital and to support those employees.
- Investigate whether the infection may have been acquired within the health service.

3.2.3 Contact tracing

HCW, inpatients and visitors

Following notification by the PHU of a confirmed COVID-19 case who was infectious while in the hospital setting, the role of the hospital IMT is to:

- confirm the movements of the case and contacts in the facility while infectious

- review medical records, electronic medical records, rostering systems, staff swipe card records and other workplace registers (e.g. tearoom registers) to thoroughly determine case movements throughout the facility
- from this information, establish the times and places of concern where transmission may have occurred within the facility, and where relevant define an enclosed space (see matrix Appendix A)
- using the case movement information, compile a line list of potential contacts including inpatients, discharged patients, outpatients and emergency department patients, visitors, HCW and other staff. The line list should contain accurate contact details (as per Appendix E) for groups of people who were potentially exposed:
  - HCW
  - current inpatients
  - patients who have left the facility
  - visitors (where possible) and
  - contractors.

Note that:

- In the event of multiple confirmed cases, a thorough investigation of each individual case is required.
- For multiple confirmed cases, each confirmed case needs a separate line list of potential contacts.

HCW contacts

It is recommended that local investigation and assessment of contacts is initiated within four hours of notification to the health service. To assist in guiding this assessment, *Appendix A: Healthcare Worker Exposure Assessment* is available. HCW should be managed in accordance with the recommendations contained in Appendix A.

Any HCW determined to be a close contact of a confirmed COVID-19 case should be:

- if at work, directed to stop working as soon as safe to do so
- verbally advised that they have been identified as a close contact and that they will be required to quarantine for 14 days from their last known contact with the case and to be tested if they become symptomatic at any time. The HCW will need post-exposure testing on entry to quarantine and at Days 12–14. A negative Day 12–14 result will be required to return to work after 14 days of quarantine have been completed.
- verbally advised that they will be issued with a quarantine direction by the PHU
- provided information (verbally and in fact sheets) regarding quarantine requirements.

It should also be identified if the household contacts of HCW deemed to be close contacts of a COVID-19 case are at higher risk or work in a high-risk setting. The management of these will be determined on a case-by-case basis in consultation with the PHU and an expert advisory group, if necessary.

Following the initial exposure assessment, the PHU will be provided with the HCW contact spreadsheet/details.

HCW who are issued with a quarantine direction will require written information reiterating verbal advice they have received. The unit responsible for the provision of the written advice should be locally determined. The provision of this written advice should be formally recorded.

Inpatient contacts

The hospital IMT will identify contacts for all patients, visitors and staff. They will follow up any patients who are admitted in the healthcare facility until their date of discharge, at which point responsibility for follow-up is handed over to the PHU.

The PHU will issue quarantine directions to all close contacts.

The hospital IMT will:

- initiate local investigation and assessment of inpatient contact within four hours of notification to the health service
- maintain all relevant information on a line listing, which will be shared with the PHU
- verbally advise any inpatient identified through the exposure assessment process as being a close contact of a confirmed COVID-19 case that:
  - they have been identified as a close contact and will be required to quarantine for 14 days from their last known contact with the case and be tested if they become symptomatic at any time
  - they will be issued with a quarantine direction and quarantine information by the PHU
- ensure that any inpatient identified as a close contact is issued with a quarantine direction and isolated in a single room, or as directed by the hospital IPC unit, in accordance with the direction and recommendations contained in the Queensland Health *Interim infection prevention and control guidelines for the management of COVID-19 in healthcare settings*.

Visitors, contractors and discharged patients

The hospital IMT will identify contacts of the identified case, visitors (if possible), contractors and discharged patients. The hospital IMT will:

- initiate a local investigation and assessment of contacts within four hours of notification to the HHS
- maintain all relevant information on a line list, which will be shared with the PHU
- verbally advise any visitor, contractor and discharged inpatient identified through the exposure assessment process as being a close contact of a confirmed COVID-19 case that:
  - they have been identified as a close contact and will be required to quarantine for 14 days from their last known contact with the case and be tested if they become symptomatic at any time
  - they will be issued with a quarantine direction and quarantine information by an authorised Emergency Officer (general), usually situated in the local PHU.

