



Special Commission of Inquiry into the Ruby Princess

# EXHIBIT 98

Statement of Professor Andrew Wilson dated 10 June 2020 (with annexures)

## STATEMENT OF PROFESSOR ANDREW WILSON

1. I am the Co-Director of the Menzies Centre for Health Policy at the University of Sydney. I am a public health physician and have a PhD in epidemiology. From 1997 until 2001, I was the Chief Health Officer and Deputy Director General Public Health, NSW Health. From 2006 until 2010, I was the Deputy Director General Policy, Strategy and Resourcing, Queensland Health. My curriculum vitae is annexed to this statement and marked "A".
2. In late March 2020, I was requested by NSW Health to conduct a "desktop review" of the "NSW Health Report on the Ruby Princess Cruise of 8 March to 19 March 2020" (**Ruby Princess Report**). A copy of the Ruby Princess Report, and the documents that form Appendix 1 to 7 as referred to in the report, are annexed to this statement and marked "B". Annexure "C" to this statement is a copy of my Review of the Ruby Princess Report dated 2 April 2020 (**my Review**).
3. I have been asked by the Special Commission of Inquiry into the Ruby Princess (**SCI**) to provide some matters of clarification to my Review.

### My Review

4. In [6] of my Review, I refer to the "broader Communicable Diseases Network of Australia definition of a suspect case".
5. The Communicable Diseases Network of Australia (**CDNA**) is a sub-committee of the Australian Public Health Protection Principal Committee (**AHPPC**) of the Commonwealth Department of Health. Amongst the policy objectives for the CDNA is for it to "*develop and co-ordinate national surveillance programs for communicable*

*diseases” and to “develop policy, strategy and advice on the prevention and control of communicable diseases”.*

The CDNA “suspect case” definition I referred to was the one published by the CDNA on 10 March 2020 (see annexure “D”), which relevantly defined a “suspect case” for what I will call Covid-19 (the disease caused by the SARS-CoV-2 virus) as: “If the patient satisfies **epidemiological AND clinical criteria**, they are classified as a suspect case.

#### **Epidemiological criteria**

- International travel in the 14 days before the onset of illness.
- Or
- Close contact (see close and casual contact definitions below) in the 14 days before illness onset with a confirmed case of COVID-19.

#### **Clinical criteria**

- Fever
- Or
- Acute respiratory infection (e.g. shortness of breath, cough or sore throat) with or without fever.”

6. I refer to the **Pre-arrival risk assessment form** (Appendix 7 - undated but showing expected arrival date and time of 19 March 2020 6.00am). This indicates that 104 passengers and crew from the ship had reported to the medical centre with “acute respiratory disease”, of whom 36 had reported symptoms of “influenza like illness” (or 0.94 % of passengers and crew). (Note that the NSW Health Report indicated that 2 passengers were duplicates, so the total number was 102 and this is the number

quoted in my Report). The pre-arrival risk assessment form records that no passengers or crew reported having been in mainland China, Iran, South Korea or Italy within 14 days of embarking (the Covid-19 alert countries at the time) and that no ill passengers and crew had been in countries included in the Australian Covid-19 testing criteria in the 14 days before embarkation. However it does not record how many met the broader CDNA criteria of 'international travel'. In the NSW Health report 32 of 102 were identified from the ship's acute respiratory illness log as having a country of residence other than Australia. Potentially any passenger or crew with fever or acute respiratory illness and who had international travel within 14 days of joining the ship would constitute a 'suspect' case by the CDNA definition.

7. In [7] of my Review, I have referred to the "National Protocol for Managing Novel Coronavirus Disease (Covid-19 Risk from Cruise Ships" (**National Protocol**) published by the Commonwealth Department of Health on 6 March 2020. On pages 3 and 4 of the National Protocol, eight criteria are suggested for consideration by public health units to "inform their risk management strategy". As to the "itinerary" and "travel history of any person on-board", the criteria are more specific than the "epidemiological criteria" for a suspect case in the CDNA definition published on 10 March. Of further note, the National Protocol suggests that one criterion should be:

*"whether the number of cases presenting with influenza-like illness (ILI) exceeds that expected for the specific itinerary and season (i.e. potential outbreak)"*

*Potential outbreak" is defined as "outbreaks of influenza or ILI ( $\geq 1\%$ ) among passengers or crew members".*

8. The reference in this proposed criterion to “influenza-like illness” is also not as broad as the “clinical criteria” for a “suspect case” in the CDNA definition of 10 March, in that the CDNA definition refers to “acute respiratory infection...with or without fever”. The description “influenza-like illness” would normally be a reference to a person with symptoms or signs of acute respiratory disease, but also with some level of fever or raised temperature.
9. The reference to “*outbreaks of influenza or ILI ( $\geq 1\%$ )*” in the National Protocol can be contrasted to the language used in the 19 February 2020 draft of the NSW Health “Cruise Ship Covid-19 Assessment Procedure for Ports of First Entry into Australia”, which uses the term “*a respiratory outbreak (affecting at least 1% of those on board)*”. In similar terms, the NSW Government “Enhanced Covid-19 Procedures for the Cruise Line Industry” dated 9 March 2020 required cruise ships to provide NSW Health at least 24 hours before arrival at a NSW Port with a “*full ARD log (including details of patients presenting with fever **OR** ARI **OR** both)*”. This indicates to me that NSW Health were interested in the number of passengers or crew with symptoms of an acute respiratory illness but who did not have a fever, as well as passengers and crew who did have a fever. This seems consistent with the “clinical criteria” for a “suspect case” in the CDNA definition of 10 March 2020.
10. However, I note from the “pre-arrival risk assessment form” for the Ruby Princess and its arrival in Sydney on 19 March 2020, that while 104 passengers and crew were identified as having presented to the ship’s medical clinic with “acute respiratory illness”, 36 (or 0.94% of those on board) were identified as having had “influenza-like illness”. From the information available to me, it appears as though this lower figure (0.94%) was used in the assessment to determine a “low risk” for this ship in terms of

Covid-19. As international travel would include the cruise port calls in New Zealand then use of the CDNA definition of “suspect case” (international travel in the last 14 days, and acute respiratory infection, with or without a fever) would have resulted in the 0.94% figure being higher (potentially 2.7%, or higher if one has regard to the 20 March ARD log that was only provided to NSW Health by the ship’s doctor the day following its arrival in Sydney).

11. I refer to the phrase “a more cautious approach” in [7] of my Review. Consistent with my recommendation in [8a], should similar circumstances present themselves again in relation to a pandemic such as Covid-19, where persons with the disease may not be febrile (or may not have a temperature considered to be “febrile”, which itself introduces more uncertainty as to the precise temperature considered to constitute “fever”, as well as the accuracy and time that a temperature is recorded), and where asymptomatic transmission is possible, that more cautious approach, in my view, should be adopted. That is, in my view it would have been preferable to make an assessment of risk with the broader CDNA definition for suspect cases of Covid-19, particularly where there is a concern about a new virus about which the clinical characteristics were still poorly understood. I consider this to be particularly important from a public health risk point of view, when our knowledge and understanding of a disease is necessarily limited.

Dated: 10 June 2020



## **Professor Andrew Wilson**

Professor Wilson is Co-Director of the Menzies Centre for Health Policy, Co-Director of the NHMRC Australian Prevention Partnership Centre (Sax Institute) and Professor of Public Health in the Sydney School of Public Health. He is the Chair of the Pharmaceutical Benefits Advisory Committee for the Australian Government.

He has specialist qualifications in clinical medicine and public health, and a PhD in epidemiology. His research interests concern the application of epidemiology to informing decision making in clinical medicine, public health, and health system policy and planning. These include aspects of prevention and management of chronic disease, evaluation of the effectiveness and responsiveness of health care and the impact of social and physical environment on health.

He is chief investigator and Co-Director of the NHMRC Partnership Centre on Systems Perspectives on Prevention of Lifestyle related Chronic Conditions commencing in 2013. In 2017 the Centre was awarded \$10M from the Medical Research Futures Fund for additional prevention projects. He is a co-investigator on NHMRC grants for the Centre for Research Excellence on implementation for community chronic disease prevention, and projects 'Combating escalating harms associated with pharmaceutical opioid use' and 'Can One Health Strategies be more effectively implemented through prior identification of public values?'.

He has published 45 peer-reviewed in the past 5 years. His research has been published in high impact journals such as Emerging Infectious Diseases, Circulation, Social Science and Medicine, Stroke, JAMA, and the American Journal of Epidemiology. He has also published in more policy relevant journals such as BMC Public Health, BMJ Open, Human Resources for Health, Public Health Research and Practice, Australian Health Review, Australian NZ Journal of Public Health, and MJA. He is an author of many commissioned research reports and reviews including 2 national reviews, in 2015 on the Life Saving Drug Program (for the Commonwealth Department of Health), and of the medical internship (for the Australian Health Ministers Advisory Committee).

He is principal supervisor for 4 PhD candidates. He teaches into 3 units in the Master of Health Policy.

He is a member of a senior officials working group from 20 OECD countries meeting on pharmaceutical policy issues and was a technical advisor to the WHO Pacific Region Office on access to medicines under universal health care.

He has extensive experience in developing micro and macro level policies in public health and healthcare including the ways that research can best inform such policy development. As Chief Health Officer and Deputy Director General Public Health, NSW Health (1997-2001), his responsibilities included policy development and service planning and coordination in AIDS and infectious diseases, health surveillance, drug dependency treatment and prevention programs, environmental health and food safety, pharmaceutical and private healthcare facility regulation, and health promotion. He directed and managed national health priorities responses, managed and coordinated responses to issues such as cryptosporidium in the Sydney water supply, adverse coronial inquires into deaths associated with health

care facilities, and disaster preparedness and response, for example, for the Sydney Olympic Games.

As Deputy Director General Policy, Strategy and Resourcing, Queensland Health (2006-2010), his responsibilities included overall policy coordination, health service and clinical workforce planning and inter and intra government relations. Specific areas of responsibility included maternal and child health, indigenous health, cancer services, oral health, women's health, older persons health and residential age care, community health services, rehabilitation and sub-acute care, palliative care, rural and remote health and clinical training and education.

At a national level he has been involved in policy development through national committee work such as the Australian Health Minister Advisory Committee, the National Public Health Partnership, the Pharmaceutical Benefits Advisory Committee, the Medical Services Advisory Committee and through commissioned consultancies and reviews. He chaired the 2002 review of the National HIV and Hepatitis C strategy.

His past academic appointments include Executive Dean, Faculty of Health, Queensland University of Technology; Professor of Public Health, and Deputy Head of the School of Population Health, acting Director of the Centre for Military and Veterans Health and Deputy Dean and Director of Research, Faculty of Health Sciences, University of Queensland.

He is a board member of the joint board for the NSW Agency for Clinical Innovation and the Clinical Excellence Commission and a board member of the WaterNSW.

He has previously served as a member of the Repatriation Medical Authority (Department of Veterans Affairs), the Medical Services Advisory Committee, the Medical Board of NSW, the NHMRC, and as a Board member of Garvin Institute for Medical Research, Health Workforce Australia, Greater Brisbane South Medicare Local and Metro South Hospital and Health Service.



# NSW Health Report on the Ruby Princess Cruise of 8 to 19 March 2020

## Key Points

- NSW Health had enhanced risk assessment processing in place to assist the Commonwealth in assessing passengers arriving from international waters on cruise ships. This process was in place from February 2020 (and was applied typically to between 1 and 3 ships daily) and went far beyond the processes in most other jurisdictions at that time. The risk assessment process included a review of information about disease on the ship and a review by a panel of public health physicians.
- The decision to allow a ship to enter a port in NSW involves multiple agencies at both State and Federal levels.
- The Ruby Princess Cruise ship departed Sydney on 8 March to cruise around New Zealand and returned to Sydney on 19 March 2020.
- As a large community with many thousands of people living in an enclosed environment, it is very common for cruise ships to have low levels of respiratory infections among passengers and crew. Outbreaks of influenza are common and can often affect a large proportion of those on board.
- International experience shows COVID-19 can rapidly spread among passengers if left on board, so self-isolation at home is a much safer option than leaving passengers on board. NSW Health had developed plans for the removal of passengers should COVID-19 be identified on board a cruise ship. Following a low risk assessment, passengers were allowed to disembark, provided contact details were available from the ship to allow them to be rapidly contacted in case COVID-19 was subsequently identified on board.
- At the time of docking, disease rates on board were below the 1 per cent threshold previously set to identify outbreaks of influenza like illness, and no passengers or crew had been diagnosed or reported to Health Protection NSW to have COVID-19.
- Influenza had been detected among several passengers during the cruise indicating that influenza was the likely cause of respiratory illness on board the ship.
- Samples taken from five people on board the ship were reported to have tested negative for COVID-19 in Wellington NZ during the cruise.
- The Ruby Princess doctor reported that 102 of the 3795 people on board had reported an acute respiratory infection at some time during the cruise, including 36 who reported an influenza-like illness (ILI). A total of 48 patients had been tested for influenza of whom 24 tested positive. The ship's doctor indicated that they had kept 10 respiratory swabs available for further testing.
- An officer of the Australian Department of Agriculture, Water and the Environment handed disembarking passengers a quarantine card, and reinforced that they needed to be quarantined for 14 days after disembarkation.
- Swabs taken for influenza testing were tested for COVID-19 as an added precaution, and they tested positive on 20 March 2020, allowing NSW Health to identify that cases were on board, and launch an investigation and intervention to control further spread.
- At the time of embarkation, the reported risk of transmission of infection in New Zealand was very low, as was the number of cases reported from the United States, (<https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html>)

- As soon as the cases were confirmed, NSW Health advised passengers and crew of the situation and asked all passengers to monitor for symptoms and self-isolate for 14 days (as already required for people entering Australia from overseas).

In summary, the Ruby Princess was assessed as low risk, based on the level of illness on board, the negative COVID-19 tests done on passengers while in New Zealand, and the positive influenza tests done on a large proportion of the passengers with influenza like illness. The risk assessment process recognised that there is no “no risk” setting for COVID-19, but balanced the level of risk against the benefit of removing passengers from a cruise ship on which the virus could be circulating. Passengers were allowed to disembark with advice to self-quarantine for 14 days. The 337 passengers who developed COVID-19 acquired it while on board the ship. It is likely that many more cases were averted by their early disembarkation into self-isolation at home.

## Background to Australian Maritime Biosecurity Arrangements

The Australian Government determines the policy for people arriving from international ports into Australia. Under the Biosecurity Act 2015 (the Act) – section 44, the Australian Health Minister may determine entry requirements to prevent the entry, emergence, establishment and spread of a Listed Human Disease. The Biosecurity (Entry Requirements) Determination 2016 provides that an individual may be screened by a biosecurity officer<sup>1</sup> or human biosecurity officer<sup>2</sup> via a questionnaire or equipment to identify signs and symptoms of a Listed Human Disease.

The Australian Government is responsible for border control, including granting pratique (permission to dock), and advising international travellers about any requirements to self-quarantine because of their international travel.

The Act requires that the operator of an international aircraft or vessel must report any ill travellers that show signs and symptoms of infectious disease, or if there has been a death on board. The report must be made to a biosecurity officer prior to arrival in Australia through the Pre-Arrival Report (PAR). These reports and other information from the ship are documented in the maritime arrivals reporting system (MARS).

Biosecurity Officers, officers of the Australian Department of Agriculture, Water and the Environment, apply standard questionnaires to assess pre-arrival reports of illness among passengers or crew, and consult where required with medical officers from NSW Health designated as Human Biosecurity Officers under the Act.

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<sup>1</sup> Biosecurity Officers are employed by the Australian Department of Agriculture, Water and the Environment.

<sup>2</sup> Human Biosecurity Officers are medical officers approved by the Director of Human Biosecurity under the Australian Biosecurity Act 2015. Each state and territory health department has a number of employees who are approved HBOs and one Chief Human Biosecurity Officer with specific powers under the Biosecurity Act.



## National Protocol for Assessing COVID-19 Risk from Cruise Ships

On the 6 March 2020, the Australian Government published a 'National Protocol for Managing Novel Coronavirus Disease (COVID-19) Risk from Cruise Ships' (the National Protocol) (**Appendix 1**) for use by personnel on international cruise vessels, biosecurity agencies and local port health authorities when there is a suspected or confirmed case of COVID-19 on-board. The National Protocol does not direct jurisdictions to do such assessments, but instead leaves it to their discretion.

Public health representatives of all state and territory governments including NSW were involved in the development and approval of the National Protocol. NSW Health indicated that in addition to implementing the National Protocol, additional risk assessment procedures for all cruise ships docking in NSW would be applied beyond those prescribed in the National Protocol.

On 15 March 2020, the Prime Minister announced that international cruise operations would cease and all travellers entering Australia from 0001 AEDST 16 March 2020 must undertake a precautionary self-isolation period for 14 days upon entry to Australia. Subsequent Guidance provided by the Australian Government stated that cruise ships would not be allowed to dock at an Australian port. There were a number of exceptions:

- Australian flagged ships
- Returning cruises to return Australians
- Ships in transit that have left the last international port as of 12 pm on the 15 March
- Round Trip Cruises.

Ships potentially meeting the exception criteria are required to apply through the Maritime Processing Committee (MTPC), run by the Australian Border Force, for permission to dock at an Australian port and disembark passengers. Exempted ships will only be allowed to disembark at Sydney and Brisbane.

As of 15 March, the Australian government COVID-19 factsheet (**Appendix 2**) was available for the Cruise Lines to distribute to incoming international cruise ship passengers to advise that disembarking passengers would need to have an isolation period of 14 days.

## NSW Process for Assessing COVID-19 Risk from Cruise Ships

NSW Health has two long-standing public health programs for cruise ships visiting the Port of Sydney (originally commenced in 1998). These are the Cruise Ship Health Surveillance Program and the Vessel Inspection Program and they are managed by the South Eastern Sydney Local Health District's public health unit (SES PHU). SES PHU respond to reports of infectious disease cases, outbreaks, and other incidents of public health concern, and conduct environmental health inspections of vessels.

The SESPHU Cruise Ship Health Surveillance Program works closely with the cruise ship industry and the Australian Department of Agriculture and Water Resources to improve health surveillance on cruise ships and respond to outbreaks of infectious disease.

Cruise ships often have several thousand passengers on board, many of whom are older and have chronic medical conditions, as well as large numbers of crew (crew numbers may be 30-50% of the

total ship population during a cruise). Respiratory infections (unrelated to COVID-19) and gastrointestinal infections among passengers and crew are common on cruise ships, sometimes increasing to significant outbreaks. Cruise ships are responsible for, and have policies to prevent, detect and manage outbreaks of infectious disease on board.

SESPHU increased monitoring for respiratory illness during January 2020 in response to the growing number of COVID-19 cases, including several dockside assessments.

By 15 February, NSW Health had implemented an enhanced surveillance screening process building on these existing risk assessment arrangements for cruise ships, and which required additional pre-arrival information from cruise lines and cruise ship medical teams for all cruise ships scheduled to dock in NSW ports. The process used from 15 February was documented and further refined on 19 February (**Appendix 3**) and shared with other jurisdictions for consideration as a national approach. It remained a working draft with view to it being adopted nationally.

Pre-arrival information was summarised by SES PHU in a standard reporting template and reviewed the day prior to arrival into NSW by senior public health officers from Health Protection NSW, SES PHU and the public health units of Sydney and Nepean Blue Mountains Local Health Districts. Where the vessels were preliminarily classified as low risk, the panel determined the final risk assessment outcome through email discussions. The panel met by teleconference when there was disagreement about a low risk assessment rating or where the risk assessment classification was either medium or high.

On 22 February 2020, the NSW Chief Health Officer wrote to Cruise Line representatives to alert them to the enhanced risk assessment process for cruises and to provide specific guidance (*Enhanced COVID-19 Procedures for the Cruise Line Industry*) to reduce the risk of COVID-19 on their cruises (**Appendix 4**).

On 9 March 2020, additional information was sent to the cruise lines to recommend additional precautions and to strengthen their specimen collection capacity in case COVID-19 testing was required following the pre-arrival risk assessment (**Appendix 5**).

#### Details of enhanced pre-arrival risk assessment categories and response

Based on the pre-arrival risk assessment for each incoming cruise ship, the NSW Health cruise ship expert panel assigns one of three risk categories – Low, Medium or High – which informs further public health action. The screening process describes the criteria used in the risk assessment to classify the cruise (**Appendix 3**).

