

# Operational considerations for managing COVID-19 cases / outbreak on board ships

Interim guidance  
24 February 2020



## Introduction

This document has been prepared based on the evidence currently available about Coronavirus disease 2019 (previously named 2019-nCoV, now designated COVID-19) transmission (human-to-human transmission via respiratory droplets or direct contact from an infected individual).

It is recommended to use it in conjunction with the published World Health Organization (WHO) [Handbook for management of public health events on board ships](#) (1).

The target audience of this documents is any authority involved in public health response to a COVID-19 public health event on board ships, including International Health Regulations (IHR) National Focal Point (NFP), port health authorities, local, provincial and national health surveillance and response system, as well as port operators and ship operators.

## Outbreak management plan for COVID-19

Passenger ships sailing on an international voyage are advised to develop a written disease outbreak management plan covering the definition of a suspect case of COVID-19, the definition of close contacts, and an isolation plan describing the following aspects:

- the location(s) where suspect cases should be isolated individually until disembarkation and transfer to a health care facility,
- necessary communications between departments (medical, housekeeping, laundry, room service, etc.) about the persons in isolation,
- Clinical management of the suspect case while on board,
- cleaning and disinfection procedures of potentially contaminated areas including the isolation cabins,
- management of close contacts of the suspect/ case,
- procedures to collect Passenger/Crew Locator Forms (PLF),
- provision of food service, waste management, laundry, utensils to the isolated travellers.

Staff on board should have knowledge of the outbreak management plan and should implement it as required.

## Pre-boarding information

Passengers and crew members should receive information in accordance with the WHO advice for international traffic in relation to the outbreak of COVID-19. WHO advice and guidance is available on WHO Web site for COVID-19 <https://www.who.int/health-topics/coronavirus>

## Pre-disembarkation information

Until the termination of COVID-19 Public Health Emergency of International Concern (PHEIC) is declared, it is recommended that all passengers and crew members fill in the PLF to be kept on board for at least one month after disembarkation. Information in the completed PLF should be provided upon the request of health authorities to facilitate contact tracing should a confirmed case is detected after the disembarkation and after the voyage has ended.

## Pre-boarding screening

Until the termination of the COVID-19 outbreak, passenger ships on an international voyage are advised to provide passengers with general information on COVID-19 and its preventative measures and implement pre-boarding screening with the purpose to defer or reschedule boarding to, and ensure proper management by competent health authorities of, any traveller being identified, through a questionnaire (Annex 1), as a close contact of COVID-19 case.

A contact is a person involved in any of the following:

- Providing direct care for COVID-19 patients, visiting patients or staying in the same close environment of a COVID-19 patient.
- Working together in close proximity or sharing the same cabin/room environment with a COVID-19 patient
- Traveling together with COVID-19 patient in any kind of conveyance
- Living in the same household as a COVID-19 patient within a 14-day period after the onset of symptoms in the case under consideration (2).

## Education

Ship owners should provide guidance to crew regarding the recognition of signs and symptoms of COVID-19.

Crew should be reminded of the procedures that are to be followed when a passenger or a crew member on board displays signs and symptoms indicative of acute respiratory disease.

Country-specific guidance to crew members about prevention measures may be available, such as at (3): <https://www.cdc.gov/quarantine/maritime/recommendations-for-ships.html>

WHO Interim guidance for “Home care for patients with suspected novel coronavirus (2019-nCoV) infection presenting with mild symptoms and management of contacts”(4). and about the use of medical masks can be found at the WHO web site for COVID-19.

Healthcare staff on board ships should be informed and updated about the outbreak of COVID-19 and any new evidence and guidance available for health care staff. See WHO updated information at the WHO web site for COVID-19.

## Management of a suspect case on board

### Definition of a suspect case

A. Patient with severe acute respiratory infection (fever, cough, and requiring admission to hospital), AND with no other aetiology that fully explains the clinical presentation AND a history of travel to or residence in China or in another country with established community transmission<sup>1</sup> of COVID-19, during the 14 days prior to symptom onset, OR,  
B. Patient with any acute respiratory illness AND at least one of the following during the 14 days prior to symptom onset: a) contact with a confirmed or probable case of COVID-19, or b) worked in or visited a health care facility where patients with confirmed or probable COVID-19 patients were being treated.