Contact tracing of laboratory services workers

Contact tracing for workers in the laboratory services should be undertaken by the relevant HHS where the service is located.

If the laboratory service is physically located within a hospital campus, the relevant hospital IMT should coordinate contact tracing laboratory services workers.

If the laboratory service is not physically located within a hospital campus, then the PHU where the service is located should coordinate contact tracing of laboratory services workers.

Review

This is an interim guideline and will be reviewed as new information becomes available.

Business area contact

Communicable Diseases Branch

Approval and implementation

Document custodian:

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Version control

Revised document

Version	Date	Prepared by	Comments
1.0	6 January 2021	COVID-19 IMT	New document
1.1	23 February 2021	COVID-19 IMT	Addition of “Review”, “Business area contact” and “Approval and implementation” sections Endorsed by COVID-19 Response Group

Appendix A: Infected healthcare worker COVID-19 exposure assessment

It is important that a contact tracing investigation commences immediately following notification of a COVID-19 case who spent time in a hospital to identify potential exposure to patients, visitors or healthcare workers. Facilities should establish processes to initiate local investigation and assessment of contacts within four hours of notification to the health service.

Tables 1, 2 and 3 are a guide to assist with the immediate exposure assessment. Table 4 outlines the actions to be taken in response to the initial exposure assessment.

Further investigation of an individual's exposure risk may necessitate an escalation in the type response required. Increased risk factors may relate to:

1. Case details: infectious period, exposure period, presence/type of symptoms, any aerosol-generating procedures (AGPs) undertaken, work characteristics, exposure to aerosol-generating behaviours (AGBs) (e.g. shouting).
2. Contact details: proximity to the case, length of time exposed (including accumulated time over the course of seven days), type of healthcare activity undertaken, shared environmental space (significance depends on case symptoms).
3. Personal protective equipment (PPE) use:
    a. mask use by healthcare worker cases and their contacts including during breaks, communal workspaces (nursing stations/clean and dirty utility rooms).
    b. compliance with PPE donning and doffing processes.
    c. Tables 2 and 3 should only be used if the confirmed case is a healthcare worker and was wearing a surgical mask during their infectious period.
4. Environment:
    a. possible significant environmental contamination; for example, from AGPs and AGBs (e.g. shouting, coughing, spitting) or patients with gastrointestinal symptoms of COVID-19 (e.g. diarrhoea)
    b. hand hygiene products available at point of use
    c. shared equipment (computers, phones) and use of communal spaces (tea rooms/workstations/offices)
    d. cleaning processes, frequency, efficiency and local procedures
    e. availability of cleaning products to clean and disinfect shared equipment and high touch surfaces in communal spaces (e.g. tea rooms/workstations/offices)
    f. ventilation and air handling systems
5. Staff mobility: HCW working at more than one facility, highly mobile staff within facility; e. g. patient support officer.

Table 1. Matrix for assessment of healthcare worker exposed to confirmed case of COVID-19 infection

From the period of 48 hours before onset of symptoms until the case is no longer infectious		**Aerosol generating procedures/Aerosol generating behaviours**	**Direct/close contact** ≥15 minutes cumulative during the infectious period[1] AND <1.5 m to case OR >2 hours in a closed space	**Limited confined space contact** <2 hours in a closed space		**Limited face to face contact (cumulative over 1 week)** <15 minutes cumulative during the infectious period[1]		**Transient contact (large area)** No direct contact with the case
				>1.5 m to case	**<1.5 m to case**	**>1.5 m to case**	**<1.5 m to case**	
HCW PPE use[1]	No PPE							
	Surgical mask2 or P2/N95 only		3					
	Surgical mask2 or P2/N95 and eye protection only		3					
	Other PPE concerns e.g. incorrect PPE removal		3					
	Full PPE as per QH guidelines							

[1] The infectious period is considered the period 48 hours before onset of symptoms until the case is no longer infectious.
[2] Surgical mask means any single use face mask that is registered by the Therapeutic Goods Administration as level 1, level 2 or level 3 barrier protection.
[3] Further detailed assessment of fomite contamination of the environment is required and should be conducted on a case-by-case basis. It is important this is completed as soon as practicable after the initial exposure assessment to guide a detailed examination of likely exposure and subsequent transmission risk.