**If a cruise is classified as Low Risk**, usual disembarkation procedures are assumed and no NSW Health team attends the ship dockside to conduct screening of sick passengers and crew. In the event that NSW Health becomes aware that respiratory samples had been collected by the Ship medical team and tested negative for influenza, it was not required that these samples be routinely collected and tested by NSW Health for COVID-19 but an assessment on the need for further testing is made on a case-by-case basis.

**If a cruise is classified as Medium Risk**, a NSW Health team meets the ship dockside to conduct a further assessment and screening of symptomatic travellers and other travellers of concern due to



their recent travel history. Pratique is not granted for disembarkation of other travellers until this further risk assessment is completed. Travellers identified for COVID-19 testing are required to self-isolate in a private cabin on board until the results are known. Other passengers are allowed to disembark with the standard Australian Government COVID-19 advice provided to all international arrivals.

If a cruise is classified as **High Risk**, such as when an ill passenger with suspected COVID-19 is identified, the ship would not be granted pratique or permitted to disembark until an incident management team had been formed to assess the risks and prepare a plan of action to screen and manage other passengers and crew.

Procedures for responding to and management of cruise ships where there are confirmed cases of COVID-19 in passengers and/or crew are set out in the 26 February 2020 draft policy (**Appendix 6**).

### Risk Assessments for the Ruby Princess cruises ending 24 February 2020 and 8 March 2020.

On 23 February, NSW Health conducted a detailed pre-arrival risk assessment for the 24 February docking of the Ruby Princess in Sydney, as required under the new enhanced pre-arrival risk assessment. The expert panel assessed this cruise of the Ruby Princess as being a **low risk** for COVID-19 and no NSW Health team attended dockside.

On 7 March, NSW Health again conducted a detailed pre-arrival risk assessment for the 8 March docking of the Ruby Princess in Sydney. The expert panel assessed the ship for that cruise as **medium risk**.

The basis for this **medium risk** classification was that, while the overall reported influenza-like illness rate among travellers (passengers and crew) was low, the expert panel expressed concerns about two passengers who had had onset of acute respiratory illnesses during the cruise and had spent several days in Singapore prior to boarding the cruise. Both passengers had also no identified cause of their symptoms as swabs collected on board had tested negative for influenza.

A NSW Health team from South East Sydney Local Health District met the ship when it docked and screened approximately 360 people who had fever or respiratory symptoms, or who had a travel history of concern for risk of COVID-19.

In addition to the two passengers of concern, an additional four passengers and three crew were swabbed for COVID-19 testing. These passengers and crew were isolated in their cabins. Disembarkation of other passengers was allowed after the assessment was complete. Embarkation of the next cruise passengers and crew was delayed from noon to 5pm, pending receipt of swab results.

All nine swabs tested negative for COVID-19 on the same day, and these people were released from isolation and the next cruise allowed to embark.

## Risk Assessment for the Ruby Princess cruise 8-19 March

On 8 March 2020, the Ruby Princess left Sydney to cruise to New Zealand. The cruise included nine stops in different locations in New Zealand including a stop in Wellington on 14 March and a final stop in Auckland on 17 March before returning to Sydney to dock on 19 March 2020.

The itinerary for this cruise was shortened due to the cruise ship ban announced by the Prime Minister on 15 March 2020.

Prior to docking on the 19 March pre-arrival information was provided to the South East Sydney Public Health Unit from the Ruby Princess through the maritime arrivals reporting system (MARS) and through direct communications with the ship's medical team.

On 18 March 2020, the expert panel reviewed the risk assessment summary prepared from this information (**Appendix 7**).

The pre-arrival information indicated that there were 2647 passengers and 1148 crew on board. No passengers or crew reported contact with a COVID-19 case, and none reported being had in China, Iran, South Korea or Italy (the countries considered as a high risk for exposure at that time) within 14 days of embarking.

The Ruby Princess doctor reported that 102<sup>i</sup> of the 3795 people on board had reported an acute respiratory infection at some time during the cruise, including 36 who reported an influenza-like illness (ILI). A total of 48 patients had been tested for influenza of whom 24 tested positive. Note that it is recognised that rapid influenza tests may not pick up all positive cases. The ship doctor indicated that they had kept 10 respiratory swabs available for further testing.

The ship's acute respiratory illness log identified that 33 of these 102 people had a country of residence other than Australia. As of 2 April, six of these have been tested for COVID-19 in NSW and none have tested positive.

The national case defining (appendix 8) included international travel as part of the criteria for suspected case of COVID-19. It is acknowledged that some overseas passengers presented with acute respiratory illness during the cruise that in retrospect elevates the risk profile.

The ship doctor also reported that five travellers had been tested for COVID-19 during their stop in Wellington (NZ) on 14 March, and that all five had tested negative for COVID-19.

The ship doctor reported that they were planning to medically disembark two unwell passengers by ambulance.

- One was an Australian man who had no travel history of significance apart from the visit to NSW and NZ. He had a fever and had been diagnosed with an upper respiratory tract infection and had tested negative for influenza. The reason for medical disembarkation was given as ischaemic heart disease, likely secondary to his infection, which had since improved on oseltamivir treatment.
- The second passenger was an Australian woman who had no travel history apart from NSW and NZ. She had been diagnosed with a febrile upper respiratory tract infection and had

tested negative for influenza, however was being treated with oseltamivir. She reported an exacerbation of severe lower back pain with signs suggestive of a femoral nerve radiculopathy. She was to be referred to an emergency department for imaging and specialist referral as needed.

The NSW Health expert panel assessed the available pre-arrival information and agreed that the cruise should be classified as Low Risk. They noted that the itinerary only included ports in New Zealand, considered a low risk country for COVID-19 and the lack of known contact with a COVID-19 among the travellers. The ILI rate was below the one per cent threshold generally recommended to indicate a respiratory outbreak, and 24 travellers had been confirmed with influenza infections. As a precaution, it was recommended to have the specimens that had been collected by the ship doctor tested for COVID-19 when the ship docked.

### Communications to passengers

On 18 March, South Eastern Sydney Public Health Unit emailed the ship's doctor advising that in accordance with new Australian government guidance all passengers must go into self isolating for 14 days. Carnival Corporation, the owner of the Ruby Princess have confirmed verbally that the Australian government COVID-19 factsheet (**Appendix 2**) was delivered to every passenger's cabin prior to arrival and that additional printed information was provided to passengers as they disembarked. In addition on 2 April, Mr Franz Odermatt, Team Leader Sea Ports Sydney, Australian Department of Agriculture, Water and the Environment confirmed that he, in collaboration with Australian Border Force, gave disembarking passengers the Australian government COVID-19 factsheet (**Appendix 2**), informing them that they needed to be quarantined for 14 days and reiterated to the passengers that they need to follow this advice.

In addition, the *Public Health (COVID-19 Quarantine) Order 2020* (Gazette #49) which commenced on 17 March 2020, gave a Ministerial direction that a person who arrives in NSW and who has been in a country other than Australia within 14 days before that arrival must after that arrival isolate themselves for a quarantine period of 14 days.

### Events of 19 March

On the morning of 19 March, the Ruby Princess docked at the Overseas Passenger Terminal in Sydney. The two passengers noted in the pre-arrival assessment were transferred by ambulance to Royal Prince Alfred Hospital for further medical assessment, as arranged by the ship.

SES PHU arranged for transfer of the 10 respiratory samples collected by the ship doctor for COVID-19 testing to the NSW Pathology COVID-19 reference laboratory at Randwick.

### NSW Response

On 20 March 2020, NSW Health was notified that three of the ten swabs for people on the Ruby Princess cruise had tested positive for COVID-19 and were confirmed cases according to the national COVID-19 case definition current at that time (**Appendix 8**). Two of the cases were in passengers and one was in a crew member. The crew member had remained in isolation on board under the care of

the ship's medical team. A fourth Ruby Princess passenger was confirmed as a case later on the same day having sought medical assessment after disembarkation.

NSW Health responded according to the NSW Health COVID-19 cruise ship response procedures for confirmed cases in passengers or crew (**Appendix 6**).

NSW Health immediately informed Carnival and obtained from them their passenger manifest with contact details for all passengers, and advised them to contact all of their crew about the need for self-isolation and to monitor for symptoms.

On 20 March 2020, NSW Health prepared and sent urgent communications to all Ruby Princess passengers by email and SMS messages to advise them of the confirmed cases on board and to reinforce the importance of self-isolation and regular self-monitoring for symptoms. The email had as an attachment the NSW Health's factsheet for people in home isolation, and links to further information on the NSW Health website.

In addition, on the 20 March 2020,

- a media release was also issued to support rapid dissemination of this information;
- other states and territories were notified; and,
- the National Incident Room was notified in relation to international passengers who might have already travelled out of Australia.

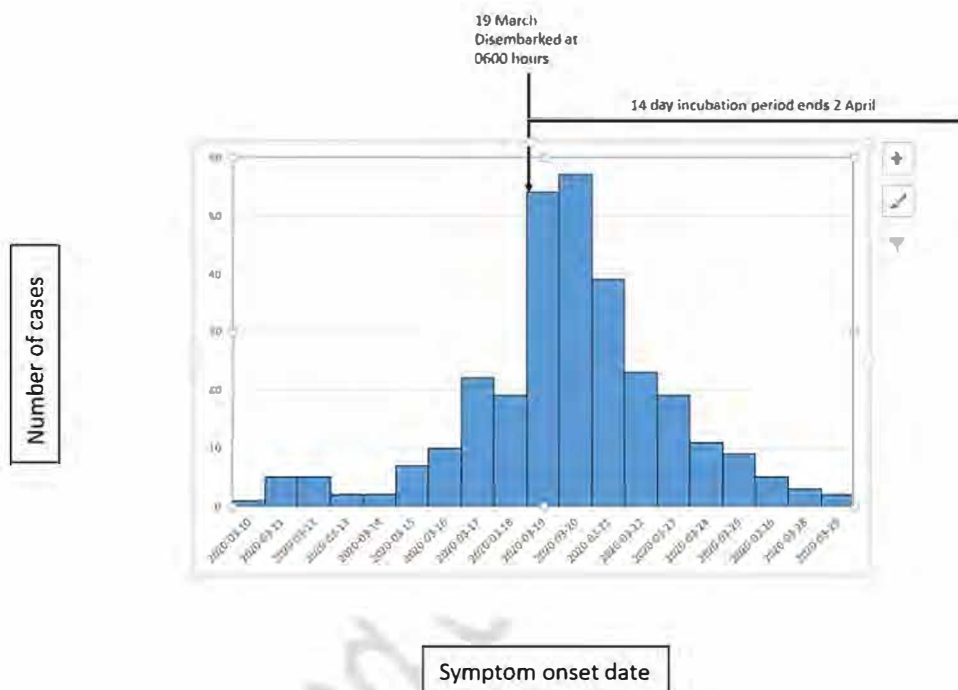
Commencing on 20 March:

- NSW Health commenced contacting by telephone all passengers from the Ruby Princess to check on their health and to reinforce the requirement to self-isolate and to monitor their health. The Service NSW call centre was co-opted to assist with telephone contact.
- A letter was also prepared for Carnival Australia which they distributed by email to all passengers on behalf of NSW Health to further ensure receipt of the NSW Health advice.

As of 1 April 2020, 337 cases of COVID-19 acquired on the Ruby Princess have been diagnosed in NSW, including two deaths, and there have been nine secondary cases in close contacts of these cases. Please see Figure 1 below for epidemiological curve. The cruise disembarked 6am 19 March 2020. Of 315 people who reported symptom onset, 237 (75%) developed symptoms on or after 19 March.



**Figure 1: Cases of COVID-19 among passengers and crew of the Ruby Princess who reside in NSW, 8-30 March 2020, by date of symptom onset as of 1 April 2020. Note that the cruise disembarked 6am 19 March 2020.**



## Further measures implemented by NSW to reduce the risk of COVID-19 from cruise ships

On 22 March 2020 NSW implemented additional measures to further reduce the risk of COVID-19-infected passengers or crew transmitting infection within NSW. This included a direction that no cruise ship crew or passengers to be allowed to disembark in NSW until anyone with symptoms consistent with COVID-19 are assessed, swabbed and tested for COVID-19 and found to be negative.

On 28 March 2020, Minister Hazzard, Minister for Health and Medical Research signed the *Public Health (COVID-19 Maritime Quarantine) Order 2020* restricting disembarkation of any person arriving in NSW on a vessel unless authorised by the Police Commissioner, with additional directions regarding other persons boarding or disembarking from vessels. See [https://gazette.legislation.nsw.gov.au/so/download.w3p?id=Gazette\\_2020\\_2020-61.pdf](https://gazette.legislation.nsw.gov.au/so/download.w3p?id=Gazette_2020_2020-61.pdf).

<sup>1</sup> Excluding 2 duplicates



**IMPORTANT INFORMATION FOR CRUISE SHIP OPERATORS:  
MEASURES TO CONTAIN THE RISK OF COVID-19 SPREAD**

Dear Cruise Ship Industry Representative,

The cruise ship industry provides important services for the community and visitors to NSW. I appreciate that the industry has been very active in taking measures to minimise the risk of an outbreak of COVID-19 among passengers and crew.

The recent outbreak of COVID-19 on the Diamond Princess cruise ship in Japan demonstrates the serious impact this disease can have in cruise ship environments.

To further reduce the risk in NSW, NSW Health has instituted a number of enhanced measures to assess the risk of COVID-19 in cruise ships entering NSW ports, and manage any cases detected in passengers or crew. These are in addition to existing requirements under the *Biosecurity Act (2015) (Commonwealth)*.

To assist in protecting cruise ship passengers and crew, I seek your urgent assistance to confirm that each cruise ship docking in NSW is able to meet the attached guidance, *Enhanced COVID-19 Procedures for the Cruise Line Industry*. Please make sure this is shared with relevant staff, particularly the medical team for each ship.

Should any sample test positive for SARS-CoV-2, the virus causing COVID-19, then a major public health response will be mounted to investigate and manage a potential outbreak and to reduce the risk of further infection among passengers, crew and the broader community.

I appreciate your ongoing efforts to help prevent outbreaks of COVID-19 on cruise ships and the broader community.

I would appreciate your response to [REDACTED]. If you have any questions please contact this email address, [REDACTED].

Yours sincerely

Dr Kerry Chant PSM

Deputy Secretary, Population and Public Health  
and Chief Health Officer  
NSW Ministry of Health

## Enhanced COVID-19 Procedures for the Cruise Line Industry

### Supplies

Each cruise ship vessel should ensure that they have sufficient supplies of materials to manage a respiratory outbreak on board, including:

- face masks, alcohol hand rub for ill passengers and crew
- personal protective equipment for clinic staff.

### Procedures to identify and manage cases of respiratory infection

Cruise ship vessel staff should ensure that:

- They actively identify and passengers or crew with respiratory symptoms (cough, sore throat, fever or difficulty breathing) and ask them to attend the medical clinic for free assessment and management 12 – 24 hours before arrival
- Passengers who may be infectious are appropriately isolated
- An accurate electronic list of all passengers and crew, including mobile/home phone number/email addresses can be provide to NSW Health within 1 hour of a request should a confirmed case be identified after disembarkation
- All passengers are advised that they may be contacted if a fellow passenger is later found to be positive for COVID-19.

### Reporting requirement to NSW Health

**At least 24 hours before arrival at port** - each cruise ship vessel should ensure that the following information is provided to NSW Health:

- A copy of full acute respiratory diseases (ARD) log (including details of patients presenting with fever or acute respiratory illness, a list of countries they have visited in the 14 days prior to embarkation, and results of rapid influenza testing)
- A list of any passengers and crew who have been in contact with a confirmed case of COVID-19 within 14 days before embarking (if known)
- A list of passengers and crew who have been in China (including Hong Kong), Thailand, Singapore, Japan or Indonesia in the 14 days prior to embarkation
- Number of swabs collected for COVID-19 testing. If respiratory swabs are collected during a cruise (i.e. for rapid flu testing), please store at fridge temperature so they can be taken for COVID-19 testing
- The details for any identified respiratory outbreak on board <sup>1</sup>
- A list of the on-board medical staff and their contact details
- A list of any planned medical disembarkations
- A list of any deaths during the cruise, including cause of death.

**Please note that the ship will not be granted pratique / allowed to disembark passengers or crew until given clearance by the Human Biosecurity Officer.**

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<sup>1</sup> A respiratory outbreak is defined as >1% of people on board affected. Smaller numbers of cases with mild respiratory illness are expected and do not necessarily represent an outbreak.

### **Pre-arrival preparations for Health Screening**

NSW Health will conduct a risk assessment based on the aforementioned information. The risk assessment will determine if enhanced health screening is required by the Health Team prior to disembarkation. NSW health will notify the ship the day before arrival into port if enhanced health screening is required.

If a Health Team is to conduct enhanced health screening for COVID-19, ships are required to make a series of announcements **the day before arrival** (and if possible provide written communication) to notify passengers and crew that the following people will be required to present for assessment by a Health Team prior to disembarking:

- Anyone who is feeling sick with respiratory symptoms or fever or
- Anyone who is a close or casual contact of a confirmed case or
- Anyone who has travelled or transited through mainland China (regardless of current physical health status)
- Anyone who has travelled (excluding transit) in Hong Kong, Thailand, Singapore, Japan or Indonesia in the 14 days prior to embarkation (regardless of current physical health status).

The Ship should then:

- Designate a senior officer, for example the Hotel Director, to liaise with the Health Team both prior to boarding and whilst on the vessel.
- Arrange a suitable space on the ship for the assessment. This should be a large, open area (e.g. function room, conference room) capable of holding at least 60 people, set up with 4 stations consisting of a desk and 3 chairs.
- Please provide separate seating and bottled water for those waiting for assessment and hand rub dispensers at entry and exit points.
- Ensure that any crew or passengers requiring assessment are wearing a surgical mask while waiting.
- Have medical and other staff available to facilitate the assessment process, including bilingual staff if relevant (wearing surgical masks).
- Assign sufficient crew to check the contact details of passengers and crew being assessed, and to assist with crowd control and flow of people.

The Ship's medical team will be requested to assist in the collection of swabs for any passengers and crew as requiring testing to exclude COVID-19.

### **The following procedures should be used to collect nasopharyngeal swabs:**

- Collect two viral swabs using droplet precautions. One swab can be used for rapid influenza testing on board immediately but the other swab must be placed in a sheath/tube (preferably transport medium) and stored in a refrigerator in preparation for disembarkation and COVID-19 testing. Samples that do not meet biohazard standards will not be processed and will need to be retaken.
- Ensure the sample is fully labelled with at least 3 points of ID (name, DOB, address), and accompanied with a pathology request form. Please ensure that any test results or collections are noted on the ARD log.
- Once the test has been taken, the passengers staying on the ship should be advised to self-isolate in their rooms, and be provided with face masks and alcohol hand rub.
- Any samples taken on board will be forwarded to the lab for COVID-19 testing on arrival into the port (even if the passenger's symptoms have resolved).

- If an individual room is not possible, then face masks should also be supplied to any room-mates and advice given regarding strict hand hygiene and limiting contact.
- Disembarking passengers will be given isolation instructions to follow while they wait for their results.

Should any sample test positive for SARS-CoV-2, the virus causing COVID-19, then a specific NSW Health public health response will be mounted to investigate and manage any potential outbreak, in close coordination with senior Ship staff and the Cruise Line operator.

## Enhanced COVID-19 Procedures for the Cruise Line Industry

Updated 9 March 2020

Please note that these procedures should be applied to all cruise ship voyages, not just international voyages. This is because many domestic voyages will have passengers and crew arriving from other countries at higher risk of COVID-19 than Australia, increasing the risk of COVID-19 outbreaks.

### Supplies

Each cruise ship should ensure that they have sufficient supplies of materials to manage a respiratory outbreak on board, including:

- face masks and alcohol hand rub for passengers and crew with acute respiratory illness
- personal protective equipment for clinic staff
- sterile transport swabs for respiratory sample collection

Flexible flocked swabs and universal transport medium are preferred. For example, *COPAN #321C Universal Transport Medium with Regular FLOQ Swab and Nasopharyngeal FLOQ Swab* are held by NSW Health for outbreak response.

### Enhanced data collection

Each ship should collect and retain for 14 days after each cruise in case required:

- a log of where passengers and crew have travelled in the 14 days prior to embarkation – in order to facilitate this, it is strongly recommended that pre-embarkation screening of crew and passengers include a history of travel in the previous 14 days
- an accurate electronic contact list for all passengers and crew after disembarkation, including mobile/home phone number/email addresses.

Please also advise all passengers that they may be contacted by health authorities if a fellow passenger is later found to be positive for COVID-19.