If it is determined that there is a suspect case of COVID-19 on board, the outbreak management plan on board should be activated. The suspect case should be instructed to immediately wear a medical mask and follow cough etiquette and practice hand hygiene and be isolated in a pre-defined isolation ward, cabin, room or quarters with the door closed. Infection control measures should be applied in accordance with WHO guidance (2, 5). The disembarkation and transfer of the suspect case to a health care facility ashore for further assessment and laboratory testing should be arranged as soon as possible, in cooperation with the health authorities at the port.

In addition to medical personnel providing health care, all persons entering the isolation should apply standard precautions, contact and droplet precautions as described in the WHO guidance for infection control (5) and should be appropriately trained prior to entering the isolation room.

## Obligations of ship owners

In accordance with the International Health Regulations (2005), the master of the ship must immediately inform the competent health authority at the next port of call about any suspect case of COVID-19<sup>(6)</sup>. For ships on international voyage, the Maritime Declaration of Health (MDH) should be completed and sent to the competent authority in accordance with the local requirements at the port of call.

Ship owners must facilitate application of health measures and provide all relevant public health information requested by the health authority at the port. Ship operators shall provide to the port health authorities all information essential (PLF, crew list<sup>2</sup>, passenger list<sup>3</sup>) to conduct contact tracing when a confirmed case of COVID-19 has been identified on board or when a traveller, who has been on board and possibly exposed during the voyage, is diagnosed as a confirmed case after the end of the voyage.

## Disembarkation of suspect case/cases

During disembarkation of the suspect case/cases every effort should be made to minimize exposure of other persons and environmental contamination. Suspect cases should be

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<sup>1</sup> Community transmission is defined as “widespread community transmission as evidenced by the inability to relate confirmed cases through chain of transmission or by increasing positive tests through routine screening of sentinel samples (i.e. samples unconnected to any known chain of transmission).”

<sup>2</sup> Convention of Facilitation of International Maritime Traffic FAL Form No. 5

<sup>3</sup> Convention of Facilitation of International Maritime Traffic FAL Form No. 6

provided with a surgical mask to minimise the risk of transmission. Staff involved in the transportation of the suspect case should apply infection control practices according to WHO guidance (5, 7).

a. Transport staff, including medical staff should routinely perform hand hygiene and wear medical mask, eye protection (goggle or face shield), long-sleeved gown and gloves when loading patients for transport in the ambulance.

- PPE should be changed between loading each patient and disposed of appropriately in containers with a lid in accordance with national regulation of infectious waste.

b. The driver of the ambulance must stay separated from the cases (at least one-meter distance). Wear a medical mask, but no other PPE is required if distance can be maintained. If the driver must also help load the patients into the ambulance, they should follow the PPE recommendations in the section above.

c. Ensure that transport vehicles have as high a volume of air exchange as possible (e.g. by opening the windows).

d. Transport staff should frequently clean their hands with alcohol-based hand rub or soap and water and should ensure that they clean their hands before putting on PPE and after removing PPE.

e. Ambulance or transport vehicles should be cleaned and disinfected with particular attention to the areas in contact with the suspected case. Cleaning should be done with regular household soap or detergent first and then, after rinsing, regular household disinfectant containing 0.5% sodium hypochlorite (i.e. equivalent 5.000 ppm or 1-part bleach to 9 parts of water) should be applied.

## Notification and reporting requirements for WHO State Parties

The competent authority at the port must inform immediately its National IHR Focal Point (NFP), if a suspect case of COVID-19 has been identified. When the laboratory diagnosis has been completed and if the suspect case is positive for COVID-19, then the IHR NFP shall inform WHO.