Table legend

Exposure assessment	Casual/limited contact	Contact	Close contact

Table 2. Face-to-face contact assessment: Healthcare worker COVID-19 assessment in the setting of healthcare worker universal masking[1]

Only use this table when the confirmed case is a healthcare worker.

Confirmed case who is also a healthcare worker	Face-to-face contact					
			Exposed healthcare worker			
			<15 min		>15 min	
			Mask[1] on	Mask[1] off	Mask[1] on	Mask[1] off
	Symptomatic (cough)	Mask[1] on				
		Mask[1] off				
	Asymptomatic	Mask[1] on				2
		Mask[1] off				

Table 3. Shared enclosed space contact assessment: Healthcare worker COVID-19 assessment in the setting of healthcare worker universal masking[1]

Only use this table when the confirmed case is a healthcare worker.

Confirmed case who is also a healthcare worker	Shared enclosed space (cumulative over 1 week)												
			Exposed healthcare worker										
			<15 min				15 min–2 hour				>2 hours		
			>1.5m		<1.5m		>1.5m		<1.5m		>1.5m		<1.5m	
			Mask[1] on	Mask[1] off	Mask[1] on	Mask[1] off	Mask[1] on	Mask[1] off	Mask[1] on	Mask[1] off	Mask[1] on	Mask[1] off	Mask[1] on	Mask[1] off
	Symptomatic (Cough)	Mask[1] on					2			2				2
		Mask[1] off												
	Asymptomatic	Mask[1] on												2
		Mask[1] off									2	2	2	

[1] The terms universal masking and mask refer to the use of a single use face mask that is registered by the Therapeutic Goods Administration as level 1, level 2 or level 3 barrier protection.
[2] Further detailed assessment of fomite contamination of the environment is required and should be conducted on a case-by-case basis. It is important this is completed as soon as practicable after the initial exposure assessment to guide a detailed examination of likely exposure and subsequent transmission risk.

Table 4. Response to exposure assessment

	Casual/limited contact	Contact	Close contact
Action	• Continue to work • HCW alert to mild symptoms and to stop work if these develop • HCW to be tested if symptomatic at any time (HCW is not to return to work until result is available) • Offer testing post-exposure Days 3, 7 and 10 (HCW can continue to work pending result if asymptomatic) • Routine syndromic screening	• Continue to work if asymptomatic but may be furloughed at the discretion of the line manager and/or hospital executive. • Surgical mask to be worn at all times when working • If work role permits, consider work from home • HCW alert to mild symptoms and to stop work if these develop • HCW to be tested if symptomatic at any time (HCW is not to return to work until result is available) • Testing regime post-exposure Days 3, 7, 10 (HCW can continue to work pending result if asymptomatic) • Routine syndromic screening	• Quarantine for 14 days • Test if symptomatic at any time • Testing regime post-exposure Days 3, 10 • Negative result required for return to work (specimen collected no earlier than Day 10)

Appendix B: Example healthcare worker COVID-19 occupational exposure assessment form

The following example occupational exposure assessment form has been developed to assist in identifying occupational sources of COVID-19 infection in healthcare workers (HCW). **This is an example form only.**

Any personal information collected by Queensland Health must be handled in accordance with the *Information Privacy Act 2009*. All personal information that is collected must be securely stored and only accessible by authorised Queensland Health staff.