### Procedures to identify and manage cases of respiratory infection

Cruise ship staff should ensure that:

- They actively identify passengers and crew with acute respiratory illness (ARI) – including cough, sore throat, fever or difficulty breathing – by making regular announcements throughout the cruise, inviting them to attend the clinic for assessment.
- Clinic staff include on the acute respiratory diseases (ARD) log, details of ALL passengers and crew presenting with fever OR acute respiratory symptoms OR both.
- Clinic staff record on the ARD log all countries visited in the 14 days before onset.
- For all people with influenza-like illness (ILI) AND those with acute respiratory illness (ARI) with a history of travel to countries on the Australian list of countries at risk of COVID-19 transmission<sup>1</sup>, two swabs – one nasopharyngeal swab and one oropharyngeal swab should be collected and stored in the fridge for possible SARS-COV-2 testing using droplet precautions. A further swab should also be collected for rapid influenza virus testing on board.

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<sup>1</sup> See: <https://www1.health.gov.au/internet/main/publishing.nsf/Content/ohp-covid-19-countries.htm>.

As of 9 March 2020 this included: Mainland China, Iran, Italy, South Korea, Cambodia, Hong Kong, Indonesia, Japan, Singapore, and Thailand.

## Enhanced COVID-19 Procedures for the Cruise Line Industry

- Every sample retained for SARS-CoV-2 testing is labelled with at least 3 points of ID (name, DOB, address), and accompanied by a pathology request form.<sup>2</sup>
- Details of any sample collected and test results are noted on the ARD log.
- Passengers with ARI/ILI who may be infectious are appropriately isolated, and provided with alcohol hand rub and face masks. If sharing a cabin, please also provide roommates with alcohol hand rub and face masks, and educate on how to protect themselves.

During this period of increased risk of COVID-19, cruise companies are also requested to consider making medical assessment for ARI/ILI free to passengers as well as crew. Ships not providing free consultations are at greater risk of being considered at risk of COVID-19 as ARI/ILI cases may be less likely to have been identified.

### Reporting requirement to NSW Health

At least 24 hours before arrival at port - each cruise ship should ensure that the following information is provided to NSW Health:

- A copy of the full ARD log (including details of patients presenting with fever OR ARI OR both, a list of countries they have visited in the 14 days prior to illness onset, and results of rapid influenza testing).
- A list of any passengers and crew who have been in contact with a confirmed case of COVID-19 within 14 days before embarking (if known).
- A list of passengers and crew who have been in countries on the Australian list of countries at risk of COVID-19 transmission in the 14 days prior to embarkation.<sup>1</sup>
- Number of swabs collected for possible SARS-CoV-2 testing.
- A list of the on-board medical staff and their contact details.
- A list of any planned medical disembarkations.
- A list of any deaths during the cruise, including cause of death.

**Please note that the ship will not be granted pratique / allowed to disembark passengers or crew until given clearance by the Human Biosecurity Officer.**

### Pre-arrival preparations for Health Screening

NSW Health will conduct a risk assessment based on the above information. The risk assessment will determine if enhanced health screening is required by a Health Team prior to disembarkation. NSW Health will notify the ship the day before arrival into port if enhanced health screening is required.

If a NSW Health Team is to conduct enhanced health screening for COVID-19, ships are required to make a series of announcements **the day before arrival** (and provide a supplied letter and traveller record form) to notify passengers and crew that the following people will be required to present for assessment by a NSW Health Team prior to disembarking:

- Anyone who is feeling sick with respiratory symptoms or fever, and
- Anyone who is a close or casual contact of a confirmed case, and
- Anyone who has travelled or transited through mainland China or Iran (regardless of current physical health status), and
- Anyone who has travelled in any of the other countries included on the Australian list of countries at risk of COVID-19 transmission <sup>1</sup> in the 14 days prior to embarkation (regardless of current physical health status).

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<sup>2</sup> If the vessel is subject to a NSW Health team assessment on arrival, the Health Team will advise if any stored samples will be referred for SARS-CoV-2 testing or if they can be discarded. If the vessel is not subject to a NSW Health team assessment, any stored clinical samples can be discarded on disembarkation.

The ship should then:

- Designate a senior officer, for example the Hotel Director, to liaise with the NSW Health Team both prior to boarding and while on the vessel.
- Arrange a suitable space on the ship for the assessment. This should be a large, open area (e.g. function room, conference room) capable of holding at least 60 people, set up with 4 stations consisting of a desk and 3 chairs.
- Provide separate seating and bottled water for those waiting for assessment and alcohol hand rub dispensers at entry and exit points.
- Ensure that any crew or passengers requiring assessment are wearing a surgical mask while waiting.
- Have medical and other staff available to facilitate the assessment process, including bilingual staff if relevant (wearing surgical masks).
- Assign sufficient crew to check the contact details of passengers and crew being assessed, and to assist with crowd control and the flow of people.

The ship's medical team will be requested to assist in the collection of swabs for any passengers and crew requiring testing to exclude COVID-19, as described above, and to provide any stored samples for testing at a NSW Reference Laboratory if requested.

**If COVID-19 testing is recommended**

If the NSW Health team has recommended COVID-19 testing for a traveller, advice will be provided on how the traveller should be managed pending the result. If the traveller was not intending to disembark, then they may be recommended to stay in isolation in their cabin until the result is available, in consultation with ship's medical team. If the traveller was disembarking then NSW Health will provide alternative arrangements for them to wait for the result.

If the pre-arrival risk assessment or assessment by the on-site NSW Health team determined there was a high risk of COVID-19 then pratique may not be granted for other passengers and crew to disembark until the results of testing are available.

**If COVID-19 testing is positive**

If a traveller is confirmed as a COVID-19 case they will be hospitalised in isolation. NSW Health would urgently convene a senior incident management team (IMT) to assess the risk of transmission to other travellers and provide directions on how people identified as close contacts will be managed to ensure appropriate quarantine. The IMT will work closely with the affected ship and Cruise Line Operator and coordinate communications.

NSW Health will identify suitable accommodation for all travellers identified as close contacts to undergo their period of quarantine. It is expected that this will happen on shore.

The IMT will also advise on what information is provided to other travellers at lower risk, and provide environmental infection control guidance to the Cruise Line Operator.





**Australian Government**

**Department of Health**

## **NATIONAL PROTOCOL FOR MANAGING NOVEL CORONAVIRUS DISEASE (COVID-19) RISK FROM CRUISE SHIPS**

March 2020

<b>Version</b>	<b>Date of Publication</b>	<b>Reason</b>	<b>Approved By</b>
V1.0	6 March 2020	Initial publication	Rhonda Owen, Assistant Secretary, Health Emergency Management Branch, Office of Health Protection

This protocol was endorsed by the Chief Human Biosecurity Officers (CHBO) on 3 March 2020.

### **CONSULTATION**

The following were consulted in the development of the protocol:

- Australian Government Department of Agriculture, Water and Environment
- Australian Government Department of Home Affairs
- Australian Government Department of Infrastructure, Transport, Cities and Regional Development
- Australian Health Protection Principal Committee
- Chief Human Biosecurity Officers
- Cruise Lines International Association (CLIA)

### **PURPOSE**

The purpose of this protocol is to clarify the intent, responsibility, and required action in responding to coronavirus disease 2019 (COVID-19) risk from cruise ships. It is primarily a border operations protocol.

Cruise ships may carry domestic or international travellers who pose human biosecurity risks. This may also lead to the spread of diseases to other travellers, particularly given the population density, the duration of cruises and the mixing patterns of people on board. It is therefore necessary to enhance surveillance and control measures among travellers to:

- protect the health of travellers on vessels;
- minimise the likelihood of large numbers of infected people returning to Australia and further spreading diseases among the community;
- manage the impact on the Australian health system; and
- prevent the spread of diseases among populations in cruise voyage destinations.

This protocol is limited to COVID-19 and has specific measures for assessing the risk of COVID-19 on the ship, screening of passengers and crew if required, and initial management of suspected cases. It is recognised that as the outbreak situation evolves, additional measures may become necessary and this protocol may be reviewed and revised as required.

This protocol does not address when a passenger or crew member is confirmed to have COVID-19 by laboratory testing, which will be managed on a case-by-case basis by jurisdictional public health authorities in close coordination with border agencies, the cruise ship operator and senior ship officers (see INFORMATION SHARING section).

While response protocols for confirmed COVID-19 cases will likely include requiring some passengers and crew identified as contacts to undergo a period of quarantine, where possible it is not intended that this occur on board the ship.

## **LEGISLATION**

- *Biosecurity Act 2015* (the Act) - Under section 44 of the Act, the Health Minister may determine entry requirements to prevent the entry, emergence, establishment and spread of a Listed Human Disease.
- The Biosecurity (Entry Requirements) Determination 2016 provides that an individual may be screened by a biosecurity officer or human biosecurity officer via a questionnaire or equipment to identify signs and symptoms of a Listed Human Disease (LHD).
- State and territory public health acts mandate the reporting of certain diseases to the relevant state or territory communicable diseases unit.

## **NOVEL CORONAVIRUS DISEASE (COVID-19)**

An outbreak of respiratory disease caused by a novel coronavirus (SARS-CoV-2) was first detected in Wuhan City, Hubei Province, China, and is ongoing. On 11 February 2020, the World Health Organization (WHO) named the disease caused by the virus Coronavirus Disease 2019 (COVID-19). Sustained human-to-human community transmission has been demonstrated in parts of China, largely in Wuhan city, and some human-to-human spread of the virus has been detected outside of China, including in Australia. On 30 January 2020, the International Health Regulations Emergency Committee of the WHO declared the outbreak a public health emergency of international concern (PHEIC). The WHO emphasised the urgent need to coordinate international efforts to reduce the risk of further international spread. Australia declared the then named 'human coronavirus with pandemic potential' as a LHD on 3 February 2020, enabling powers under the *Biosecurity Act 2015* to be used to manage the entry, spread and establishment of COVID-19.

The symptoms of COVID-19 include fever, sweats and chills, fatigue, rhinorrhoea, sore throat, cough, and difficulty breathing. Symptoms can take up to 14 days to develop after a person has been infected.

## PROTOCOL

This protocol has been developed for use by personnel on international cruise vessels, biosecurity agencies and local port health authorities when there is a suspected or confirmed case of COVID-19 on-board. All individuals, groups and authorities involved in the cruise ship industry including crew, health care staff, cruise line operators, owners, and port health authorities should be aware of these procedures.

For the purposes of this protocol, a **traveller** means a **passenger or crew member**

## RISK ASSESSMENT

Respiratory illnesses (common cold and influenza) are some of the most common infections affecting people on cruise ships, and cases of COVID-19 aboard passenger ships have occurred. Because cases of seasonal influenza often occur on ships and sustained community transmission of COVID-19 has been observed, it is possible that passenger ships carrying thousands of people would have travellers with COVID-19. In the context of the PHEIC relating to COVID-19, assessing the public health risk of each vessel arrival to Australia from international ports is important before advice is given on implementation of control measures. Public health risk assessment involves appraisal of threats to travellers on board the ship, as well as to the population in the community.

Some jurisdictions may conduct a public health risk assessment for every ship, while in other jurisdictions a risk assessment for every ship may not be necessary if no illness has been reported and a standing risk assessment for the global situation may suffice in this circumstance. Assessing the risk of any reported event is necessary before proceeding with the enforcement of public health measures.

No single criterion will dictate any specific action in relation to the overall management of a vessel; however, each public health unit can use these criteria to inform their risk management strategy:

- the itinerary of the vessel, specifically
  - whether the vessel has visited a higher or moderate risk country<sup>1</sup> in the last 14 days
- the travel history of any person on-board the vessel, specifically
  - whether the traveller has visited a higher or moderate risk country<sup>2</sup> in the last 14 days

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<sup>1</sup> Per the Australian Government Department of Health's [‘COVID-19: Countries considered to pose a risk of transmission’](#)

<sup>2</sup> As above.

- the contact history of any person on-board the vessel, specifically whether any person on the vessel has been in contact with a confirmed case of COVID-19 within the last 14 days
- the healthcare capability available on the vessel, specifically the ability to assess presenting travellers, facilities available for isolation, and availability of point of care testing for influenza
- whether healthcare consultations are being offered at no cost or are subsidised and if consultations are being readily accessed by passengers.
- whether the number of cases presenting with influenza-like illness (ILI) exceeds that expected for the specific itinerary and season (i.e. potential outbreak)<sup>3</sup>
- where point of care testing for influenza is available, and the number of cases presenting with ILI testing negative for influenza exceeds that which is expected
- any indication or information that the ship has not implemented appropriate measures (surveillance, isolation, communication, treatment, etc.)

#### ***Exposure Risk – Potential Contacts that are currently well***

The following exposure risk categories are provided to help guide initial biosecurity management of people following potential SARS-CoV-2 exposure, given the difficulty in identifying close contacts (as strictly defined by public health experts) in the cruise ship environment due to the physical environment, inability to confirm SARS-CoV-2 with laboratory testing, and variable preparedness of individual operators to respond to suspect cases.

##### **Highest Exposure Risk**

- Accommodated in the same cabin or small group of cabins with shared amenities as, being an intimate partner of, or providing care or cleaning services in a non-healthcare setting (such as a cabin) for a person with symptomatic clinically diagnosed suspect (or laboratory confirmed) COVID-19 case ***without using recommended precautions***; OR
- Recent travel from a [higher risk country](#)

##### **Medium Exposure Risk**

- Accommodated in the same cabin or small group of cabins with shared amenities as, **not** being an intimate partner of, or providing care in a non-healthcare setting (such as a cabin) for a person with symptomatic clinically diagnosed suspect (or laboratory confirmed) COVID-19 case ***while consistently using recommended precautions***

<sup>3</sup>Potential outbreaks of influenza or ILI (≥ 1%) among passengers or crew members

- Being in the same semi-closed environment (e.g., a games-room, movie theatre, infirmary waiting room) as a person with symptomatic clinically diagnosed suspect (or laboratory confirmed) COVID-19 *for a prolonged period of time*<sup>4</sup>, OR

- Travel from [moderate risk countries](#) (excluding transit).

AND

- not meeting the higher risk definition above

#### Lower Exposure Risk

- Interactions with a person with symptomatic clinically diagnosed suspect (or laboratory-confirmed) COVID-19 infection that do not meet any of the higher or medium-risk conditions above, such as walking by the person or being briefly in the same room

AND

- not having any exposures that meet a higher-risk or medium-risk definition

Note that if there are multiple suspect cases, the number of contacts in the higher exposure risk category will increase. In some situations it may be difficult to delimit exposure categories and as such, a whole ship could potentially be considered at higher exposure risk.

### BORDER SCREENING

The standard process at the border for screening for, and managing the presence of, LHDs will continue, which includes:

- Pre-arrival report and human health report
  - In accordance with biosecurity reporting obligations under Section 193 of the Act, information regarding any illness on-board must be lodged in the Maritime Arrivals Reporting System (MARS) between 96 and 12 hours prior to arrival. Vessels are required to update the MARS report if the human health status of persons on-board changes.
  - To support the enhanced COVID-19 border measures announced by the Prime Minister on 5 March 2020, the following additional questions will be asked on the pre-arrival report until advised otherwise:
    - Has the vessel been in mainland China, Republic of Korea, Italy or Iran in the last 14 days?
    - Has any person on the vessel been in mainland China, Republic of Korea, Italy or Iran in the last 14 days?
    - Has any person on the vessel been in contact with a confirmed case of novel coronavirus infection in the last 14 days?

<sup>4</sup> As per the COVID-19 SoNG.

- The Maritime National Coordination Centre (MNCC) will coordinate officer attendance at the relevant port. On a case by case basis, state/territory health authorities may also attend the port.
- Under the Act the ship's master must specifically report people with symptoms of an LHD, including human coronavirus with pandemic potential, before arrival.
- **Pratique**
  - Cruise vessels are assumed to have pratique from the vessel's first port of arrival in Australia unless there is illness or death on-board, or if the vessel has not provided a pre-arrival report. Pratique takes effect when the vessel arrives at the port.
  - If there is illness or death on-board reported, or if a pre-arrival report has not been provided in accordance with the requirements in the *Biosecurity Regulation 2016*, the vessel has negative pratique until a biosecurity officer has assessed that there is no human health risk associated with the vessel and has granted pratique.
- **Administration of the Traveller with Illness Checklist (TIC)**
  - Where the cruise ship has reported unwell travellers, the vessel will be met by a biosecurity officer.
  - Unwell travellers will be screened using existing LHD screening procedures.
  - The TIC screens for COVID-19 based on the case definition provided in the COVID-19 Series of National Guidelines (SoNG), and includes symptoms of COVID-19, exposure to cases of COVID-19 and travel history. The TIC will be updated on occurrence of a change to the case definition provided in the COVID-19 SoNG as needed.
- **Referral to a Human Biosecurity Officer (HBO), or Chief Human Biosecurity Officer (CHBO), for medical advice or assistance will occur where the TIC indicates a risk for COVID-19 or any other LHD.**

#### **ADDITIONAL BORDER MEASURES**

- **Until advised otherwise by Health or DAWE, all cruise ships are required to:**
  - provide any stored swabs urgently to state/territory health officials for rapid transport to laboratory testing facilities, under coordination by the HBO. Provided there are no concerns about the COVID-19 risk profile of the ship or suspected COVID-19 cases reported, the HBO may advise the biosecurity officer that pratique can be granted and the ship may be allowed to continue the voyage while samples are being tested.
  - deliver on-board announcements to travellers prior to the vessel docking at an Australian seaport to encourage self-reporting of ill health by travellers and inform travellers of their obligation to declare whether they are



experiencing specific symptoms (DAWE will provide internationally operating cruise ships with pre-recorded messages for the on-board verbal announcement in a number of languages).

- Until advised otherwise by Health or DAWE, all ports are required to:
  - deliver verbal announcements at the Australian seaport to encourage self-reporting of ill health by travellers, and to inform travellers of their obligation to declare whether they are experiencing specific symptoms. DAWE will provide pre-recorded messages for the port announcement in a number of languages to the port authority who will be responsible for implementing this measure.

## **CASES OF INFLUENZA-LIKE ILLNESS (ILI) PRESENTING ON CRUISE SHIPS**

### ***On-Board Management***

Ships should actively encourage travellers with respiratory symptoms to seek immediate on-board medical assessment. Incentives such as free or subsidised consultations for travellers with respiratory illness should be considered by the ship, to reduce barriers for timely assessment.

Where point of care testing for influenza is available, two samples should be collected using droplet precautions. The point of care influenza test should be performed on one sample, and the second sample (nasopharyngeal swab or sputum) should be placed in a sheath or tube (e.g. with transport medium/dry rayon) and stored in a refrigerator, if able, for later SARS-CoV-2 testing.

## **REPORT OF LISTED HUMAN DISEASE - COVID-19 SUSPECT CASE or POTENTIAL OUTBREAK<sup>5</sup> OF RESPIRATORY ILLNESS**

### ***On-Board Management***

Where the ship's medical officer determines that there is either:

- a) a suspect case(s)<sup>6</sup> of COVID-19 on-board, or
- b) an outbreak<sup>7</sup> of ILI on-board with larger than expected numbers of tests are negative for influenza, the following measures should be taken:
  - The suspect case(s) or any person with ILI should be isolated in an isolation ward, cabin, room or quarters, with an independent ventilation and toilet system where possible.

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<sup>5</sup> Potential outbreaks of influenza or ILI ( $\geq 1\%$ ) among passengers or crew members.

<sup>6</sup> A suspect case is defined in 'Interim advice to public health units – COVID-19' available at [www.health.gov.au](http://www.health.gov.au)

<sup>7</sup> Outbreaks of influenza or ILI ( $\geq 1\%$ ) among passengers or crew members.