The National IHR Focal point will pay attention to IHR Art.43 on Additional Health Measures, which states that State Parties implementing any additional health measure which significantly interfere with international traffic (refusal of entry or departure of international travellers and/or ships or their delay, for more than 24 hours) shall provide to WHO the public health rationale and relevant scientific information for it.

## Management of contacts

Contact tracing should begin immediately after a suspect case has been identified on board without waiting for the laboratory result, in order to avoid delays in implementing health measures when necessary. Every effort should be made to minimise the exposure of the suspect case to other travellers and the environment on board and to separate close contacts from others as soon as possible.

All persons on board should be assessed for their exposure and classified as close contacts (high risk exposure) or as having low risk exposure.

### ***Definition of close contacts on board the ship (high risk exposure)***

- a person who has stayed in the same cabin with a suspect/confirmed COVID-19 case;
- a person who has had close contact within one meter or was in a closed environment with a suspect/confirmed COVID-19 case (for passengers this may include sharing a cabin; participating in common activities on board or ashore; participating in the same immediate travelling group; dining at the same table; for crew members this may include working together in the same ship area);
  - o this should include crew members who have had close contact (as defined above) with the suspect/confirmed COVID-19 case, such as, cabin steward who cleaned the cabin, restaurant staff who delivered food to the cabin, gym trainers who provided close instruction to the case, etc.;
- a healthcare worker or other person providing direct care for a COVID-19 suspect or confirmed case.

If a large outbreak occurs as a result of on-going transmission on board the ship, the assessment of exposure should be done among crew members and among passengers. If it is difficult to identify who the close contacts are, and a widespread transmission is identified, then all travelers (passenger and crew) on board could be considered as close contacts having had high risk exposure.

All travellers that fulfil the definition of a “close contact” should be asked to complete the PLF (Annex 2) and remain on board the ship in their cabins or preferably at a specially designated facility ashore (if feasible and in case that the ship is at the turnaround port where embarking/disembarking passengers or discharging/loading cargos/stores takes place), in accordance with instructions received by the competent health authorities, until the laboratory result for the suspect case is available.

If the laboratory result of the suspect case is positive, then all close contacts should be quarantined in specially designated facilities ashore and not allowed to travel internationally, unless this has been arranged following the WHO advice for repatriation. Considerations for quarantine measures are given in the WHO travel advice available at the WHO web site (8). Persons in quarantine who were in contact with a confirmed case should immediately contact health services in the event of any symptom appearing within 14 days. If no symptoms appear within 14 days of their last exposure, the contact person is no longer considered to be at risk of developing COVID-19 (9). Implementation of these specific precautions may be modified depending on the risk assessment of individual cases and their contacts conducted by the public health authorities.

If the laboratory result of the suspect case is positive, then all other travellers who do not fulfil the definition of a close contact will be considered as having low risk exposure and should be requested to complete PLFs with their contact details and the locations where they will be staying for the following 14 days. Implementation of these precautions may be modified depending on the risk assessment of individual cases and their contacts conducted by the public health authorities. Further instructions may be given by the health authorities. The travelers who are considered as having low risk exposure should be provided with the following information and advice (9):

- Details of symptoms and how the disease can be transmitted.

- They should be asked to self-monitor for COVID-19 symptoms, including fever of any grade, cough or difficulty breathing, for 14 days from their last exposure.
- They should be asked to immediately self-isolate and contact health services in the event of any symptom appearing within 14 days. If no symptoms appear within 14 days of their last exposure, the contact person is no longer considered to be at risk of developing COVID-19.

WHO guidance about quarantine measures can be found on WHO Web pages on COVID-19.

## Measures on the ship

In the event that the affected ship calls at a port other than the turn-around port, the port health authority should conduct a risk assessment and may decide in consultation with the ship owner to end the cruise. A ship inspection followed by applying health measures (e.g. cleaning and disinfection based on the inspection findings should be conducted according to the IHR (2005) Article 27 “Affected conveyance”. Detailed WHO guidance from the “Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates” is available at: [https://www.who.int/ihr/publications/handbook\\_ships\\_inspection/en/](https://www.who.int/ihr/publications/handbook_ships_inspection/en/). For more details about the inspection, see the following paragraph about “Environmental investigation”. Infectious waste should be disposed of in accordance with the port authorities’ procedures. Health measures implemented on the ship should be noted to the Ship Sanitation Certificate.