Part 1: COVID-19 exposure assessment

Details of case interview	
Name of interviewer:	
Interview date:	
Interview phone number:	
Public Health Unit contact details	
A. Has a potential source of COVID-19 infection been identified from contact tracing performed by the Public Health Unit?	☐ Yes ☐ No
B. In last 14 days prior to onset of symptoms (or 14 days prior to testing if asymptomatic), did the HCW have any workplace contact with a confirmed COVID-19 case?	☐ Yes ☐ No

If answer is **Yes** to question A, liaise with the Public Health Unit for likely COVID-19 exposure and the need to investigate possible workplace exposure.

If answer is **No** to question A, proceed to question B.

If answer is **Yes** to question B, proceed to Part 2 of the exposure assessment form.

If answer is **No** to question B, refer the case to the Public Health Unit.

Part 2 of this assessment tool will assist to gather information regarding workplace exposure.

Part 2: Healthcare worker occupational exposure information

Collect information for the 14 days prior to illness onset (or in the case of asymptomatic HCW, the 14 days prior to their specimen collection date) for each facility where the HCW has worked.

Healthcare worker case demographic information	
Last name:	
First name:	
Date of birth:	
Sex:	☐ Male ☐ Female ☐ Prefer not to answer
Home address:	
Mobile phone number:	
Private email address:	
Other phone number:	
Facility 1 details	
Facility name	
Facility address	
Healthcare worker category	☐ Medical doctor ☐ Nurse ☐ Allied Health, please specify: _____ ☐ Paramedic ☐ Aged care worker ☐ Student ☐ Laboratory scientist ☐ Aboriginal health worker ☐ Patient support officer ☐ Food service staff ☐ Dental clinician, please specify: _____

	☐ Other non-clinical, please specify: _____ ☐ Other healthcare role, please specify: _____ o Unknown, please specify: _____
Healthcare facility type	☐ Hospital ☐ Geriatric rehabilitation unit ☐ Aged care facility ☐ COVID-19 respiratory testing clinic ☐ General practice ☐ Other healthcare setting ☐ Queensland Ambulance Service ☐ Laboratory ☐ Unknown, please specify: _____
Usual work location in the facility	Tick all that apply: ☐ COVID-19 treatment ward ☐ Fever clinic ☐ Infectious diseases unit ☐ Respiratory ward ☐ Outpatients ☐ Emergency ☐ General medical ward ☐ Intensive care unit ☐ Cleaning/porterage services ☐ Laboratory ☐ Pharmacy ☐ Other, specify:
Have you worked in any other area of the facility other than your usual work area/s in the 48 hours before the onset of symptoms, or after the onset of symptoms?	☐ Yes ☐ No If yes, please specify:

Have you worked in another facility?	☐ Yes ☐ No If yes, please collect information regarding the additional facilities on a new table.
Is there a designated COVID-19 ward in the facility?	☐ Yes ☐ No
Have you worked in the designated COVID-19 ward in the 14 days before your symptoms commenced or your positive result?	☐ Yes ☐ No
Do staff from the COVID-19 ward mix with staff from other areas, e.g. tearoom facilities, fatigue relief?	☐ Yes ☐ No If yes, provide further details

Healthcare worker case interactions with previous COVID-19 patients	
In the 14 days before your symptoms commenced or your positive result, please list the dates you have had interactions with a COVID-19 case	Date (DD/MM/YYYY): ___/___/_____ Date (DD/MM/YYYY): ___/___/_____ Date (DD/MM/YYYY): ___/___/_____ ☐ Not known
UR number of patient (if known)	
Name of facility where this interaction occurred (for multiple facilities, please collect this data separately for each)	
Did you have interactions with multiple COVID-19 cases in this facility?	☐ Yes ☐ No If yes, please provide the number of patients (approximate if exact number unknown)

Healthcare worker case interactions with COVID-19 positive colleagues	
In the 14 days before your symptoms commenced or your positive result, please	Date (DD/MM/YYYY): ___/___/_____ Date (DD/MM/YYYY): ___/___/_____

list the dates you have had interactions with a COVID-19 positive colleague	Date (DD/MM/YYYY): ___/___/_____ □ Not known
Name of facility where this interaction occurred (for multiple facilities, please collect this data separately for each)	
Please list any locations in the facility of this interaction, e.g. during patient care, tearoom, nurses' station, clean utility, canteen, etc.	