- Infection control procedures including droplet and standard precautions should be implemented. Medical staff should wear appropriate PPE when assessing patients with respiratory illness and collecting specimens.
- Medical staff should refer to the COVID-19 resources for health professionals, available at [www.health.gov.au](http://www.health.gov.au)
- Where point of care testing for influenza is available, two samples should be collected using droplet precautions. The point of care influenza test should be performed on one sample, and the second sample (nasopharyngeal swab or sputum) should be placed in a sheath or tube (e.g. with transport medium/dry rayon) and stored in a refrigerator, if able, for later SARS-CoV-2 testing.
  - Inappropriately stored samples may not be able to be tested for SARS-CoV-2 because of biosafety concerns in the laboratory.
- Where influenza can be confirmed, and the traveller does not meet the suspect case definition for COVID-19, the traveller should follow isolation recommendations in accordance with standard influenza outbreak protocols.
- Where influenza cannot be confirmed, confinement to isolation with infection control measures should continue until a decision to return to public areas can be made in collaboration with the public health authority at the next port of call.
- All those identified as higher exposure risk<sup>8</sup> should be identified and isolated as above and advised to monitor their health for development of symptoms until such time further assessment by public health authorities has determined whether or not they are truly a close contact in accordance with the Exposure Risk table above. Further, they should be managed as follows:
  - The traveller(s) should be placed under active surveillance for 14 days.
  - If after 14 days of isolation and observation, the travellers do not develop symptoms of COVID-19, they may be discharged from follow-up.
  - Both embarking and disembarking ports must be notified of COVID-19 suspected case contacts being on-board and measures taken.
  - Lower and medium risk contacts should be asked to self-monitor for COVID-19 symptoms for 14 days from their last exposure. They should be asked to immediately self-isolate and contact medical services if any symptoms appear during this time.
- A high frequency of cleaning and disinfection should be maintained on the vessel. Cabins and quarters occupied by suspected cases and close contacts of suspect COVID-19 cases should be cleaned and disinfected according to recommendations provided by the local public health authority.

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<sup>8</sup> Note that if there are multiple suspect cases, the number of likely close contacts will increase, and it may be that the all travellers could potentially be considered as close contacts.



### ***Pre-Arrival Requirements***

The vessel is required to:

- Immediately alert the public health authority at the next port of call to:
  - Determine if the necessary capacity for transportation, isolation, and care is available at the port (the vessel may be asked to proceed to another national port in close proximity if this capacity is not available or if warranted by the critical medical status of the suspected COVID-19 case).
  - Provide any information required for the authority to conduct a risk assessment.
  - Seek advice as to the infection prevention control requirements.
  - Ensure that [REDACTED] is a Cc addressee on all email communication.
- Update pre-arrival reporting in MARS to reflect the current health status of the vessel
- Advise the MNCC that there is a report of a listed human disease, suspected case of COVID-19 or potential outbreak of respiratory illness on board
  - The MNCC will provide the vessel or its agent with the traveller record form
- Ensure that accurate records of all traveller contact details are collated and provided to the MNCC prior to arrival. These should be in a format which supports ready contact of travellers (see Attachment 1).
  - The MNCC will distribute the record to [REDACTED] and the relevant state or territory health agency for test result notification and contact tracing purposes.
- Have a representative available to liaise with government agencies (see INFORMATION SHARING section).

### ***Management at First Port of Entry***

- The vessel will not be allowed to disembark travellers until the biosecurity officer, in consultation with the HBO, has made the appropriate assessments and pratique is granted.
- If the HBO determines that an unwell traveller meets the COVID-19 suspect case definition, or a positive test result is returned, the following is to occur:
  - The biosecurity officer will notify the port authority to provide access for medical transport.
  - The HBO will identify and coordinate transfer to an appropriate medical facility.
  - The traveller will be transported to the medical facility for further management, by the most appropriate means, using all necessary precautions as specified by the HBO.

- If COVID-19 is confirmed in a suspected case, the HBO and public health authorities will advise on the identification and management of other passengers and crew considered contacts based on a further risk assessment and using national guidance.
- When a positive test for COVID-19 is returned, those travellers who were initially identified as high exposure risk will be assumed to be a close contact, and managed as follows, unless it is subsequently determined by public health authorities they were not close contacts:
  - The traveller will be assessed by a biosecurity officer on disembarking and screened for symptoms of COVID-19 using the TIC. If symptoms are detected, the traveller will be managed as per a suspect case.
  - If no symptoms are detected, the traveller will be provided with information sheets for travellers on coronavirus and quarantine, available at [www.health.gov.au](http://www.health.gov.au), and will be allowed to disembark and undertake a period of self-quarantine.
  - The traveller is required to be quarantined either at home, if a returning Australian resident, or in appropriate accommodation for 14 days from disembarkation.
  - The traveller should be placed under active surveillance for the duration of isolation.
  - The traveller may be allowed to undertake domestic travel consistent with the CDNA COVID-19 SoNG.
  - The traveller should be restricted from undertaking international or further domestic travel until the period of isolation has ended and they have remained well.
- Contacts of suspected cases may be considered for contact management if there is likely to be a delay in confirming or excluding COVID-19 in the suspected case.
- As soon as the suspect case(s) (or subsequently confirmed case) has been removed from the cruise vessel, the cabin or quarters where the traveller was isolated and managed, it should be thoroughly cleaned and disinfected according to recommendations provided by the local public health authority.
- A biosecurity officer will provide information sheets on symptoms and transmission of COVID-19 to crew for distribution to all passengers and crew. The factsheets can also be sent to the shipping agent prior to arrival for distribution via email to all passengers and crew.
- After the HBO has determined that no other travellers have symptoms consistent with COVID-19 and possible contacts have been managed, pratique will be granted and remaining travellers will be allowed to disembark and the vessel may be permitted to commence embarkation procedures provided the required cleaning and disinfection measures have taken place.
- If requested, any stored swabs must urgently be provided to state/territory health officials for rapid transport to laboratory testing facilities, under coordination by the HBO.

- The vessel may be allowed to proceed to its next port of call upon receipt of clearance from the biosecurity officer, who will consider advice from the public health authority following receipt of any laboratory results (see 'Possible management actions section').

### ***Possible management actions***

Actions taken by HBOs or state and territory health authorities will depend on the risk profile of the ship or of affected travellers (e.g. crew member suspect case is a higher risk for transmission than a passenger suspect case) and will need to be based on case-by-case assessment. However, the following represent some potential management actions that HBOs may consider:

- Ship granted pratique and allowed to continue voyage as planned while samples are tested, provided the suspected case(s) and all close contacts have been disembarked, and proper cleaning undertaken.
- Ship granted pratique but restrictions placed on the voyage, for example (but not limited to):
  - The ship may only disembark travellers at specified ports where there is capacity for ill traveller screening and health services to assess travellers, test samples and manage ill travellers
  - The ship may continue voyage but must not disembark travellers for day trips for a specified period of time
  - Crew must disembark for quarantine, noting that changing out an entire crew is not usually feasible and this option would effectively prevent the ship from continuing the current and subsequent voyages.
- Ship is not granted pratique until the results of testing are received, an assessment of risks has been completed and a management plan has been decided, for example where there is an outbreak of influenza-negative ILI.

In all cases, actions being considered should be notified to the ship's Master as soon as practicable to enable the ship to respond. This may be communicated from the Information Sharing Forum (see INFORMATION SHARING section).

### ***Management at Subsequent Australian Ports***

In accordance with standard biosecurity management procedures the vessel will continue to be required to provide pre-arrival reports and human health reports prior to docking in subsequent Australian ports and disembarking travellers. DAWE will manage any further reports of an LHD as required.

## **INFORMATION SHARING**

An Information Sharing Forum may be convened, consisting of relevant Commonwealth Government agencies, state and territory government agencies and the affected cruise ship or its representative. The forum will be convened by the state or territory health agency managing the response. The purpose of the forum will be to share information in a timely manner and promote consultation between these stakeholders. The forum may develop key communication messages during a response to facilitate consistency of messaging between

government and the cruise industry. The decision-making responsibility for any public health response will continue to rest with the state or territory health department.

## **RESPONSE TO ELEVATED RISK**

The decision to escalate border measures is an Australian Government decision informed by whole of Government advice with expert input from state and territories. The trigger points for escalating border measures will be determined by situational information on the epidemiology of COVID-19.

The Australian Government may establish the following, additional border control measures:

- Enhanced identification and assessment measures
  - Non-automatic pratique – classes of vessels may be subject to negative pratique and screened for LHD before pratique is granted.
  - Traveller screening may be conducted by healthcare workers and public health teams on disembarkation.
- Enhanced quarantine measures.
- Exit screening.

Advice from the CHBO will be sought prior to implementation of enhanced border measures.

**From:**  
**To:**  
**Subject:**  
**Date:**  
**Attachments:**

---

**From:** [REDACTED] <[REDACTED]@mailto>  
**Sent:** Thursday, 2 April 2020 4:21 PM  
**To:** Simon [REDACTED] (Ministry of Health)  
**Subject:** RE: Information given to Ruby Princess passengers when they disembarked  
[SEC=UNCLASSIFIED]

Hi Simon

Attached is the brochure we handed out to all disembarking passengers

Regards

[REDACTED]  
Team Leader Seaports Sydney | Regional Vessel Coordinator  
Inspection Group | Biosecurity Operations Division  
Mobile: [REDACTED] Phone: [REDACTED]  
Department of Agriculture, Water and the Environment  
Sydney International Airport, Level 1 Arrivals, Mascot NSW 2020



## Information for international travellers

There is currently a global outbreak of novel coronavirus (COVID-19).

Symptoms of COVID-19 are similar to other respiratory illnesses and can include fever, sore throat, cough, tiredness and shortness of breath. This information sheet should be read in conjunction with the 'What you need to know' and 'Isolation guidance' information sheets. Go to [www.health.gov.au/covid19-travellers](http://www.health.gov.au/covid19-travellers) for the list of high risk countries and information sheets.

## Who is required to stay at home?

All travellers must isolate for a period of 14 days after they have entered Australia. If you need to transit domestically, you may complete this transit and then begin your precautionary 14 day self-isolation period. If you have a layover, you must remain in the airport or self-isolate in your accommodation for the transit period. Refer to the 'Isolation guidance' information sheet for further information.

If you have returned from a country or region that is at higher risk for COVID-19, you may also be required to undergo enhanced health screening on arrival in Australia.

## What do I do if I am sick right now?

If you are experiencing symptoms of COVID-19, let a member of the airline or ship crew know now. If you are in the airport or seaport contact a biosecurity officer now.

## What do I do if I get sick while in Australia?

If you become unwell, you must:

- Stay in your home or hotel.
- Isolate yourself from others and use a separate bathroom if available.
- Put on a surgical mask if you are near other people. If you don't have one, cover your cough and sneeze.
- Wash your hands frequently with soap and water and use alcohol-based hand rub.
- Call a doctor and tell them your recent travel history.

If you have serious symptoms such as difficulty breathing, call 000, ask for an ambulance and notify the ambulance officers of your recent travel history.

## How can I prevent the spread of coronavirus?

Practising good hand and sneeze/cough hygiene is the best defence against most viruses.

- Wash your hands frequently with soap and water, including before and after eating, and after going to the toilet.
- Cover your cough and sneeze, dispose of tissues, and wash your hands.
- If unwell, avoid contact with others (stay more than 1.5 metres from people).

## More information

For the latest advice, information and resources, go to [www.health.gov.au](http://www.health.gov.au)  
Call the National Coronavirus Help 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](http://www.health.gov.au/state-territory-contacts)

If you have concerns about your health, speak to a doctor  
Information for international travellers – Version 2 (15/03/2020)  
Novel coronavirus (COVID-19)



# NSW HEALTH COVID-19 CRUISE SHIP RESPONSE PROCEDURE FOR CONFIRMED CASES IN PASSENGERS OR CREW

DRAFT 26 Feb 2020

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## 1 Context

This procedure describes response measures and communication mechanisms in response to the detection of one or more confirmed cases of COVID-19 disease among travellers (passengers and crew members) on a cruise ship before, after or at the time of docking in a NSW port.

A similar procedure would be used in the event of a confirmed case of COVID-19 in a crew member or passenger on other maritime vessels in NSW, such as a cargo vessel.

This document does not refer to the enhanced COVID-19 screening procedures for cruise ships which are described in a separate policy document.

This response procedure is to be used in the context of current COVID-19 containment strategies in the community. This response procedure may no longer be appropriate in the setting of sustained community transmission.

## 2 Legal aspects

Infection with novel coronavirus 2019 (known as COVID-19) is a Category 2 scheduled medical condition under the Public Health Act 2010. This means that novel coronavirus 2019 is a notifiable condition requiring obligatory reporting by laboratories and medical practitioners.

Novel coronavirus 2019 is also a [Category 4 condition and contact order condition](#) which means that an authorised medical practitioner may make a public health order in respect to a person with the condition, or in respect to other people believed to have been exposed to someone with the condition and at risk of developing the condition, under certain settings.

In deciding whether or not to make a public health order, the authorised medical practitioner must take into account the principle that any restriction on the liberty of a person should be imposed only if it is the most effective way to prevent any risk to public health.

A NSW Health policy directive – [Management of People Exposed to a Contact Order condition \(PD2019 037\)](#) – provides a process for the management of people who have been exposed to a contact order condition, and explains the process through which the health system may encourage, facilitate and, only if required, enforce compliance with recommendations to avoid certain behaviours and/or other quarantine requirements for people following exposure to a contact order condition.

Public health orders are measures of last resort to prevent a public health risk and, in the case of exposure to contact order conditions, are only used when voluntary quarantine recommendations are refused.

Under the Australian Biosecurity Act 2015 there are entry requirements to prevent the entry, emergence, establishment and spread of a Listed Human Disease, which includes disease caused by novel coronaviruses of pandemic potential, such as COVID-19. Biosecurity officers or human biosecurity officers (HBO) use a questionnaire or equipment to identify signs and symptoms of a Listed Human Disease (LHD).

NSW Health-based HBOs can make Human Biosecurity Control Orders under the Biosecurity Act, both for COVID-19 cases and their contacts, with similar powers to NSW public health orders. However, the preference will be to apply powers under the NSW Public Health Act wherever possible, if required.

A public health order does not take effect until it is served personally on the person subject to the order. See [Appendix X](#) for examples of Public Health Orders for cases and contacts.



### **3 Confirmed Case Scenarios**

A traveller may be identified as a confirmed COVID-19 case in three main scenarios. Each requires a tailored response, particularly with respect to the identification, assessment and management of traveller contacts.

#### **3.1 Scenario 1: A case is identified pre-arrival**

NSW Health may receive information about a case identified in a cruise ship traveller who has recently disembarked in another port and has subsequently been confirmed as a COVID-19 case, with likely exposure of other travellers still on the ship.

Other travellers still on board with fever or respiratory symptoms would be considered suspect cases who need to be tested, and many if not all of the other travellers would likely be considered close contacts.

Rarely, it may be possible to collect clinical samples of suspected cases from a high risk ship while still at sea so that a case may be able to be confirmed prior to arrival in port.

#### **3.2 Scenario 2: A case is identified during a NSW Health cruise ship assessment**

A case may be confirmed by testing of specimens collected during a NSW Health assessment team screening exercise on board the cruise ship on its arrival.

If the pre-arrival ship assessment indicated a medium risk of COVID-19, the Ship will likely have been granted pratique. The suspect case or cases will have been required to self-isolate until the test result were available, but other travellers would have been allowed to disembark.

If the pre-arrival ship assessment indicated a high risk of COVID-19, the Ship will likely not have been granted pratique. The suspect case or cases will have been required to self-isolate until the test result were available. Other passengers and crew would also have been required to self-isolate in their cabins (passengers) or other areas (for crew) pending the results of testing.

#### **3.3 Scenario 3: A case is identified with links to a previous voyage**

Cases may also be identified after local disembarkation through testing in NSW or testing in another state or country where the person has travelled to after disembarking.

In this scenario, passengers and crew may have travelled on to local homes or hotels, interstate or overseas destinations, or be part of a continuing voyage on the same cruise ship.

### **4 Incident management team (IMT)**

An Incident management team (IMT) will be established to coordinate the public health and clinical response to any confirmed case(s). They will also coordinate the assessment and management of other travellers (passengers and crew members) on the same cruise ship, and of other people who may have been in contact with the case(s).

The IMT will be established by the NSW Health Public Health Controller and will likely include senior staff in the Ministry of Health, one or more PHU Directors and key PHU staff, and experts in Infectious Diseases, Infection Control and Clinical Microbiology, and be supported by the Public Health Emergency Operations Centre (PHEOC).

The IMT will work closely with the State HSFAC and State Emergency Operation Controller (SEOCON). The IMT will also work closely with the Cruise Ship Operator, Senior Cruise Ship Staff, NSW Ambulance, HealthShare NSW, NSW Pathology, and Service NSW.

## 5 Case management

The clinical management of a confirmed case is likely to be similar in all three scenarios, and will be undertaken in an appropriate isolation unit in a tertiary hospital (see below).

If the case is not already hospitalised they will need to be safely transferred by ambulance to a tertiary hospital with appropriate isolation facilities. This could be from the Ship (in Scenario 1 and possibly Scenario 2), from a residential address, or from a NSW Health facility where travellers have been placed awaiting COVID-19 test results (Scenario 2 or 3).

### 5.1 Isolation arrangements

Westmead Hospital's is the preferred site for admission of all confirmed COVID-19 cases (even those with mild symptoms), utilising their high consequence infectious disease isolation rooms. Critically ill patients may need to be transferred to a closer health facility if clinically necessary.

Alternative tertiary referral hospitals will need to be identified if there are multiple confirmed cases reported which exceeds Westmead Hospital's isolation room capacity.

The IMT will need to liaise directly with the receiving hospital to confirm arrangements for admission. This should be done directly with the ID Physician on-call.

### 5.2 Legal aspects – Public health orders

Travellers identified as COVID-19 cases who refuse to comply with recommendations for isolation in hospital may need to be served with a Public Health Order to enforce isolation restrictions. See [Legal Aspects](#) section.

An example Public Health Order for COVID-19 Cases is included in [Appendix X](#).

### 5.3 Transport

The IMT will need to liaise with NSW Ambulance regarding transportation of a confirmed COVID-19 case to a designated hospital. Confirmation regarding specific crew and vehicle, collection and estimated drop off times should also be provided.

The NSW Ambulance contact number for COVID-19 ambulance requests is 9999 9999.

[NSW Ambulance has been asked to supply specific instructions on ordering ambulances for the transfer of both suspected and confirmed COVID-19 cases. NAME REDACTED has been contacted, she had indicated she can identify the appropriate person to ask within NSW ambulance (e-mail received 10.53am 26/2/20)]

### 5.4 Reporting

The PHEOC or IMT should immediately notify the following groups:

- NSW Health Senior Executive
- Minister's Office
- Senior Executive of the LHD and hospital where the case(s) will be admitted
- Relevant Public Health Units (by case's residence and hospital admitted).
- Australian Department of Health
- The Cruise Ship operator

A media and community communications response should be developed with the NSW Health Media team.

NSW HEALTH COVID-19 CRUISE SHIP RESPONSE PROCEDURE FOR CONFIRMED CASES

## 6 Contact classification

### 6.1 Classification as close or casual contacts

The SoNG assessment principles states that close contacts on cruise ships can be difficult to identify, and case-by-case risk assessment should be conducted to identify which passengers and crew should be managed as close contacts.<sup>1</sup>

The IMT will be responsible for rapidly assessing the risk to other travellers on the cruise ship (and any other contacts of the case) and classify them as close contacts, casual contacts or non-contacts.

The risk assessment will be based on a range of information sources including:

- Detailed interviews of the patient, other people in the patient's travel group, ship medical staff and other senior ship crew to establish the patient's [movements](#) while infectious.
- Any information on room isolation of the patient following symptom onset and when this commenced.
- The presence of other confirmed cases on the Ship.
- The reporting of acute respiratory illness and influenza-like illness in other travellers not explained by positive influenza test results.

Close-contacts can be difficult to identify in the cruise ship environment but are defined as:

- people who have had greater than 15 minutes face-to-face contact, in any setting, with a suspect case in the period extending from 24 hours before onset of symptoms in the suspect case; or
- people who have shared a closed space with a suspect case for a prolonged period (e.g. more than 2 hours) in the period extending from 24 hours before onset of symptoms in the suspect case.

Close contacts includes:

- people accommodated in the same cabin or small group of cabins with shared amenities
- people providing care in a healthcare or non-healthcare setting (such as a cabin) without using recommended personal protective equipment.

If there have been extensive and prolonged potential exposures by the case while infectious, or if there are multiple confirmed cases identified on the ship, the number of likely close contacts will likely increase markedly such that it may be concluded that the all travellers should be considered as close contacts.

## 7 Close contact management

NSW Health has requested that all cruise ships collect [comprehensive](#) passenger and crew contact details ~~and provide them to the relevant LHD at least 24 hours before arrival at port in format that to~~ enable them to be rapidly contacted in the event that a COVID-19 case is identified [in one of their travellers](#).

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<sup>1</sup> [COVID-19 CDNA National Guidelines for Public Health Units](#) (Accessed 26 February 2020).

## 7.1 Initial communication

Following notification of a confirmed case, contact details for all travellers will be immediately requested from the Cruise Ship operator so that contacts can be notified as soon as possible.

If travellers are still on board, initial contact notification can happen immediately although contact classification and subsequent management may require further investigation, as described in Contact classification section.

The Rapid Contact and Follow-up Protocol for traveller contacts (Appendix 1) describes the process for rapidly contacting travellers through SMS, Email and by phone. Draft scripts are provided in Appendices 2 and 3.

## 7.2 Legal aspects – Public health orders for contacts

People identified as close contacts who refuse to comply with voluntary quarantine recommendations may need to be served with a Public Health Order to enforce quarantine restrictions. See [Legal Aspects](#) section.

An example Public Health Order for COVID-19 Contacts is included in Appendix 10.4.

## 7.3 Transport

Passengers and crew who are close contacts and are well and live locally can either take their own private transport, or will be transported home by NSW Health staff for isolation. This will be as per HealthShare NSW.

For passengers and crew who are close contacts and are well and do not live locally, high volume transport of passengers will be required. This will be arranged in accordance with the HealthShare NSW transport plan. This plan can be activated with two hours' notice. Up to 672 passengers would be able to be transported within 12 hours using rental vehicles and driven by NSW Health staff. While HSNSW, eHealth fleet and rental cars will be used for any remaining passengers.

## 7.4 Accommodation

Accommodation will be sought for passengers and crew who are close contacts and are well but do not live locally or do not have appropriate accommodation. High volume suitable accommodation is required for 14 days. This will include Hotels or other private facilities, Sports and recreation facilities or other government facilities. The facilities are required to have single/family rooms and en suites, access to meals, internet and mobile/telephone services, laundry, medical assessment areas, security, welfare support, as well as entertainment and appropriate recreation space in accordance with isolation and quarantine.

Responsible agency TBC

## 7.5 Symptom and welfare monitoring of close contacts

After Service NSW conducts initial notification phone calls (Appendix 1), close contacts will be monitored for symptoms by NCIMS automated checks.

NCIMS symptoms checks will be sent via text message daily and passengers to respond back via text. The relevant local health district will follow up these passengers as per their usual automated systems process.

Service NSW to conduct welfare checks one week into isolation to ask about wellbeing; issues with self-isolation; offer suggestions for food delivery, and check on symptoms.



## 7.6 Resources

HealthShare are packing and distributing 5000 Home Isolation kits directly to SESLHD and SLHD. The kits include 5 surgical masks, one personal hand sanitiser and the passenger and crew cruise ship information sheet on home isolation and FAQs. SESLHD and SLHD will transport kits to the port as appropriate.

The Information sheet for passengers and crew will be given to all those assessed once the cruise ship has docked. Method for distribution to passengers and crew is TBD by NAME REDACTED.

Food delivery will be required in the instance that passengers are required to remain on-board until all test results have been received. HealthShare have proposed to organise food packs/bags with shelf stable food. HealthShare have indicated that they would need 12 to 24 hours notice before catering is required. If a cruise ship is classified as high risk (following daily cruise ship risk assessment) operations team will contact HealthShare to indicate this need.

Refer to NSW Health Guideline on Public Health Contact Orders which gives some suggestions on how to support people in home quarantine.

## 8 Casual contact management

These are people who are considered to have had low level contact and who just need to be informed and provided information on self-monitoring for symptoms and who to contact if symptoms develop.

### 8.1 Initial communication

Once a positive case has been detected, casual contacts will be notified immediately via text and e-mail using the PRODOCOM system (see Appendix 1).

Casual contacts do not need to isolate but will need to look out for symptoms and seek medical attention.

If possible NSW Health will be made in partnership with the cruise ship staff.

### 8.2 Further communications

Possible a Service NSW call after one week?

### 8.3 Resources

Casual contact will be provided with the casual contacts information sheet via email.

## 9 Interstate and overseas contacts

### 9.1 Communications

Procedure required for communicating to states if contact have travelled on, and via the NIR for overseas travellers.



## 10 Appendices

### 10.1 Appendix 1: Rapid Contact and Follow-up Protocol for traveller contacts

#### 1. SMS

- Send SMS (**script**) to travellers via NCIMS (160 characters)
- SMS will include:
  - Link to further information
  - Reference that they will receive an email and phone call
- Different script for close and casual contacts?

#### 2. E-mail

- Send e-mail (**script**) to travellers
- Email will include:
  - website link to resources (e.g. isolation guidelines)
  - Advice to call Service NSW/Public Health Unit
- Travellers will be asked to contact Service NSW or the PHU

#### 3. Phone call

- Service NSW will call the travellers (**script**)
- Different script for close and casual contacts
- Check for any current symptoms requiring further assessment by PHU/LHD

#### 4. Daily SMS/Email from NCIMS

- Symptom check linked to Event and PHU workflows

#### 5. Weekly Service NSW welfare check:

- Conduct welfare check for all cases and contacts in isolation
- Provide advice if they become unwell
- Refer to contact tracing team if required

## 10.2 Appendix 2: Script (draft) - CLOSE CONTACTS

Text message	<p>The text message options are limited to either 150 characters for NCIMS or 160 characters Prodocom.</p> <p>"NSW Health message to XXXXXXXXXXXX cruise travellers: someone diagnosed with coronavirus. Info is being emailed and you will be contacted by phone" (145 characters)</p>
Email	<p>"Dear X,</p> <p>We are contacting you as you as you recently travelled on the (cruise ship, date of arrival). A passenger who was on your cruise has tested positive for novel coronavirus (COVID-19). NSW Health is following up ALL NSW residents that were on this cruise.</p> <p>All passengers and crew members are advised to self-isolate and wear a mask for 14 days following day of disembarkation. You should not attend work or school, and should not leave your home or hotel to go shopping until [date of 14 days of isolation]. Further information regarding home isolation and answers to frequently asked questions is provided below.</p> <p>You will receive a call in the next 3 working days from Service NSW on behalf of NSW Health to provide you with an opportunity to discuss any further questions you may have.</p> <p>Please reply to this email or contact xxxx xxxx between [give the bunker hours xxx] for further enquiries.</p> <p>Close contact factsheet</p> <p><a href="https://www.health.nsw.gov.au/infectious/factsheets/Pages/novel-coronavirus-close-contact.aspx">https://www.health.nsw.gov.au/infectious/factsheets/Pages/novel-coronavirus-close-contact.aspx</a></p> <p>Home Isolation Guide for travellers</p> <p><a href="https://www.health.nsw.gov.au/infectious/factsheets/Pages/hubei-contacts-and-travellers.aspx">https://www.health.nsw.gov.au/infectious/factsheets/Pages/hubei-contacts-and-travellers.aspx</a></p> <p>Frequently asked questions</p> <p><a href="https://www.health.nsw.gov.au/infectious/alerts/Pages/coronavirus-faqs.aspx">https://www.health.nsw.gov.au/infectious/alerts/Pages/coronavirus-faqs.aspx</a></p> <p>Cruiseship workshop meeting 26/2: "Need a number for passengers to call if they have questions if Service NSW are slow to respond"</p> <p>Yours Sincerely,</p> <p>Health Protection NSW</p> <p>NSW Health"</p>
Service NSW call	<p>"Hi, this is ... and I'm calling from Service NSW on behalf of the NSW Ministry of Health. We've been advised that you were recently a passenger on board (name of vessel, date of arrival).</p> <p>One of the other travellers on the ship has been confirmed as having a novel coronavirus infection, also known as COVID-19. All passengers need to home isolate for 14 days from the day of disembarkation. This means you should not attend work or school, and should not leave your home or hotel to go shopping until midnight of [date of 14 days of isolation].</p> <p>Before I describe what home isolation means, can I ask if you currently sick...</p> <p>[I assume we would use the same wording already used in the welfare check, with urgent referral to Health if they do have symptoms]..</p>

	<p>No? Great.</p> <p>If you are sharing your home with other people who are not in home isolation, you should try to separate yourself as much as possible. It is recommended that you:</p> <ul style="list-style-type: none"> <li>• <b>wear a surgical mask when you are in the same room as someone not in home isolation</b></li> <li>• <b>use a separate bathroom, if available</b></li> <li>• <b>avoid shared or communal areas and wear a surgical mask when moving through these areas, and</b></li> <li>• <b>not have other people visit your home while you are in isolation (except to deliver groceries and other supplies and you should wear a facemask if you are face to face with anyone delivering things).</b></li> </ul> <p>If you develop any new symptoms, including cough, sore throat, fever or difficulty breathing, please call health direct on 1800 022 222 for further advice on how to get tested/reviewed by a medical practitioner. If you go to your GP or emergency department, please ensure you phone ahead to let the staff know your travel history.</p> <p>You will be provided information regarding home isolation via email and you can access further information regarding novel coronavirus on the NSW Health Website. If you have not yet received this information, please give me your email address I can send it to you now"</p>
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### 10.3 Appendix 3: Script (draft) - CASUAL CONTACTS

Text message	The text message options are limited to either 150 characters for NCIMS or 160 characters Prodocom.
	"NSW Health message to XXXXXXXXXX cruise travellers: someone diagnosed with coronavirus. Info is being emailed to you"
Email	<p>"Dear X,</p> <p>We are contacting you as you as you recently travelled on the (cruise ship, date of arrival). A passenger who was on your cruise has tested positive for novel coronavirus (COVID-19).</p> <p>You are classified as a casual contact. You do not need to self-isolate, but if you develop symptoms of fever, sore throat, shortness of breath or cough, please call Healthdirect on 1800 022 222 for further advice on how to get tested/reviewed by a medical practitioner.</p> <p>Frequently asked questions</p> <p><a href="https://www.health.nsw.gov.au/infectious/alerts/Pages/coronavirus-faqs.aspx">https://www.health.nsw.gov.au/infectious/alerts/Pages/coronavirus-faqs.aspx</a></p> <p>Yours Sincerely,</p> <p>Health Protection NSW</p> <p>NSW Health"</p>

#### 10.4 **Appendix 4** – Examples of a public health orders for ~~cases and~~ contacts

See below.



## Public Health Act 2010

### Section 62

#### Public Health Order

I, NAME, POSITION, and an authorised medical practitioner within the meaning of section 60 of the Public Health Act 2010 (Act), am satisfied on reasonable grounds that [NAME OF PERSON] is a person:

- Has been exposed to Novel Coronavirus 2019 and
- Is at risk of developing the Novel Coronavirus 2019 and
- Because of the way that [NAME OF PERSON] behaves, may be a risk to public health.

Therefore, in accordance with section 62 of the Act, I make this public health order requiring [NAME OF PERSON] to:

- a) Refrain from the following conduct:
  - a. Entering or remaining in any public place or any premises other than [NAME OF PERSON] usual place of residence unless permitted by .....NAME...
- b) Undergo oropharyngeal and nasopharyngeal swab testing for Novel Coronavirus 2019 as directed by .....NAME...
- c) Undergo a medical physical examination for signs of Novel Coronavirus 2019 as directed by .....NAME.....
- d) Notify .....NAME.....of persons you have been in contact with in the last 14 days.
- e) Notify .....NAME.....if you display SPECIFIED SIGNS OR SYMPTOMS

The circumstances justifying the making of this order are as follows:

- 1) I am satisfied on reasonable grounds that [NAME OF PERSON] has been exposed to Novel Coronavirus 2019 being a disease transmissible via close contact with someone with Novel Coronavirus 2019.
- 2) I am satisfied that [NAME OF PERSON] is not complying with the advice and directions of clinicians/will not comply with the reasonable advice and direction of clinicians
- 3) There is no other effective way to ensure that the health of the public is not endangered or likely to be endangered.

In deciding to make this order, I have taken into account the principle that any restriction on the liberty of the person should be imposed only if it is the most effective way to prevent any risk to public health pursuant to section 62(6) of the Public Health Act 2010.

I have not taken into account the matters listed in clause 39 of the Public Health Regulation 2012 as it is an emergency or otherwise not reasonably practicable.

Unless this order is earlier varied as to its duration or is earlier revoked it expires at the end 14 days. However, the order will expire at the end of 3 business days from the date of service on [NAME OF

PERSON] unless s/he is served with a copy of an application for its confirmation under section 64 of the Act within 3-business days from the date of service.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 2020

Signature.....

[NAME]

[Position]

Authorised Medical Practitioner

This order was served on [NAME OF PERSON] on \_\_\_\_\_ day of \_\_\_\_\_ 2020

.....

Signature

.....

Print name

TBA

# CRUISE SHIP COVID-19 ASSESSMENT PROCEDURE FOR PORTS OF FIRST ENTRY INTO AUSTRALIA

DRAFT 11 AM 19 Feb 2020

This procedure describes measures and communication mechanisms to improve the detection and timely management of potential cases or outbreaks of COVID-19 on cruise ships.

## Existing measures

- Cruise ships are subject to biosecurity controls when entering Australia under the Biosecurity Act 2015 (Department of Agriculture, Water and the Environment [DAWE]). Under the Maritime Arrivals Reporting System (MARS), the vessel submits the Pre Arrival Report and Human Health Update to the Maritime National Coordination Centre between 96 and 12 hours before estimated time of arrival.
- As of 14 February 2020, these forms have been updated to include:
  - whether the vessel has been in mainland China less than 14 days ago
  - whether any person on the vessel has been in mainland China less than 14 days ago
  - whether any person on the vessel has been in contact with a proven case of novel coronavirus infection within the last 14 days.
- In addition to the reports, under the Act the ship's master must report people with symptoms of Listed Human Diseases (LHD) including coronavirus with pandemic potential, to Biosecurity before arrival. As a result, passengers and crew who are feeling unwell on arriving in Australia should see a Biosecurity Officer, who will ask about where the person has travelled, when they began to feel unwell, and what symptoms they have.
- Cruise ship operators have measures in place to detect and manage outbreaks of respiratory illness, with operating procedures in place to monitor rates of illness for comparison with expected rates according to the itinerary and cruise length.
- Operators often have relationships with public health units and share information in the event of unusual disease activity.

## Enhanced measures

All cruise ships that are arriving from international waters will be risk assessed by the Chief Human Biosecurity Officer.

Key criteria for the risk assessment include information from the ship before its arrival as to whether:

- any passengers or crew have been in high risk areas in the 14 days prior or contact with a confirmed case of COVID-19
- there is undiagnosed respiratory illness among passengers or crew that is clinically compatible with COVID-19.

For ships assessed to be at higher risk, an Assessment Team will meet the ship at a port designated by the Chief Human Biosecurity Officer. The composition of the Assessment Team may be agreed by the jurisdictional health authority and the DAWE.

## Pre-arrival requirements

- The ship is required to:
  - Maintain a list of passengers and crew who have been in mainland China<sup>1</sup> and countries included in Australian COVID-19 testing criteria<sup>2</sup> in the 14 days before embarking
  - Maintain a list of passengers and crew on the vessel who have been in contact with a confirmed case of COVID-19 within 14 days of embarking
  - Maintain accurate contact information (mobile phone and email addresses) for all passengers and crew to allow rapid communication if needed following disembarkation
  - Actively ask passengers and crew if they have respiratory symptoms or fever and ask them to present to the ship's doctor for assessment free of charge
  - Ensure all passengers with respiratory symptoms and/or fever are isolated while on board and provide them with hand rub and masks for onward travel
  - Ensure crew attending to isolated patients wear protective PPE (surgical masks) and practice good hand hygiene.
  - Identify an appropriate space on board for a medical team to assess passengers and assist in the assessment of passengers, if required.

## Pre-arrival respiratory illness screening

- Where passengers or crew present with respiratory illness, the ship's doctor must:
  - Request and record a history of all countries visited in the 14 days prior to embarkation.
  - Wear appropriate PPE while assessing patients with respiratory illness and collecting specimens.
  - Collect 2 swabs – perform rapid influenza test and store second sample for COVID-19 testing
  - Isolate patients as above
  - Update details on the ship's Acute Respiratory Disease (ARD) log
  - Refer to the coronavirus information for primary and community health workers for further information about management of the passengers:  
<https://www.health.gov.au/resources/publications/coronavirus-covid-19-information-for-primary-and-community-health-workers>.

## Pre-disembarkation

The ship must:

- Inform the jurisdictional health authority where a respiratory outbreak (>1% of people on board affected) is identified on board
- Provide a list of any planned medical disembarkations
- Provide a list of any deaths during the cruise, including cause of death.
- Identify passengers and crew who require screening by the Assessment Team
  - Anyone with current respiratory symptoms
  - OR
  - Anyone who has travelled in China (including Hong Kong), Thailand, Singapore, Japan or Indonesia in the 14 days prior to embarkation.
  - OR
  - Anyone who was seen by the clinic during the cruise with fever and/or ARI
- Provide the Letter and Traveller Record Form (attached) to all passengers who require assessment by the Assessment Team to complete

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<sup>1</sup> May be expanded if suspect case definition changes

<sup>2</sup> As of 14 February 2020 includes China (including Hong Kong), Thailand, Japan, Indonesia, Singapore



Where a respiratory outbreak is reported, the cruise ship must also provide a report to the jurisdictional point of contact that includes:

- A copy of the full ARD log (including details of patients presenting with fever or acute respiratory illness, countries they have visited in the 14 days prior to embarkation, and results of rapid influenza testing)
- The patient details and total number of swabs/sputum samples for COVID-19 testing.

## Risk Assessment – High Risk

Where:

- **a respiratory outbreak (affecting at least 1% of those on board) is reported on a cruise ship that is not explained by positive influenza tests, and**
- **affected passengers or crew have visited a mainland China in the 14 days before embarkation OR had contact with a confirmed case in the 14 days before embarkation**

Where the Chief Human Biosecurity Officer assesses that there is a high risk that COVID-19 may be circulating on the ship:

- An Assessment Team will meet the ship
- The ship must urgently provide swabs from any person suspected with fever or respiratory infection for testing prior to disembarkation.
- The ship will **not** be allowed to disembark passengers or crew until given clearance by the Chief Human Biosecurity Office
- Clearance to disembark can only be granted following results of COVID-19 testing
- ***If the swabs test positive then:***
  - All passengers and crew must be asked about fever or respiratory symptoms by the Assessment Team
  - Passengers and crew who report fever or respiratory symptoms must be isolated and assessed for CoVID-19; if CoVID-19 is excluded they move to home quarantine for 14 days in case infection later develops.
- ***If the swabs test negative then the Assessment Team will assess passengers and crew as for low risk assessment***

## Risk Assessment – Medium Risk

Where:

- **a respiratory outbreak (affecting at least 1% of those on board) is reported on a cruise ship, and either:**
  - **passengers or crew have visited a country included in Australian COVID-19 testing criteria in the 14 days before embarkation, or**
  - **there are other features of concern (such as where one or more cases has severe respiratory illness, or the outbreak is not explained by positive influenza tests)**

Where the Chief Human Biosecurity Officer assesses that there is a medium risk that COVID-19 may be circulating on the ship:

- An Assessment Team will meet the ship
- Prior to the ship disembarking, the Assessment Team will review passengers and crew who report fever or respiratory symptoms, or who have visited a country included in Australian COVID-19 testing criteria in the 14 days before embarkation.



- The Assessment Team will measure temperature, review symptoms and exposure history and will swab for COVID-19 where clinically appropriate unwell passengers and crew. Passengers and crew may be disembarked to isolation.
- Any samples taken on board for influenza testing must be forwarded to the lab for COVID-19 testing on arrival into the port.
- The Assessment Team will provide clearance for other passengers and crew who are well to disembark.

## Risk Assessment – Low Risk

Where there is:

- no respiratory outbreak, or
- a respiratory outbreak that is explained by positive influenza test results and no one on board has visited a country included in Australian COVID-19 testing criteria in the 14 days before embarkation, or had contact with a confirmed case in the 14 days before embarkation

Where the Chief Human Biosecurity Officer assesses that there is a low risk that COVID-19 may be circulating on the ship:

- No further assessment is required

## Reporting of positive and negative COVID-19 test results

- Should any sample test positive for SARS-CoV-2, indicating COVID-19, a specific response will be mounted to manage the potential outbreak, including rapidly contacting all passengers to ensure that they self-isolate and to be tested and managed if symptomatic.
- The Assessment Team will keep contact details for all passengers/crew members who are being tested for COVID-19, and will reporting all negative test results to the individual passengers/crew members.