Activities and procedures the healthcare worker was involved with on COVID-19 patients in the facility. Please complete a new table for each facility where relevant.	
Facility name	
Facility address	
Did you provide direct care to a confirmed COVID-19 patient?	☐ Yes ☐ No ☐ Unknown
Did you have face-to-face contact (<1.5 metre) with a confirmed COVID-19 case in the facility?	☐ Yes ☐ No ☐ Unknown
Were you present when any aerosol-generating procedures were performed on the patient?	☐ Yes ☐ No ☐ Unknown If yes, please select all that apply. ☐ Tracheal intubation and extubation ☐ Ear nose throat surgery ☐ Open airway suctioning ☐ Tracheotomy ☐ Bronchoscopy ☐ Intercostal catheter insertion ☐ Procedures in the oral cavity or respiratory tract involving high-speed devices (surgical or post-mortem) ☐ Other respiratory interventions: ☐ High-flow nasal oxygen

	☐ Administration of aerosolised/nebulised medication ☐ Manual ventilation ☐ Non-invasive ventilation ☐ Induced collection of sputum o Disconnecting/reconnecting the patient from a closed-circuit ventilator ☐ Inadvertent disconnection of ventilator circuits, e.g. during turning critically ill patients to the prone position ☐ Dental procedures, including use of triplex syringe, high and low speed drilling and ultrasonic scaling (this is not an exhaustive list) please specify_____ ☐ Other (specify):
Were you present when a confirmed or suspected COVID-19 case was displaying challenging behaviours (e.g. yelling, coughing, spitting)?	☐ Yes ☐ No
Did you have direct contact with the environment where the confirmed COVID-19 patient was cared for? (e.g. bed, linen, medical equipment, bathroom, etc)	☐ Yes ☐ No
If yes to the question above, was PPE worn?	☐ Yes ☐ No

Infection prevention and control measures used by case during healthcare interactions When applicable for the following questions, please quantify the frequency with which you wore PPE: Always > 95% of the time Most of the time 50% to 95% of the time Occasionally means 20% to 49% of the time Rarely means less than 20% of the time	
During a healthcare interaction with a COVID-19 positive patient, did you wear	☐ Yes ☐ No

personal protective equipment (PPE) during the patient's infectious period?	If yes, please indicate PPE use during COVID-19 patient interactions
Single-use gloves	☐ Always ☐ Most of the time ☐ Occasionally o Rarely
Surgical mask	☐ Always ☐ Most of the time ☐ Occasionally ☐ Rarely
Fit checked P2/N95 respirator	☐ Always ☐ Most of the time ☐ Occasionally ☐ Rarely
Eye protection such as face shield, visor, goggles	☐ Always ☐ Most of the time ☐ Occasionally ☐ Rarely
Disposable long-sleeved impermeable gown	☐ Always ☐ Most of the time ☐ Occasionally ☐ Rarely
Disposable plastic apron	☐ Always ☐ Most of the time ☐ Occasionally ☐ Rarely
Was there a PPE observer present during fitting and removal?	☐ Yes ☐ No
If yes to the above, were any PPE fitting and removal breaches recorded?	☐ Yes ☐ No

List the average period of time that PPE was worn for continuous periods when providing care for patients with suspected or confirmed COVID-19.	

Appendix C: Frequently asked questions

Who should undertake the exposure assessment?

The hospital IMT will determine who will perform the exposure assessment. Ideally, the assessment will be conducted by experienced infection control staff within the structure of an incident/outbreak management team.

Why should local investigation and assessment of exposure be initiated within 4 hours of health service notification?