## Appendix 1: Traveller Record Form

Arrival date:

Vessel name:

Assessors name: \_\_\_\_\_

FAMILY NAME:

Date of birth:

Sex: F/M

GIVEN NAMES:

Patient/parent contact details:

Email:

Mobile:

Contact in Australia (if not Australian resident):

Phone:

Address:

Travel details in the 14 days prior to joining the cruise:

Date	Location

Onward travel arrangements (dates, transport, accommodation, contact details)

Other accompanying travellers:

Symptoms of illness (tick if present):

☐

Cough

☐

Fever

☐

Runny nose

☐

Shortness of breath

☐

Other: \_\_\_\_\_

☐

Nil

Onset of first symptom: \_\_\_\_/\_\_\_\_/\_\_\_\_

HEALTH USE ONLY:

Measured temp: First:

Second (if needed):

Other clinical notes (if applicable):

PLAN (if applicable):

☐

Factsheet

☐

Hand gel/masks

☐

Swab

☐

Transfer

☐

Other:

## Pre-arrival risk assessment form

Key questions	Answer	Details (names and dates, etc)
Name of ship		
Date and time of arrival in NSW		
Terminal of arrival		
Has the ship been in a <b>foreign</b> port during the cruise or in last 14 days?		
Ports visited and dates during the cruise or in last 14 days		
Has the ship had a health <b>assessment</b> at the previous port?		
Number of <b>passengers</b> on board		
Number of <b>crew</b> on board		
Port of <b>origin</b> of this cruise		
Date of <b>departure</b>		
Number of passengers and crew have been in <b>contact</b> with a confirmed case		
Number of passengers and crew who have been in mainland <b>China</b> within 14 days of embarking		
Has the ship obtained accurate <b>contact information</b> (mobile phone and email addresses) for all passengers?		
Has the ship ensured all passengers with respiratory symptoms and fever are <b>isolated</b> while on board and provide them with hand <b>rub</b> and <b>masks</b> for onward travel?		
Has the ship actively <b>asked</b> passengers and crew if they have respiratory symptoms or fever AND asked them to present to the ships doctor for assessment <b>before</b> arrival?		
Is assessment <b>free</b> of charge?		
Number of passengers and crew who <b>presented</b> to ship's clinic with acute respiratory illness this cruise		
% of ship's crew/passengers who had influenza like illness		
Number of ill passengers and crew who have been in countries (excluding transit) included in the <b>Australian CoVID-19 testing</b> criteria in the 14 days before embarkation		
Total number of passengers and crew <b>swabbed</b> for flu, and number tested positive this cruise		
Number of swabs <b>available</b> for COVID-19 testing		
<b>Considering</b> <ul style="list-style-type: none"> <li>the exposures of the passengers and crew, and</li> <li>the nature of the illness and the results of flu testing</li> </ul> what is the risk that COVID-19 is circulating on board?	High  Medium  Low	
If <b>low</b> , then <b>additional assessment</b> of the ship is not generally required.		
If <b>medium or high</b> :		
Do <b>swabs need to be urgently removed</b> from the ship before disembarkation for urgent COVID-19 testing? (High risk would usually require this, low would usually not, <b>medium</b> will require discussion)		

Can <b>passengers and crew disembark</b> because contact details are readily available and symptomatic people can on travel safely home with a mask, fact sheet and had rub, before the results are known? ( <b>Low</b> risk would usually allow this, <b>high</b> would usually not, <b>medium</b> will require discussion)		
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## CRUISE SHIP SCREENING PROCEDURE FOR PORTS OF FIRST ENTRY INTO AUSTRALIA

### Pre-arrival risk assessment form

Completed by [REDACTED]

Key questions	Answer	Details (names and dates, etc.)
Name of ship	Ruby Princess	83997 net tonnage (medium/large)
Date and time of arrival in NSW	19 March 06:00	
Terminal of arrival	Overseas Passenger terminal  <i>NB: Ship has advised of the possibility of them coming to anchorage today (18 March) to land specimens.</i>	
Port of origin of this cruise	Sydney, Australia	
Date of departure	8 March 2020	
Has the ship been in a foreign port during this cruise in last 14 days?	Yes	
Ports visited and dates during this cruise in last 14 days	4 March- Dunedin, New Zealand 5 March- Fiordland, New Zealand 8 March- Sydney, Australia 11 March Fiordland, New Zealand 12 March- Dunedin, New Zealand 13 March- Akaroa, New Zealand 14 March- Wellington, New Zealand 15 March- Napier, New Zealand 16 March- Tauranga, New Zealand 17 March- Auckland, New Zealand  (May not have stopped at all ports)	
Has the ship had a health assessment at the previous port?	Unknown	Have cut cruise short
Number of passengers on board	2647 (MARS)	
Number of crew on board	1148 (MARS)	



## CRUISE SHIP SCREENING PROCEDURE FOR PORTS OF FIRST ENTRY INTO AUSTRALIA

Number of passengers and crew have been in <b>contact</b> with a confirmed case	0	
Number of passengers and crew who have been in mainland <b>China, Iran, South Korea or Italy</b> within 14 days of embarking	0	
Has the ship obtained accurate <b>contact information</b> (mobile phone and email addresses) for all passengers?	Yes- confirmed by Doctor and attached to correspondence.	
Has the ship ensured all passengers with respiratory symptoms and fever are <b>isolated</b> while on board and provide them with hand <b>rub</b> and <b>masks</b> for onward travel?	Yes	Advised via email and confirmed isolation of passengers
Has the ship actively <b>asked</b> passengers and crew if they have respiratory symptoms or fever AND asked them to present to the ship's doctor for assessment before arrival?	Yes	Confirmed by Doctor
Is assessment <b>free</b> of charge?	Yes- confirmed by Doctor	
Number of passengers and crew who <b>presented</b> to ship's clinic with acute respiratory illness this cruise	104	104/ 3795 2.7%
% of ship's crew/passengers who had influenza like illness	0.94%	36/3795
Number of ill passengers and crew who have been in countries included in the <b>Australian CoVID-19 testing</b> criteria in the 14 days before embarkation	0	
Total number of passengers and crew <b>swabbed</b> for flu, and number tested positive this cruise	48	24 positive for influenza A
Number of swabs <b>available</b> for COVID-19 testing	8	Another 5 tested on board as negative for COVID-19.
<b>Other</b>	No deaths 2 medical disembarkations (see below) No further itinerary planned <b><i>Ship has advised of the possibility of them coming to anchorage today (18 March) to land specimens.</i></b>	
<b>Considering</b> <ul style="list-style-type: none"> <li>the exposures of the passengers and crew, and</li> <li>the nature of the illness and the results of flu testing</li> </ul> What is the risk that COVID-19 is circulating on board?		

## CRUISE SHIP SCREENING PROCEDURE FOR PORTS OF FIRST ENTRY INTO AUSTRALIA

If <b>low</b> , then <b>additional assessment</b> of the ship is not generally required.	
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### Medical disembarkations

**537** (Australian, no travel history of significance outside of NSW and NZ; febrile upper respiratory tract infection which is improving on Oseltamivir, Influenza test neg; reason for medical disembarkation: signs of rate related cardiac ischaemia, likely secondary to infective process on initial presentation, which has since improved. He requires a cardiology consult with investigations prior to proceeding home) **Ambulance transfer required**

**C518** (Australian, no travel history of significance outside of NSW and NZ; febrile upper respiratory tract infection started on Oseltamivir, Influenza tests neg; reason for medical disembarkation: severe lower backpain with signs suggestive of a femoral nerve radiculopathy. This is pre-existing to the respiratory tract infection. She needs assessment in the ED with imaging and specialist referral as needed) **Ambulance transfer required**

## CDNA COVID-19 Case Definition (current on 19 March 2020)

### Confirmed case

A person who tests positive to a validated specific SARS-CoV-2 nucleic acid test or has the virus identified by electron microscopy or viral culture, at a reference laboratory.

### Suspect case

If the patient satisfies **epidemiological and clinical criteria**, they are classified as a suspect case.

#### **Epidemiological criteria**

International travel in the 14 days before the onset of illness.

Or

Close contact (see close and casual contact definitions below) in the 14 days before illness onset with a confirmed case of COVID-19.

#### **Clinical criteria**

Fever

Or

Acute respiratory infection (e.g. shortness of breath, cough or sore throat) with or without fever.

### Close contact definition

A close contact is defined as requiring:

greater than 15 minutes face-to-face contact in any setting with a confirmed case in the period extending from 24 hours before onset of symptoms in the confirmed case, or sharing of a closed space with a confirmed case for a prolonged period (e.g. more than 2 hours) in the period extending from 24 hours before onset of symptoms in the confirmed case.

Review of

'NSW Health Report on the Ruby Princess Cruise of 8 to 19 March 2020'

1. This review is based on the 'NSW Health Report on the Ruby Princess Cruise of 8 to 19 March 2020' (henceforth referred to as 'the Report') and Appendices provided to me on the 2 April 2020. I note that I provided feedback to the draft version of the Report to clarify details and to seek additional information.
2. The Report provides an overview of the policy and operational procedures relevant to the decisions around disembarkation processes for passengers and crew from the 8-19<sup>th</sup> March cruise of the Ruby Princess and the chain of events in decision making. This review only considers the consistency of the chain of events with the relevant policies and procedures and not broader contextual issues around the risk of COVID-19 on cruise ships at that time.
3. Based on an assessment of the documentation provided within the Report and its Appendices, and assuming the appropriate risk assessment was applied, the processes reported that allowed passengers and crew to leave the vessel without clinical assessment or testing of each passenger and crew member appear consistent with:
  - a. National and State government laws and decisions applicable for docking of cruise ships up to and including the 19<sup>th</sup> March 2020.
  - b. The *National Protocol for managing novel Coronavirus disease (COVID-19) risk from Cruise Ships* (Version 1, dated 6 March 2020).
  - c. The *Cruise Ship COVID-19 Assessment Procedure for Ports of first entry into Australia* (Draft 11 AM 19 Feb 2020).
  - d. NSW Health policy for risk assessment and the operational procedures and policies adopted by NSW Health since 9th March 2020 for assessing the COVID-19 risks of cruise ships seeking to dock in Sydney (*Enhanced COVID-19 Procedures for the Cruise Line Industry* Updated 9 March 2020).
4. Similarly the response to follow up of passengers and crew who had disembarked from the Ruby Princess on the 19<sup>th</sup> March 2020 once it was known that there had been passengers with COVID-19 on the cruise appears consistent with draft operational procedure 'NSW Health COVID-19 cruise ship response procedures for confirmed cases in passengers or crew' (DRAFT 26 Feb 2020). I note that this document is still in draft form.
5. The key decision as to what processes to follow when a ship returns is dependent on the cruise risk assessment that determines whether the cruise and the passengers and crew on the ship for that cruise constitute a high, medium or low risk for COVID-19 as defined in the *Cruise Ship COVID-19 Assessment Procedure for Ports of first entry into Australia* (Draft 11 AM 19 Feb 2020). This assessment is based on information supplied by the ship 24 hours before docking including information about illness experienced during the cruise, potential sources of infections including potential exposures passengers may have had prior to embarkation, any dockings, and other factors set out in the pre-arrival risk assessment form. This information is considered by the Human Biosecurity Officer (and in NSW a panel of public health officers) in making the risk

assessment and there is a dependency on the ship for the completeness of that information.

6. The standard pre-arrival risk assessment form follows the requirements of the *Enhanced COVID-19 Procedures for the Cruise Line Industry* Updated 9 March 2020, and at the time required only the number of passengers and crew who have been in mainland **China, Iran, South Korea or Italy** within 14 days of embarking (that is countries which were considered high risk for COVID-19 at that time). It does not, for example, record whether there were passengers meeting the broader Communicable Diseases Network of Australia definition of a suspect case (respiratory illness or fever and international travel in 14 days before the onset of the illness). The more limited requirement of the *Enhanced COVID-19 Procedures for the Cruise Line Industry* was the information supplied for the Ruby Princess cruise ending on the 19th March 2020. The Report notes that the ship's acute respiratory illness log records that 33 of the 102 reported with respiratory illness had a country of residence other than Australia but does not state whether international travel had occurred in the 14 days prior to boarding. Under the *Enhanced COVID-19 Procedures for the Cruise Line Industry* procedures the log is required to be provided in advance to NSW Health but it is not clear to what extent it was considered in informing the pre-arrival risk assessment.
7. The *National Protocol* requires that all cruise ships provide any stored swabs urgently to state/territory health officials for rapid transport to laboratory testing facilities, under coordination by the Human Biosecurity Officer (HBO). Further, the *National protocol* states that '*Provided there are no concerns about the COVID-19 risk profile of the ship or suspected COVID-19 cases reported, the HBO may advise the biosecurity officer that pratique can be granted and the ship may be allowed to continue the voyage while samples are being tested*' (page 6). This means that, as happened with the Ruby Princess, passengers and crew may disembark while that testing/retesting is underway. As noted in the Report, prolonging the stay of passengers on the ship also carries a risk of increased spread. However, where prior testing has not been performed on those samples for COVID-19, a more cautious approach would not allow disembarkation of anyone until the results of such testing was known.
8. Noting the current restrictions on cruise ships docking in Australia, for future purposes I recommend that:
  - a. The information collected in the standard pre-arrival risk assessment form be revised to allow assessment of the potential for suspect cases consistent with the CDNA definitions.
  - b. The interpretation of the COVID-19 or other risk assessment criteria leading to the risk rating should be documented for each cruise ship assessment including any broader contextual issues considered in making that assessment.
  - c. There needs to be clear guidance to the HBO on when to order testing or retesting of samples held by a ship in accordance with the *National policy* and what actions should be applied for all passengers and crew while awaiting the results of those tests. In the context of COVID-19 the default



should be that pratique not occur until the results of that COVID-19 testing are known to be negative.

- d. The draft '*NSW Health COVID-19 cruise ship response procedures for confirmed cases in passengers or crew*' should be finalised and officially endorsed.



2 April 2020

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Sydney School of Public Health  
University of Sydney

## Coronavirus Disease 2019 (COVID-19)

### CDNA National Guidelines for Public Health Units

Revision history			
Version	Date	Revised by	Changes
1.18	10 March 2020	Communicable Diseases Network Australia	Revised: Case definition, Case management, Contact management. Inclusion of Air crew and Schools advice in Special situations section.
1.17	05 March 2020	Communicable Diseases Network Australia	Inclusion of self-quarantine advice for returned travellers from South Korea, revised Case management, inclusion of table of contents.
1.16	04 March 2020	Communicable Diseases Network Australia	Inclusion of Aboriginal and Torres Strait Islander community advice in Special situations section.
1.15	03 March 2020	Communicable Diseases Network Australia	Revised: Case definition, Contact management.
1.14	02 March 2020	Communicable Diseases Network Australia	Revised: Case definition, Risk stratification of countries, Contact management.
1.13	28 February 2020	Communicable Diseases Network Australia	Revised: Laboratory testing, isolation and restriction and Appendix A: laboratory testing information.
1.12	27 February 2020	Communicable Diseases Network Australia	Inclusion of Cambodia in the list of countries in the Person under investigation section.
1.11	26 February 2020	Communicable Diseases Network Australia	Inclusion of Italy in the list of countries in the Person Under Investigation section.
1.10	23 February 2020	Communicable Diseases Network Australia	Inclusion of South Korea and Iran in the list of countries in the Person Under Investigation section.
1.9	21 February 2020	Communicable Diseases Network Australia	Revised: case definition, infectious period, contact management, special situation (cruise ship). Specific changes are highlighted.
1.8	17 February 2020	Communicable Diseases Network Australia	Inclusion of statement reflecting that passengers of the Diamond Princess cruise meet the criteria for close contact.

1.7	15 February 2020	Communicable Diseases Network Australia	Revised case definition.
1.6	14 February 2020	Communicable Diseases Network Australia	Addition of Appendix B: Interim recommendations for the use of personal protective equipment (PPE) during hospital care of people with Coronavirus Disease 2019 (COVID-19). Updated nomenclature.
1.5	7 February 2020	Communicable Diseases Network Australia	Inclusion of advice on release from isolation.
1.4	6 February 2020	Communicable Diseases Network Australia	Revised case definition and added rationale. Updated infection control advice throughout.
1.3	4 February 2020	Communicable Diseases Network Australia	Revised the case definition and use of the terms 'quarantine' and 'isolation'.
1.2	2 February 2020	Communicable Diseases Network Australia	Revised the case definition, close and casual contact definitions and added self-isolation guidance.
1.1	27 January 2020	Communicable Diseases Network Australia	Removed references to Wuhan and revised the case definition
1.0	23 January 2020	Communicable Diseases Network Australia	Developed by the 2019-nCoV Working Group

*This document summarises interim recommendations for surveillance, infection control, laboratory testing and contact management for coronavirus disease 2019 (COVID-19). It is the first national guidance issued for COVID-19 and will be further developed into the Coronavirus Disease 2019 (COVID-19) CDNA National Guidelines for Public Health Units (COVID-19 SoNG).*

*It has been adapted from CDNA National Guidelines for Public Health Units MERS-CoV, utilising current CDC and WHO guidance, and is based on the current knowledge of the situation in mainland China and other countries, and experiences with SARS-CoV and MERS-CoV.*

*CDNA will review and update these recommendations as required as new information becomes available on the situation.*

*These interim Guidelines are to be used in the first instance whilst a Series of National Guidelines is being developed by the Communicable Diseases Network Australia (CDNA).*

*These interim guidelines capture the knowledge of experienced professionals, and provide guidance on best practise based upon the best available evidence at the time of completion.*

*Readers should not rely solely on the information contained within these Guidelines. Guideline information is not intended to be a substitute for advice from other relevant sources including, but not limited to, the advice from a health professional. Clinical judgement and discretion may be required in the interpretation and application of these guidelines.*

*The membership of the CDNA and the AHPPC, and the Commonwealth of Australia as represented by the Department of Health ('the Commonwealth'), do not warrant or represent that the information contained in these Guidelines is accurate, current or complete. The CDNA, the AHPPC and the Commonwealth do not accept any legal liability or responsibility for any loss, damages, costs or expenses incurred by the use of, or reliance on, or interpretation of, the information contained in these Guidelines.*

## **Abbreviations and definitions**

- COVID-19: coronavirus disease 2019. The name of the disease caused by the virus SARS-CoV-2, as agreed by the World Health Organization, the World Organization for Animal Health and the Food and Agriculture Organization of the United Nations. For more information, see the World Health Organization Director-General's remarks: <https://www.who.int/dg/speeches/detail/who-director-general-s-remarks-at-the-media-briefing-on-2019-ncov-on-11-february-2020>
- SARS-CoV-2: severe acute respiratory syndrome coronavirus 2. The formal name of the coronavirus that causes COVID-19, as determined by the International Committee on Taxonomy of Viruses. Previously, this coronavirus was commonly known as 'novel coronavirus 2019 (2019-nCoV)'. For more information see the International Committee on Taxonomy of Viruses manuscript: <https://www.biorxiv.org/content/10.1101/2020.02.07.937862v1.full.pdf>

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## 1. Case definition

### **Confirmed case**

A person who tests positive to a validated specific SARS-CoV-2 nucleic acid test or has the virus identified by electron microscopy or viral culture.

### **Suspect case**

- A.** If the patient satisfies epidemiological and clinical criteria, they are classified as a suspect case.

#### *Epidemiological criteria*

- International travel in the 14 days before illness onset.

OR

- Close or casual contact (see [Contact definition](#) below) in 14 days before illness onset with a confirmed case of COVID-19.

#### *Clinical criteria*

- Fever.

OR

- Acute respiratory infection (e.g. shortness of breath, cough, sore throat) with or without fever.

- B.** If the patient has bilateral severe community-acquired pneumonia (critically ill\*) and no other cause is identified, with or without recent international travel, they are classified as a suspect case.

\*requiring care in ICU/HDU, or for patients in which ICU care is not appropriate, respiratory or multiorgan failure. Clinical judgement should be exercised considering the likelihood of COVID-19.

- C.** If the patient has moderate or severe community-acquired pneumonia (hospitalised) and is a healthcare worker, with or without international travel, they are classified as a suspect case.

### **Rationale for current case definitions**

The case definitions are based on what is currently known about the clinical and epidemiological profile of cases of COVID-19 presenting to date both in Australia and internationally. Health authorities are constantly monitoring the spectrum of clinical symptoms as cases arise, and, if there are any significant shifts, they will be reflected in the above definitions in future versions of this document.

The 14 day period is based upon what is currently known to be the upper time limit of the incubation period. As more precise information about the incubation period emerges, this will be reviewed.



## 2. Laboratory testing

Patients meeting the suspect case definition ([above](#)) should be tested for SARS-CoV-2. Where applicable, consult with your state/territory communicable diseases agency to seek advice on which laboratories can provide SARS-CoV-2 testing; appropriate specimen type, collection and transport; and also to facilitate contact management if indicated.

When collecting respiratory specimens, transmission-based precautions should be observed whether or not respiratory symptoms are present.