When notified of a confirmed case of COVID-19 within a hospital, it is important that exposure assessment and initial action is undertaken immediately.

To further mitigate disease transmission, a detailed assessment should be undertaken.

Why do the results of the exposure assessment need to be reported to the Queensland Department of Health?

Sharing the results of the exposure assessment can add to the overall knowledge regarding the disease transmission to healthcare workers and assist with workforce planning.

What is the definition of a close contact?

For the current definition of a close contact please refer to the Coronavirus Diseases 2019 (COVID-19) CDNA National Guidelines for Public Health Units https://www1.health.gov.au/internet/main/publishing.nsf/Content/cdna-song-novel-coronavirus.htm

What if the confirmed case was asymptomatic?

Consistent with the Coronavirus Diseases 2019 (COVID-19) *CDNA National Guidelines for Public Health Units*, if no historical symptoms are identified, then for the purposes of contact tracing, the case is considered to have been infectious for 48 hours prior to the initial positive test.

What is the definition of an aerosol generating procedure?

For examples of high-risk aerosol generating procedures please refer to the *Guidance on the use of personal protective equipment (PPE) in hospitals during the COVID-19 outbreak*

https://www.health.gov.au/resources/publications/guidance-on-the-use-of-personal-protective-equipment-ppe-in-hospitals-during-the-covid-19-outbreak

It is important to note that the collection of a nasopharyngeal swab is not considered an aerosol generating procedure.

What if the confirmed case was wearing a surgical mask?

If the confirmed case was wearing a surgical mask for their infectious period **AND** is a healthcare worker, please refer to Tables 2 and 3. It is advised not to use Tables 2 and 3 for confirmed cases that are not healthcare workers.

Why test close contact exposures at Days 12 – 14??

The current evidence suggests the mean incubation period to be between 5–7 days. A testing regime will give greater confidence to both healthcare workers and their employers that infection will be detected early even if the HCW is asymptomatic. If the healthcare worker becomes symptomatic at any time, they should be tested. Testing at Days 12–14 is also consistent with current close contact testing advice. If the healthcare worker becomes symptomatic at any time, they should be tested.

Why a testing regime for 'orange' contact exposures (see Table 4) at Days 3, 7 and 10?

The current evidence suggests the mean incubation period to be between 5–7 days, with a range of 14 days. A testing regime will give greater confidence to both healthcare workers and their employers that infection will be detected early even if the HCW is asymptomatic. If the healthcare worker becomes symptomatic at any time, they should be tested.

Why syndromic screening of healthcare workers?

Syndromic screening is a valuable early warning tool. It involves temperature and symptom screening of HCW of COVID-19.

What if a healthcare worker who has been exposed works at more than one hospital or other healthcare service?

It is the responsibility of the healthcare worker who has been exposed to notify any other healthcare service where they work of their exposure and the outcome of their exposure assessment. The PHU is responsible to follow up the case, identify other high-risk settings and provide advice of necessary public health actions.

What if the confirmed case is a highly mobile healthcare worker, e.g. patient support officer within the facility?

It is important to determine all areas of the facility that the confirmed case may have spent time. If available, a map of the facility (such as those used to identify evacuation points) may be useful to identify case locations.

What about shared clinical equipment and other equipment such as computers, telephones?

An assessment of shared equipment should be undertaken in conjunction with the *Coronavirus (COVID-19) Environmental cleaning and disinfection principles for health and residential care facilities* https://www.health.gov.au/resources/publications/coronavirus-covid-19-environmental-cleaning-and-disinfection-principles-for-health-and-residential-care-facilities

What about the use of communal spaces such as tea rooms and offices?

An assessment of communal spaces should be undertaken in conjunction with the *Coronavirus (COVID-19) Environmental cleaning and disinfection principles for health and residential care facilities* https://www.health.gov.au/resources/publications/coronavirus-covid-19-environmental-cleaning-and-disinfection-principles-for-health-and-residential-care-facilities.

Masks need to be correctly removed and disposed of for eating and drinking and this is permitted, necessary and safe. It is important to limit the duration that the mask is removed to help minimise any potential risk of exposure. Staff must practice physical distancing when on meal breaks when their mask is not in place.

Appendix D: Healthcare COVID-19 exposure assessment definitions

Purpose

The definitions below may be used for local healthcare infection surveillance programs and will provide a consistent approach to surveillance between facilities. This document aims to assist the person undertaking an exposure assessment to understand exposure terminology.

These definitions are not intended to replace individual clinical assessments by treating clinicians for the purpose of patient care (including of HCW), nor determination of whether an individual HCW is eligible for WorkCover.

Part 1: COVID-19 infection

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the infective agent that causes coronavirus disease 2019 (COVID-19). The infectious period is still being determined; however, there are multiple studies suggesting that pre-symptomatic, and possibly asymptomatic, transmission occurs 1–3 days before symptom onset. The average incubation period is 5–6 days with an upper limit of 14 days, but some people can be infectious much earlier following the exposure. As a precautionary approach, cases are considered infectious from 48 hours prior to onset of symptoms.

COVID-19 may present with one or more of the following symptoms:

- fever
- cough
- headache
- sore throat
- fatigue
- shortness of breath
- myalgia
- anosmia
- dysgeusia
- rhinorrhoea
- chills
- vomiting
- chest pain
- diarrhoea
- conjunctivitis.

Part 2: Likely place of acquisition

Healthcare acquisition

The following criteria should be met to define a confirmed case of healthcare-acquired COVID-19:

- Laboratory confirmation of acute SARS-CoV-2 infection
- There is no plausible community exposure

  AND

- There has been at least one confirmed COVID-19 case in the healthcare setting within the previous 14 days

  AND

  For inpatients:

  Symptom onset is within 14 days of admission and up to 14 days after discharge (if asymptomatic, use first positive specimen collection date as onset date)

  For HCW:

- The HCW worked in a healthcare setting at any time during the 14 days prior to symptom onset

  AND

  – cared for COVID-19 patients in any area of the healthcare setting

  OR

  – shared communal areas (such as tea rooms or office space) with other staff.

  For visitors, contractors and discharged patients:

- The person was in a healthcare setting at any time during the 14 days prior to the symptom onset

  AND

  – had contact with COVID-19 patients in any area of the healthcare setting

  OR

  – shared communal areas (such as tea rooms, office space) with other staff in an area of the healthcare setting.

Probable healthcare acquisition

The following criteria should be met to define a probable case of healthcare-acquired COVID-19:

- Laboratory confirmation of acute SARS-CoV-2 infection.
- There is no plausible exposure in the community

  AND

  For inpatients:

- is not a resident of, and has not been to, an area with community transmission

  AND

symptom onset up to 14 days after discharge (if asymptomatic, use first positive specimen collection date as onset date)

For HCW:

- is not a resident of, and has not been to, an area with community transmission

  AND

- symptom onset (if asymptomatic, use first positive specimen collection date as onset date) up to 14 days after either:
  - having cared for COVID-19 patients in any area of the healthcare setting

    OR
  - having shared communal areas with other staff in an area of the healthcare setting with at least one confirmed COVID-19 case within the previous 14 days.

For visitors, contractors and discharged patients:

- The person is not a resident of, and has not been to, an area with community transmission

  AND

  - had contact with COVID-19 patients in any area of the healthcare setting

    OR
  - shared communal areas with other staff in an area of the healthcare setting.

Community acquisition

The following criteria should be met to define a confirmed case of community-acquired COVID-19:

- Laboratory confirmation of acute SARS-CoV-2 infection
- There is no known healthcare exposure within the previous 14 days.

Appendix E: COVID-19 sample line listing template

This line listing template example has been developed to assist in identifying contacts and close contacts of a confirmed COVID-19 patient and staff in hospitals.