For most patients with mild illness in the community, collection of upper respiratory specimens (i.e. nasopharyngeal or oropharyngeal swabs) is a low risk procedure and can be performed using **contact and droplet precautions**:

- Perform hand hygiene before donning gown, gloves, eye protection (goggles or face shield), and surgical mask.
- To collect throat or nasopharyngeal swab stand slightly to the side of the patient to avoid exposure to respiratory secretions, should the patient cough or sneeze.
- At completion of consultation, remove personal protective equipment (PPE) and perform hand hygiene, wipe any contacted/contaminated surfaces with detergent /disinfectant.
- Note that, for droplet precautions, the room does not need to be left empty after sample collection.

If the patient has severe symptoms suggestive of pneumonia, e.g. fever and breathing difficulty, or frequent, severe or productive coughing episodes then **contact and airborne precautions** should be observed.

Patients with these symptoms should be managed in hospital, and sample collection conducted in a negative pressure room, if available. If referral to hospital for specimen collection is not possible, specimens should be collected in a room from which air does not circulate to other areas. The door should be closed during specimens collection and the room left vacant for at least 30 minutes afterwards (cleaning can be performed during this time by a person wearing PPE).

The following precautions should be observed:

- Perform hand hygiene before donning gown, gloves, eye protection (goggles or face shield) and a **P2/N95 respirator – which should be fit checked**.
- At completion of consultation, remove gown and gloves, perform hand hygiene, remove eye protection and P2/N95 respirator. Do not touch the front of any item of PPE during removal; perform hand hygiene.
- The room surfaces should be wiped clean with disinfectant wipes by a person wearing gloves, gown and surgical mask.

For further information on circumstances requiring airborne precautions, see [aerosol generating procedures](#).

Routine tests for acute pneumonia/pneumonitis should be performed where indicated, including bacterial cultures, acute and convalescent serology, urinary antigen testing and nucleic acid tests for respiratory viruses, according to local protocols.

Serology for SARS-CoV-2 is not yet available. Collection of serum for storage by the SARS-CoV-2 testing laboratory is recommended to facilitate retrospective testing, if this is relevant, once serology tests become available.

See [Appendix A](#) for additional SARS-CoV-2 laboratory testing information.

### 3. Case management

#### ***Response times***

On the same day as notification of a suspected or confirmed case, begin follow up investigation and, where applicable, notify your central state or territory communicable diseases agency.

PHU staff should be available to contribute to the expert assessment of patients under investigation as possible cases on request from hospital clinicians or general practitioners.

#### ***Response procedure***

##### ***Case investigation***

The response to a notification will normally be carried out in collaboration with the clinicians managing the case, and be guided by the COVID-19 public health unit checklist and the COVID-19 investigation form (currently pending).

***Regardless of who does the follow-up, PHU staff should ensure that action has been taken to:***

- Confirm the onset date and symptoms of the illness.
- Confirm results of relevant pathology tests, or recommend that tests be done.
- Seek the treating doctor's permission to contact the case or relevant care-giver.
- Determine if the diagnosis has been discussed with the case or relevant care-giver before beginning the interview.
- Review case and contact management.
- Ensure appropriate infection control guidelines are followed in caring for the case.
- Identify the likely source of infection.

Note: If interviews with suspected cases are conducted face-to-face, the person conducting the interview must have a thorough understanding of infection control practises and be competent in using appropriate PPE.

##### ***Case treatment***

In the absence of pathogen-specific interventions, patient management largely depends on supportive treatment, and vigilance for and treatment of complications.

Further advice on clinical management is available from WHO: ([https://www.who.int/docs/default-source/coronaviruse/clinical-management-of-novel-cov.pdf?sfvrsn=bc7da517\\_2](https://www.who.int/docs/default-source/coronaviruse/clinical-management-of-novel-cov.pdf?sfvrsn=bc7da517_2))

## **Education**

Provide a COVID-19 factsheet to cases and their close contacts.

Ensure that they are aware of the signs and symptoms of COVID-19, the requirements of quarantine and isolation, contact details of the PHU and the infection control practises that can prevent the transmission of COVID-19.

## **Isolation and restriction**

Cases will generally be managed in hospital. If clinically indicated, cases may be managed at home only if it can be ensured that the case and household contacts are counselled about risk and that appropriate infection control measures are in place.

Healthcare workers and others who come into contact with suspected and confirmed cases must be protected according to recommended infection control guidelines. Visitors should be restricted to close family members.

A risk assessment should be undertaken for suspected cases who initially test negative for SARS-CoV-2. If there is no alternative diagnosis and a high index of suspicion remains that such cases may have COVID-19, consideration should be given to continued isolation and use of the recommended infection control precautions, pending further testing (see [Laboratory testing section](#) and [Appendix A](#)) and re-assessment.

While recommendations on isolation and PPE for management of suspected and confirmed cases initially took a deliberately cautious approach, emerging evidence and expert advice now supports requirements commensurate with the risk in particular clinical circumstances.

In addition to standard precautions, interim recommendations for the use of PPE during clinical care of people with possible COVID-19 are:

- **Contact and droplet precautions** are recommended for **routine care** of patients in quarantine or with suspected or confirmed COVID-19.
- **Contact and airborne precautions** are recommended when performing **aerosol-generating procedures**, including intubation and bronchoscopy, and for care of **critically ill patients** (see [Appendix B](#) for further information).

Other recommended infection control measures include:

- When a patient who meets the suspect case definition presents to a healthcare setting (GP, hospital ED, or pathology collection centre) and whether or not respiratory symptoms are present, the patient should immediately be:
  - given a surgical mask to put on, and
  - directed to a single room. If the patient has severe symptoms suggestive of pneumonia, they should be directed to a negative pressure room, if available, or a room from which the air does not circulate to other areas.
- If a patient with confirmed COVID-19 needs to be transferred out of their isolation room, the patient should wear a “surgical” face mask and follow respiratory hygiene and cough etiquette.

### Release from isolation

A confirmed case can be released from isolation if they meet all of the following criteria:

- the person has been afebrile for the previous 48 hours;
- resolution of the acute illness for the previous 24 hours<sup>1</sup>;
- be at least 7 days after the onset of the acute illness;
- PCR negative on at least two consecutive respiratory specimens collected 24 hours apart after the acute illness has resolved<sup>2,3</sup>.

<sup>1</sup>Some people may have pre-existing illnesses with chronic respiratory signs or symptoms, such as chronic cough. For these people, the treating medical practitioner should make an assessment as to whether the signs and symptoms of COVID-19 have resolved.

<sup>2</sup>If the patient has a productive cough due to a pre-existing respiratory illness or other ongoing lower respiratory tract disease, then the sputum or other lower respiratory tract specimens must be PCR negative for SARS-CoV-2. Otherwise upper respiratory tract specimens (nasopharyngeal or nose and throat swabs) must be PCR negative.

<sup>3</sup>A small proportion of people may have an illness that has completely resolved but their respiratory specimens remain persistently PCR positive. A decision on release from isolation for these people should be made on a case-by-case basis after consultation between the person's treating medical practitioner, the testing laboratory and public health. Results of viral culture, if available, may be included in this consideration.

Follow up should include the person being reviewed seven days after release from isolation for:

- clinical review to ensure full symptom resolution
- collection of a serum specimen for storage and possible later serologic testing (the person should be informed that this is for future test development and does not inform their clinical care).

Routine PCR testing at seven days after release is not recommended unless the person has clinical features consistent with COVID-19.

Faecal sampling is not recommended as a standard test, however, it may be done for patients with gastrointestinal symptoms. For cases who do have faecal samples tested, and remain persistently PCR positive in these samples after all the release from isolation criteria (above) are met, further or extended precautions and exclusions should be implemented on a case-by-case basis:

- All cases with diarrhoea should be advised not to prepare food for others until 48 hours after symptoms have resolved.
- Cases who have employment that may pose an increased risk of onward transmission (e.g. healthcare workers, restaurant workers and food handlers), should be excluded from work until 48 hours after any symptoms of diarrhoea have resolved.
- Cases with ongoing diarrhoea or faecal incontinence who may have limited capacity to maintain standards of personal hygiene should continue to be isolated until 48 hours after the resolution of these symptoms.

Patients do not require repeat testing until they are PCR negative in faecal samples. It is recommended that people who remained persistently PCR positive in faecal samples use soap and water for hand hygiene. If this is unavailable, alcohol hand gel should be used. Education emphasising the importance of proper hand hygiene should be provided to all cases upon release from isolation.

### ***Aerosol-generating procedures***

Appropriate care should be taken during aerosol-generating procedures. Aerosol-generating procedures include: tracheal intubation, non-invasive ventilation, tracheostomy, cardiopulmonary resuscitation, manual ventilation before intubation, bronchoscopy, and high flow nasal oxygen. Collection of upper respiratory specimens is not generally regarded as aerosol generating, but airborne precautions should be used for collection of specimens from severely symptomatic patients (see [Laboratory testing section](#)).

P2/N95 respirators should be used only when required. Unless used correctly, i.e. with fit-checking, they are unlikely to protect against airborne pathogen spread.

Airborne precautions should be used routinely for aerosol-generating procedures, such as bronchoscopy, intubation, suctioning etc. in hospital settings. Nebuliser use should be discouraged and alternative administration devices (e.g. spacers) should be used.

The [Laboratory testing section](#) provides detailed information on sample collection for SARS-CoV-2.

### ***Active case finding***

Contacts (see [Contact management section](#)) should be identified and advised to immediately seek medical advice should they develop symptoms. Contacts or caregivers should be asked to also inform the public health agency if they develop symptoms.

## **4. Environmental evaluation**

Where local transmission of COVID-19 is thought possible, a thorough review of contributing environmental factors should be done. This should include a review of infection control procedures, and opportunities for exposure to respiratory or faecal contamination.

If a case has had occupational exposure to animals it may be appropriate to consult with animal health authorities.

## **5. Infectious period**

Infectious period of COVID-19 remains unknown, however there is some evidence to support the occurrence of pre-symptomatic or asymptomatic transmission (1). As a precautionary approach, cases are considered to be infectious 24-hours prior to onset of symptoms. Cases are considered to pose a risk of onward transmission and require isolation until criteria listed in the [release from isolation section](#) have been met.

## 6. Contact management

As there remain gaps in the understanding of infectivity of COVID-19 cases and transmission modes, the definition of contacts and their public health management is based on available information on COVID-19 together with observations from similar serious coronaviruses – SARS-CoV and MERS-CoV. Distinction is made between close contacts and casual contacts.

### ***Identification of contacts***

All persons categorised as a contact (see definitions of “close contacts” and “casual contacts” following) of confirmed cases should be followed-up, and monitored for the development of symptoms for 14 days after the last exposure to the case (i.e. the maximum incubation period).

Contacts of suspected cases should also be considered for contact management if there is likely to be a delay in confirming or excluding COVID-19 in the suspected case, such as delayed testing

### ***Close contact definition***

A close contact is defined as requiring:

- greater than 15 minutes face-to-face contact in any setting with a confirmed case in the period extending from 24 hours before onset of symptoms in the confirmed case, or
- sharing of a closed space with a confirmed case for a prolonged period (e.g. more than 2 hours) in the period extending from 24 hours before onset of symptoms in the confirmed case.

For the purposes of surveillance, a close contact includes a person meeting any of the following criteria:

- Living in the same household or household-like setting (e.g. in a boarding school or hostel).
- Direct contact with the body fluids or laboratory specimens of a case without recommended PPE or failure of PPE.
- A person who spent 2 hours or longer in the same room (such as a GP or ED waiting room; a school classroom; communal room in an aged care facility). See [Special situations for further information specific to aged care facilities and schools](#).
- A person in the same hospital room when an aerosol generating procedure is undertaken on the case, without recommended PPE.
- Aircraft passengers who were seated in the same row as the case, or in the two rows in front or two rows behind a confirmed COVID-19 case. Contact tracing of people who may have had close contact on long bus or train trips should also be attempted where possible, using similar seating/proximity criteria.
- For aircraft crew exposed to a confirmed case, a case-by-case risk assessment should be conducted by the airline to identify which crew member(s) should be managed as close contacts. See [Special situations](#) for further information.
- If an aircraft crew member is the COVID-19 case, contact tracing efforts should concentrate on passengers seated in the area where the crew member was working during the flight and all of the other members of the crew.
- Close contacts on cruise ships can be difficult to identify, and a case-by-case risk assessment should be conducted to identify which passengers and crew should be managed as close contacts. See [Special situations](#) for further information.



Contact needs to have occurred within the period extending 24 hours before onset of symptoms in the case until the case is classified as no longer infectious by the treating team (usually 24 hours after the resolution of symptoms).

Note that healthcare workers and other contacts who have taken recommended infection control precautions, including the use of full PPE, while caring for a symptomatic confirmed COVID-19 case are not considered to be close contacts.

### ***Casual contact definition***

Casual contact is defined as any person having less than 15 minutes face-to-face contact with a symptomatic confirmed case in any setting, or sharing a closed space with a symptomatic confirmed case for less than 2 hours.

Healthcare workers who have used appropriate PPE effectively are not considered to be at risk of exposure. However, in case of unknown PPE breach, they should be advised to self-monitor and if they develop symptoms consistent with COVID-19 they should isolate themselves and notify their public health unit or staff health unit so they can be tested and managed as a suspected COVID-19 case (see recommendations below under Management of symptomatic contacts).

Other casual contacts may include:

- Extended family groups, e.g. in an Aboriginal community.
- Aircraft passengers who were not seated nearby a symptomatic confirmed case or a crew-member who did not work in the same cabin area as a symptomatic confirmed case (see close contact definition). See [Special situations](#) for further information.
- Passengers and crew onboard the same cruise ship as a symptomatic confirmed case (or cases), who are not considered to be close contacts. See [Special situations](#) for further information.

Where resources permit, more active contact tracing may be extended to other persons who have had casual contact (as defined above), particularly in school, office or other closed settings. In these circumstances, the size of the room/space and degree of separation of the case from others should be considered in identifying contacts.

### ***Returned Traveller definition***

Returned travellers are defined as those who have undertaken international travel to any country outside Australia in the last 14 days.

Different recommendations apply in management based on the risk assessment for different countries (see detail below and [Table 1](#) for a summary).

#### **Country transmission risk assessment**

##### ***Higher risk:***

Mainland China  
Iran  
Italy  
South Korea

##### ***Moderate risk:***

All other locations outside Australia

### ***Contact assessment***

All persons identified as having had contact with a confirmed case should be assessed to see if they should be classified as a close contact and have demographic and epidemiological data collected. Information on close contacts should be managed according to jurisdictional requirements.

Identification and assessment of the contacts of suspected cases may be deferred pending the results of initial laboratory testing.

### ***Close contact testing***

Routine laboratory screening for COVID-19 is not recommended for asymptomatic close contacts.

### ***Prophylaxis***

No specific chemoprophylaxis is available for contacts.

### ***Education***

Close contacts should be counselled about their risk and the symptoms of COVID-19 and provided with a COVID-19 factsheet. They should be advised to self-quarantine.

### ***Quarantine and restriction***

#### ***Close contacts***

Asymptomatic close contacts should be advised to self-quarantine at home for 14 days following the last contact with the case, and to monitor their health for 14 days after the last possible contact with a confirmed COVID-19 case.

Public health units should conduct active daily monitoring of close contacts for symptoms for 14 days after the last possible contact with a confirmed COVID-19 case.

Self-quarantined close contacts should be advised on the processes for seeking medical care. See [Medical care for quarantined individuals](#).

Less frequent active follow-up together with passive surveillance may be necessary if there are large numbers of close contacts to monitor.

For the purpose of contact management, swabs are **not** indicated during quarantine in well people. A medical clearance from a health care provider is not required for release from quarantine or for other purposes such as returning to work, school or university.

#### ***Casual contacts***

Casual contacts should monitor their health for 14 days and report any symptoms immediately to the local public health unit. There are no restrictions on movements; however, casual contacts should be advised to isolate themselves and contact the public health unit if they develop symptoms.

### ***Returned travellers***

Returned travellers who have travelled in or transited through **mainland China, Iran or South Korea** should self-quarantine at home for 14 days after leaving the higher risk country. Self-quarantined returned travellers should be advised on the processes for seeking medical care. See [Medical care for quarantined individuals](#).

All returned travellers who **have undertaken international travel** in the last 14 days should self-monitor for symptoms, practise social distancing when outside the workplace and [immediately isolate themselves if they become unwell](#).

Social distancing is an effective measure, but it is recognised that it cannot be practised in all situations and the aim is to generally reduce the potential for transmission. Whilst practising social distancing, people can travel to work (including by public transport) and carry out normal duties. Social distancing outside the workplace is aimed at nonessential activities and includes:

- Avoiding crowds and mass gatherings.
- Avoiding small gatherings in enclosed spaces, for example family celebrations.
- Attempting to keep a distance of 1.5 metres between themselves and other people where possible, for example when out and about in public spaces.

**All returned travellers who have undertaken international travel in the last 14 days who are unwell** with fever, or with respiratory symptoms (with or without fever) or other symptoms consistent with COVID-19 should be isolated and managed as per the current recommendations for suspected cases. [Table 1](#) below summarises the recommendations for travellers returning from **overseas**.

### ***Special risk settings***

#### ***Healthcare workers***

All healthcare workers should observe usual infection prevention and control practises in the workplace. **This includes healthcare workers and other staff in any setting with direct patient contact.**

Self-quarantined healthcare worker close contacts should be advised on the processes for seeking medical care. See [Medical care for quarantined individuals](#).

Public health units may assist infection control units of health facilities to identify and monitor healthcare worker close contacts.

It is recognised that clinical work restrictions on healthcare worker close contacts may place strain on individuals and on health services. This underlines the importance of ensuring healthcare workers implement appropriate infection control precautions when assessing and managing suspected, confirmed COVID-19 cases.

**Staff (including Healthcare workers) who have patient contact in a hospital or residential/aged care facility.**

Healthcare workers and other staff with close patient contact who work in hospitals or residential/aged care facilities should take additional precautions given they come into contact with a high case load of potentially vulnerable patients.

All healthcare workers and staff who have close patient contact in hospitals and/or residential/aged care facilities **who have returned from any higher risk country** should be advised not to undertake work in a health care or residential/aged care facility for 14 days since leaving the higher risk country. They should otherwise follow advice provided to other well returned travellers as above. [Table 1](#) below summarises the recommendations for healthcare workers returning from overseas.

**Table 1: Actions for travellers and healthcare workers returning from overseas.**

Risk	Country	General actions	Action for Hospital and/or Residential/Aged Care facilities*
Higher risk**	Mainland China Iran South Korea	Self-quarantine for 14 days	No work for 14 days
Higher risk**	Italy	Self-monitor for 14 days Practise social distancing Isolate if unwell	No work for 14 days
Moderate risk	All other countries	Self-monitor for 14 days Practise social distancing Isolate if unwell	Can return to work if well

\*People working in hospitals or aged/residential care facilities who have patient contact.

\*\* Travelled or transited through.

### **Aboriginal and Torres Strait Islander Communities**

CDNA will continue to monitor the emerging evidence around COVID-19 transmission risks in healthcare settings and Aboriginal and Torres Strait Islander communities and revise these recommendations as needed. For further information, see section [7. Special situations – Aboriginal and Torres Strait Islander Communities](#).

### **Medical care for quarantined individuals**

If individuals under self-quarantine need to see a doctor for any reason (e.g. fever and respiratory symptoms or other illness/injury), they should **telephone their GP or hospital Emergency Department before presenting. Patients with severe symptoms should call 000 and make it clear they are in self-quarantine or isolation because of COVID-19.** If the patient has **symptoms consistent with the COVID-19 case definition**, the local public health unit should be consulted about the most suitable venue for clinical assessment and specimen collection.

### ***Management of symptomatic contacts***

If fever or respiratory symptoms, with or without fever, or other symptoms consistent with COVID-19 develop within the first 14 days following the last contact, PHU staff should arrange for the individual to be immediately isolated and managed as per the current recommendations for suspected COVID-19 cases, with urgent testing for COVID-19 undertaken in an environment which minimises the exposure of others.

Ill contacts who are being evaluated for COVID-19 can be appropriately isolated and managed at home, unless their condition is severe enough to require hospitalisation.

Symptomatic contacts who test negative for SARS-CoV-2 by PCR will still need to be monitored for 14 days after their last contact with a confirmed COVID-19 case and may require re-testing.

## **7. Special situations**

### ***Cruise ships***

#### ***Risk assessment and identification of contacts***

Classification of contacts on cruise ships with one or more confirmed cases of COVID-19 should be made on a case-by-case basis.