Any personal information collected by Queensland Health must be handled in accordance with the *Information Privacy Act 2009*. All personal information that is collected must be securely stored and only accessible by authorised Queensland Health staff.

Date: *10 Oct 2020*		HHS: *Metro North*			Hospital name: *The Prince Charles Hospital*				Prepared and reported by: *Name of nominated contact tracing officer* Designation: *Registered Nurse* Email: Registered.Nurse@health.qld.gov.au Contact details: *3649-5287*						
Group event #	Type of contact	Last name	First name	Date of birth	Address	Suburb	Post code	Mobile no:	Phone no:	Email	Exposure date	Exposure source	Exposure source details	Date of contact	Comments
#001 TPCH	*Close contact*	*Hambro*	*Al*	*10/12/95*	*43 Autumn St*	*Clayfield*	*4010*	*0411 3258*	*3268-5419*	*xxxx*	*12/12/20*	*Patient*	*xxxxxx*	*10/12/20*	

Appendix F: Definitions

Term	Definition
Close contact	Please refer to the CDNA guidelines for the current definition of close contact. In accordance with the *Coronavirus Disease 2019 (COVID-19) CDNA National Guidelines for Public Health Units*, all persons in a hospital identified as having had potential contact with a case should be assessed to determine their exposure risk. HCW and other contacts who have been assessed as having followed recommended infection prevention and control precautions, including the use of recommended PPE, while in contact with a confirmed or probable COVID-19 case are to have their exposure risk assessed to guide requirements for quarantine and/or work restrictions. Those determined to have high exposure risk will be deemed to be close contacts and should be quarantined for 14 days. Contacts determined to have low exposure risk are able to continue to work, with appropriate advice and support, being alert to mild symptoms and taking immediate action (isolation and testing) in the event symptoms occur. Where the exposure risk is deemed to be indeterminate, options should be considered on a case-by-case basis. Refer to Appendix A: Healthcare worker *Exposure Assessment* to assess HCW exposure and Appendix B: *Example healthcare worker COVID-19 occupational exposure assessment form* to assist with exposure investigation.
Contact tracing	Contact tracing is the process of identifying relevant contacts of a person (the case) with a notifiable condition and ensuring that they are aware of their exposure; the risk of acquiring COVID-19 infection; and any public health actions that are recommended or required under public health legislation, which may include quarantine.
Contact tracing officer	The *Public Health Act 2005* (QLD) requires that only appointed CTOs undertake contact tracing functions and exercise a power under the legislation. Thus, it is considered crucial that anyone conducting contact tracing functions under the *Public Health Act 2005* (QLD) is appointed as a CTO. Any reference to a contact tracing officer means a CTO appointed under Section 90 of the *Public Health Act 2005* (QLD).

Emergency officer	Emergency officers (general) is a person appointed under the Act to undertake certain duties. The appointed person may give a person a direction to stay at or in a stated place for a stated period of not more than 14 days (periods beyond this require a new direction). An emergency officer (general) may also give a person a direction if the emergency officer (general) reasonably believes the direction is necessary to assist in containing, or to respond to, the spread of COVID-19 within the community.
Healthcare worker (HCW)	For the purpose of this guideline a HCW is a worker* who has direct or indirect contact with patients or infectious materials, including but not restricted to doctor, nurse, patient support officer, paramedic, laboratory technician, pharmacist, administrative staff and housekeeping. The definition of worker* is as per the *Work Health and Safety Act 2011* (QLD) Section 7.
Outbreak in a healthcare facility/setting	A single confirmed case of COVID-19 in a patient (not managed under recommended transmission-based precautions), staff member or visitor of a hospital where the exposure is suspected to have occurred in the hospital is classified and defined as an outbreak trigger. This applies to inpatients and outpatients, clinical and non-clinical staff and attendees of a hospital, such as visitors or external consultants. An outbreak may be confined to any area of the facility or the entire facility and a scaled response can be implemented accordingly.