#### ***Hospital transfer of suspect or confirmed cases***

If suspect or confirmed cases on board require transfer to a hospital, the Commonwealth Biosecurity Officer will notify the port authority to provide access for medical transport. The jurisdictional Human Biosecurity Officer will then coordinate transfer of the person to an appropriate medical facility for further management, via the most appropriate means that adheres to necessary precautions.

#### ***Quarantine for passengers and crew after arrival at a port***

Self-quarantine at home should be recommended for close contacts where this is feasible (e.g. persons with a residence nearby) ensuring appropriate PPE precautions are employed during travel. For close contacts for whom this is not possible, matters of self-quarantine should be addressed jurisdictionally.

#### ***Disembarking and embarking***

After all suspect and confirmed cases have been managed appropriately and the Human Biosecurity Officer has determined that no other passengers or crew have symptoms consistent with COVID-19, remaining passengers and crew will be allowed to disembark. The vessel may be permitted to commence embarking once it is certain there is no risk of ongoing transmission.

## **Air crew**

### **Risk assessment and identification of contacts**

Decisions regarding the contact classification of cabin crews can be difficult to determine. On an aircraft with one or more confirmed cases of COVID-19, most aircraft crew can be considered casual contacts; however, a case-by-case risk assessment should be conducted by the airline to identify which crew should be managed as close contacts.

Considerations for conducting a risk assessment should include:

- Proximity of crew to confirmed case
- Duration of exposure to confirmed case
- Size of the compartment in which the crew member and confirmed case interacted
- Precautions taken, including PPE worn, when in close proximity to the confirmed case

Where it has been determined that a crew member is a close contact, the airline is responsible for notifying the local public health unit to facilitate management of the close contact.

## **Aboriginal and Torres Strait Islander communities**

### **Key drivers of increased risk of transmission and severity**

- **Mobility:** Aboriginal and Torres Strait Islander peoples are highly mobile, with frequent travel often linked to family and cultural connections and community events involving long distances between cities, towns, and communities. In addition, remote communities have a high flow of visitors (e.g. tourists, fly-in fly-out clinicians and other workers). This increases the risk of transmission even in generally isolated communities.
- **Remoteness:** A fifth of the Aboriginal and Torres Strait Islander population lives in remote and very remote areas. There is often reduced access health services, these are usually at capacity in normal circumstances and are often reliant on temporary staff. Limited transport options may further inhibit presentations and delay laboratory testing.
- **Barriers to access:** Unwell people may present late in disease progression for many reasons including lack of availability of services, institutional racism, and mistrust of mainstream health services.
- **Overcrowding:** Many Aboriginal and Torres Strait Islander communities have insufficient housing infrastructure, which results in people living in overcrowded conditions. This facilitates disease transmission and makes it difficult for cases and contacts to maintain social distance measures and self-quarantine.
- **Burden of disease:** Aboriginal and Torres Strait Islander people experience a burden of disease 2.3 times the rate of other Australians. This may increase the risk of severe disease from SARS-CoV-2.



### ***Key response strategies***

- **Shared decision-making and governance:** Throughout all phases, COVID-19 response work should be collaborative to ensure local community leaders are central to the response. Further risk reduction strategies and public health responses should be co-developed, and co-designed, enabling Aboriginal and Torres Strait Islander people to contribute and fully participate in shared decision-making.
- **Social and cultural determinants of health:** Public health strategies should be considered within the context of a holistic approach that prioritises the safety and well-being of individuals, families and communities while acknowledging the centrality of culture, and the addressing racism, intergenerational trauma and other social determinants of health.
- **Community control:** The Aboriginal Community Controlled Health Services (ACCHS) sector provides a comprehensive model of culturally safe care with structured support and governance systems. The network of ACCHS and peak bodies should be included in the response as a fundamental mechanism of engagement and communication.
- **Appropriate communication:** Messages should be strengths-based and encompass Aboriginal ways of living, including family-centred approaches during both prevention and control phases. They should address factors that may contribute to risk such as social determinants of health, including living arrangements and accessibility to services.
- **Flexible and responsive models of care:** Consider flexible health service delivery and healthcare models (e.g. pandemic assessment centres, flexible ACCHSs clinic hours/location with additional staffing, and home visits). Consider employing the use of point of care influenza tests, where available, to help determine whether influenza is implicated in presentations in the community.
- **Isolation and quarantine:** Families should feel empowered and be part of decision-making around quarantine. This can be achieved through exploring with families what quarantine looks like, working through how it might impact on the family and their way of living, and identifying ways around it. Family members will want to visit unwell people in hospital. It should be made clear that there are other ways to be with sick family members in hospital, maintain communication with families and communities in lieu of gatherings (e.g. staying socially connected through the internet and video calling).

### ***Aged care facilities***

Aged care facilities are high-risk settings for infectious disease outbreaks. This is due to the fact that there is often high density living with extensive close physical contact between staff and residents during the provision of care. Residents are at increased risk of severe illness and death due to their age and presence of co-morbid conditions. There are often many visitors, volunteers and staff moving between the community and facilities, which can promote the spread of infectious diseases.

### ***Preventative measures***

In addition to usual preventative protocols, aged care facilities should ensure that high rates of influenza vaccination are maintained amongst all occupants and staff. Messaging to discourage unwell visitors from visiting facilities and occupants should be reinforced, and care should be taken to ensure unwell staff and volunteers know not to present to work while symptomatic with any infectious condition. Visitors, residents and staff should be encouraged to increase their frequency of hand hygiene (with soap and water or using alcohol hand rub), surface cleaning, and to use correct cough/sneeze etiquette.

## Outbreaks

The vast majority of aged care facilities should be primed and already have frameworks and protocols for testing and isolation in the event of respiratory disease outbreaks. The [\*Guidelines for the Prevention, Control and Public Health Management of Influenza Outbreaks in Residential Care Facilities in Australia\*](#) details useful principles on prevention, control, and management of respiratory disease outbreaks which could be applied to outbreaks of COVID-19 in these facilities (available at: <https://www1.health.gov.au/internet/main/publishing.nsf/Content/cdna-flu-guidelines.htm>). Specific guidelines for COVID-19 outbreaks in residential care facilities are currently pending, and this advice will be updated accordingly upon their finalisation.

## Schools

Schools are prone to rapid transmission of viruses. The best way to prevent transmission of COVID-19 in schools is through the promotion of correct hand hygiene habits and cough/sneeze etiquette. Children or staff with upper respiratory tract illness should not attend school while symptomatic. If a child or staff member becomes ill with upper respiratory tract symptoms, they should be isolated from other students and sent home as soon as possible. Children or staff with confirmed COVID-19 must not return to school until they meet the release from isolation criteria.

**Note:** Full or partial school closures are not generally recommended as a reactive measure on public health grounds.

## 8. References

1. Chang D, Xu H, Rebaza A, Sharma L, Dela Cruz CS. Protecting health-care workers from subclinical coronavirus infection. *Lancet Respir Med*. 2020.

## 9. Appendices

Appendix A: SARS-CoV-2 Laboratory testing information

Appendix B: Interim recommendations for the use of personal protective equipment (PPE) during hospital care of people with Coronavirus Disease 2019 (COVID-19).

## Appendix A: SARS-CoV-2 Laboratory testing information

Laboratory testing for SARS-CoV-2 continues to evolve rapidly with the accumulation of clinical data, and as reagents and protocols are refined.

The aim of testing, if clinically appropriate, is to exclude common respiratory viruses using local hospital and community nucleic acid testing capacity, and to simultaneously refer onward to a laboratory with capacity to test for SARS-CoV-2. As co-infection is possible, initial testing protocols should include testing for SARS-CoV-2 in patients with epidemiological risk, even where another infection is shown to be present.

### ***Samples for testing***

- (i) upper respiratory tract samples
- (ii) lower respiratory tract sample if the lower tract is involved
- (iii) Serum (to be stored pending serology availability)

### ***Upper respiratory tract samples***

1. Nasopharyngeal swab and/ oropharyngeal swab, Dacron or Rayon, flocked preferred
  - nasopharyngeal: insert a flexible nasopharyngeal swab into one nostril and gently insert it along the floor of the nasal cavity parallel to the palate until resistance is encountered, rotate gently for 10-15 seconds, then withdraw and repeat the process in the other nostril with the same swab to absorb secretions
  - oropharyngeal (throat): swab the tonsillar beds and the back of the throat, avoiding the tongue
  - place swabs back into the accompanying transport media

As a minimum standard recommendation across all jurisdictions, a nasopharyngeal and an oropharyngeal swab should both be collected, and placed in transport medium, which may be viral transport medium (VTM) or Liquid Amies.

Details of practise above this minimum may vary between jurisdictions, e.g. pooling both swabs in a single container of transport medium; use of a single swab for collection of both nasopharyngeal and oropharyngeal samples; collection of two nasopharyngeal swabs and one oropharyngeal sample. Liaison with the jurisdiction's PHLN-member laboratory is recommended to obtain clarity on local variations.

If SARS-CoV-2 testing is to be undertaken in a different laboratory to testing for other respiratory viruses, then both nasopharyngeal and oropharyngeal samples should be forwarded for SARS-CoV-2 testing. Use of one swab for respiratory virus testing, and the other for SARS-CoV-2 testing is not recommended.

### ***2. Nasal wash/aspirates***

- collect 2-3 mL into a sterile, leak-proof, screw-top dry sterile container

A nasal wash or aspirate if available, may be substituted for the nasopharyngeal swab sample described above.

### ***Lower respiratory tract samples (to be collected in hospital and/or using airborne precautions)***

#### **1. Sputum**

- patient should rinse his/her mouth with water before collection
- expectorate deep cough sputum directly into a sterile, leak-proof, screw-top dry sterile container

#### **2. Bronchoalveolar lavage, tracheal aspirate, pleural fluid**

- collect 2-3 mL into a sterile, leak-proof, screw-top sputum collection cup or dry sterile container

As lower respiratory tract specimens contain the highest viral loads in SARS-CoV and MERS-CoV, it is advised that lower respiratory tract specimens should be collected for SARS-CoV-2 testing where possible. Initial experience in testing for SARS-CoV-2 seems to be consistent with this prior experience. Repeat testing (especially of lower respiratory tract specimens) in clinically compatible cases should be performed if initial results are negative and there remains a high index of suspicion of infection.

### ***Serology***

Serum should be collected during the acute phase of the illness (preferably within the first 7 days of symptom onset), stored, and when serology testing becomes available tested in parallel with convalescent sera collected 3 or more weeks after acute infection. If no acute sample was collected, sera collected 14 or more days after symptom onset may be tested.

### ***Specimen handling in the laboratory***

#### ***Microbiology Laboratory***

Laboratory staff should handle specimens under PC2 conditions in accordance with AS/NZS2243.3:2010 Safety in Laboratories Part 3: Microbiological Safety and Containment. Specimens should be transported in accordance with current regulatory requirements as diagnostic samples for testing.

#### ***Clinical Pathology***

Standard precautions should be used for non-microbial pathology testing (such as routine biochemistry and haematology). Where possible auto-analysers should be used according to standard practises and/or local protocols. There is evidence that capping and uncapping of samples is not a high risk aerosol generating procedure.

#### ***Respiratory Virus Diagnostic Testing***

Nucleic acid testing of the upper respiratory tract sample is performed for influenza and other common respiratory viruses using standard protocols and methods of the hospital or community laboratory.

Standard protocols of the testing laboratory for respiratory sample processing should be used. This is expected to consist of PC2 laboratory practises, and use of a Class II Biosafety cabinet for aerosol generating procedures (such as centrifuging without sealed carriers, vortexing, sonicating). Viral culture can only be undertaken in an accredited laboratory that has a PC3 facility.

The residue (original swab and remaining eluate) of the upper tract sample is forwarded together with the lower tract sample and the serum to the reference laboratory with SARS-CoV-2 testing capacity requesting SARS-CoV-2 testing.

Clinical liaison with jurisdictional public health officers is essential to coordinate referral & testing.

Standard protocols should be used for sample packaging and transport as diagnostic samples for testing (i.e. Category B).

### ***SARS-CoV-2 specific testing***

Nucleic acid testing (NAT) using real time polymerase chain reaction (RT-PCR) is the method of choice for detection of SARS-CoV-2. Specific diagnostic test approaches for SARS-CoV-2 will be described here only in broad terms. There is significant variation in PCR assays employed by different PHLN member laboratories, and test algorithms are likely to be further refined over time.

Specific Real Time PCR primer sets to detect SARS-CoV-2 are available. Some PHLN member laboratories have designed their own, and some have implemented primer sets recommended to the World Health Organization (WHO) by leading international coronavirus reference laboratories (available at: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/laboratory-guidance>). The majority of PHLN testing capacity now employs relatively swift RT-PCR assays for screening, with a turnaround time of several hours. Confirmation of positives is being done either with RT-PCR assays detecting a different target gene, or broadly reactive PCR tests with sequencing of amplicons (see below).

Well pedigreed PCR primer sets, probes and protocols are available from the WHO/ European Viral Archive (EVAg) (available at: [https://www.who.int/docs/default-source/coronaviruse/protocol-v2-1.pdf?sfvrsn=a9ef618c\\_2](https://www.who.int/docs/default-source/coronaviruse/protocol-v2-1.pdf?sfvrsn=a9ef618c_2)).

Many PCR assays, including those available through WHO will also detect other zoonotic coronaviruses such as SARS-CoV, sometimes with a recognisable shift in the cycle threshold value (Ct) compared to the SARS-CoV-2 target, but not commonly circulating coronaviruses usually detected by commercial assays (e.g. NL63, 229E strains).

Several Australian PHLN reference laboratories began diagnostic testing for the current outbreak using PCR assays capable of detecting a wide range of coronaviruses, including zoonotic and novel pathogens. A number of these were mapped against the promulgated Chinese nucleic acid sequence of SARS-CoV-2 early in the course of the outbreak. Nucleic acid sequencing of amplicons from positive tests is used to identify the coronavirus in this approach. These assays have relatively long turnaround times and have largely been replaced by RT-PCR other than in a confirmatory role in some laboratories.

Complementary DNA (cDNA) synthesized from the VIDRL SARS-CoV-2 has now been made available to all PHLN member laboratories as a test positive control. Synthetic positive control material in the form of nucleic acid templates is also available through WHO/ European Viral Archive (EVAg).

Testing algorithms are likely to be revised pending further information about the virus, and the number of specimens received in the laboratory for testing.

Viral culture should not be performed for routine diagnosis, and should only be attempted in reference laboratories with appropriate experience and containment facilities. Currently where attempted this is being done at Physical Containment Level 3 (PC3), consistent with current recommendations for SARS-CoV, pending specific SARS-CoV-2 international recommendations.

No Quality Assurance Program (QAP) is currently available internationally specific for SARS-CoV-2, although QAPs are available in Australia for respiratory viruses including coronaviruses other than 2019-nCoV. The RCPAQAP with Commonwealth support will introduce a SARS-CoV-2 specific QAP to supplement previously available SARS-CoV, MERS-CoV and other coronaviruses, during the first half of 2020.



## Appendix B: Interim recommendations for the use of personal protective equipment (PPE) during hospital care of people with Coronavirus Disease 2019 (COVID-19).

These recommendations are intended for hospital personnel who enter a clinical space with COVID-19 patients, including wardspersons, food deliverers, cleaners, and clinical personnel.

### Background:

Although Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) which causes COVID-19 has spread rapidly and widely in mainland China, there has been limited transmission elsewhere, i.e. containment precautions have been mostly successful to date. At the time of writing, the crude mortality (~2%) in China is based on laboratory confirmed cases; many milder cases are almost certainly not being tested and the mortality is likely to be lower. Most cases in Australia have been relatively mild but a small number of deaths has been reported outside of mainland China. While a number of healthcare-associated infections have been reported with COVID-19 (in healthcare workers and patients)—as occurred with SARS and MERS—the risk for COVID-19 is likely to be very low, when infection control precautions are adhered to correctly.

### General principles:

- **Standard precautions, including hand hygiene (5 Moments)** for all patients with respiratory infections. Patients and staff should observe cough etiquette and respiratory hygiene,
- **Transmission-based precautions** for patients with suspected or confirmed COVID-19:
  - **Contact and droplet precautions** for **routine care** of patients.
  - **Contact and airborne precautions** for **aerosol generating procedures (AGPs)**.

### Contact and droplet precautions:

Contact and droplet precautions can be safely used for routine patient care of inpatients with suspected or confirmed COVID-19 (see Coronavirus Disease 2019 (COVID-19) CDNA National Guidelines for Public Health Units for case definition)

- On presentation or admission to hospital the patient should be:
  - given a surgical mask to put on, and
  - placed in a single room (ensuring air does not circulate to other areas)
  - placed in a negative pressure room (in the event of AGPs being performed).
- If transfer outside the room is essential, the patient should wear a surgical mask during transfer and follow respiratory hygiene and cough etiquette.
- For most inpatient contacts between healthcare staff and patients the following PPE is safe and appropriate and should be put on before entering the patient's room:
  - long-sleeved gown
  - surgical mask
  - face shield or goggles
  - disposable nonsterile gloves when in contact with patient (hand hygiene before donning and after removing gloves)
- For hospitalised patients requiring frequent attendance by medical and nursing staff, a P2/N95 respirator should be considered for prolonged or very close contact.

### Contact and airborne precautions for aerosol-generating procedures (AGPs) and care of clinically ill patients requiring high level/high volume hands-on contact outside of ICU:

- **Contact and airborne precautions should be used routinely for AGPs**, which include:
  - tracheal intubation, non-invasive ventilation, tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation, and bronchoscopy (and bronchoalveolar lavage), high flow nasal oxygen
  - The use of nebulisers should be avoided and alternative medication administration devices (e.g. spacers) used.
- PPE for contact and airborne procedures should be put on before entering patients room:
  - long-sleeved gown
  - P2/N95 respirator (mask) – should be fit-checked with each use
  - face shield or goggles
  - disposable nonsterile gloves when in contact with patient (hand hygiene before donning and after removing gloves)
- P2/N95 respirators (mask) should be used only when required.
- Unless used correctly, i.e. with fit-checking, a P2/N95 respirator (mask) is unlikely to protect against airborne pathogen spread.
  - An air-tight seal may be difficult to achieve for people with facial hair. Fit checking with a range of P2/N95 respirators must occur to assess the most suitable one to achieve a protective seal. If a tight seal cannot be achieved, facial hair should be removed.

### Care of critically ill patients in ICU

- Patients who require admission to ICU with severe COVID-19 are likely to have a high viral load, particularly in the lower respiratory tract
- **Contact and airborne precautions** (as above) are required for patient care and are adequate for most AGPs.
  - The risk of aerosol transmission is reduced once the patient is intubated with a closed ventilator circuit but there is a potential, but unknown, risk of transmission from other body fluids such as diarrhoeal stool or vomitus or inadvertent circuit disconnection
- If a health care professional is required to remain in the patient's room continuously for a long period (e.g. more than one hour), because of the need to perform multiple procedures, the use of a powered air purifying respirator (PAPR) may be considered for additional comfort and visibility. A number of different types of relatively lightweight, comfortable PAPRs are now available and should be used according to manufacturer's instructions. Only **PPE marked as reusable** should be reused, following **reprocessing** according to manufacturer's instructions, All other PPE must be disposed of after use.

**ICU staff caring for patients with COVID-19 (or any other potentially serious infectious disease) should be trained in the correct use of PPE, including by an infection control professional. This also applies particularly to the use of PAPRs, if required. Particular care should be taken on removal of PAPR, which is associated with a risk of contamination.**

**Additional precautions:****Staff**

- A staff log for each room entry should be maintained, to allow monitoring of potential breaches of infection control and follow-up contacts, if necessary.

**Disposal of PPE and other waste**

- Waste should be disposed in the normal way for clinical waste
- All non-clinical waste is disposed of into general waste

**Handling of linen**

- Routine procedures for handling of infectious linen should be followed
- Visibly soiled linen should be placed in a (soluble) plastic bag inside a linen skip

**Environmental cleaning of patient care areas**

- Cleaners should observe contact and droplet precautions (as above).
- Frequently touched surfaces (such as doorknobs, bedrails, tabletops, light switches, patient handsets) in the patient's room should be cleaned daily.
- Terminal cleaning of all surfaces in the room (as above plus floor, ceiling, walls, blinds) should be performed after the patient is discharged.
- A combined cleaning and disinfection procedure should be used, either 2-step— detergent clean, followed by disinfectant; or 2-in-1 step— using a product that has both cleaning and disinfectant properties. Any hospital-grade, TGA-listed disinfectant that is commonly against norovirus is suitable, if used according to manufacturer's instructions.