The next voyage/cruise can start when the thorough cleaning and disinfection has been satisfactorily completed. It is advised that active surveillance will take place on board the ship for the following 14 days. It is further advised that the ship owner could explore the possibility that the next voyage/ cruise could start with new crew on board if this is feasible.

### *Cleaning and disinfection*

Medical facilities, cabins and quarters occupied by patients and close contacts of a confirmed COVID-19 case should be cleaned and disinfected daily and as a terminal cleaning/disinfection in accordance with the WHO guidance for infection prevention and control during health care when COVID-19 infection is suspected(10). All other places on board should be cleaned and disinfected according to the cleaning procedures available on board particularly when an outbreak occurs.

Detailed information about cleaning and disinfection of cabins can be found in the WHO Interim guidance “Home care for patients with suspected novel coronavirus (nCoV) infection presenting with mild symptoms and management of contacts” (4).

Laundry, food service utensils and waste from cabins of suspect cases and contacts should be handled as infectious, in accordance with the outbreak management plan provided on board for other infectious diseases (e.g. Norovirus gastroenteritis).

It might be essential that the ship will remain at the port for the time period required to perform the thorough cleaning and disinfection on board.

The ship that has been considered as affected shall cease to be regarded as such when the port health authority is satisfied with the health measures conducted and there are no conditions on board that could constitute a public health risk (6).

## Outbreak investigation

The COVID-19 epidemic control efforts focus on containing the disease and preventing new cases. On board ships it is essential to identify the most likely mode/modes of transmission and the initial source/sources of the outbreak. In large ships, including cruise ships that carry nationals from many nationalities, coordinated efforts are required for the outbreak investigation which may have international ramifications.

Article 6 of IHR (2005) provides that a State Party shall communicate to WHO timely, accurate and sufficiently detailed public health information available to it on the notified event (case definitions, laboratory results, source and type of the risk, number of cases and deaths, conditions affecting the spread of the disease and the health measures employed); and report, when necessary, the difficulties faced and support needed in responding to the PHEIC(6).

### *Epidemiological investigation*

The field investigation team should take all necessary precautions and use of PPE appropriately to prevent any infection.

Analysis should be conducted taking consideration of the following risk factors, where applicable: cabin mates, companions, travelling groups, participation in ashore activities, restaurants, bars, dinning seat numbers based on dining reservation lists, buffet service seating locations (schematics), participation in events in ship public areas (gym, theatre, cinema, casino, spa, recreational water facilities), deck of the cabin, fire zone/air handling units. Records to be reviewed and considered in the investigation are: ship manifest, ship schematics, cabin reservation lists, activities reservation lists, vomiting incidence records, accidental faecal release records for pools, dining reservation lists, medical logs, GI logs, cabin plans, cabin stewards assigned to each cabin and shifts, any records about demographic characteristics of travellers. The minimum data requirements that should be collected are included in the Public Health Passenger/Crew Locator Form (Annex 2).

### *Environmental investigation*

A focused inspection should be conducted to assess if the isolation procedures and the measures on board the ship have been applied properly, if PPE supplies were enough, if staff was trained in the use of PPE. Housekeeping, cleaning and disinfection procedures (protocols, products, concentrations, contact times, use PPE, mixing process etc.), frequency of cleaning and disinfection (especially the frequently touched areas) should be checked during inspection. Focused inspection should also check about any crew who might be working while symptomatic such as food handlers, housekeeping staff and spa staff.

Samples from environmental surfaces and materials can be collected and sent to the laboratory for testing if feasible before and after the cleaning and disinfection procedures applied. Staff should be trained to use of PPE to avoid any infection. Environmental samples that can be considered for collection: surface swabs from case cabins and frequently touched surfaces in public areas and food preparation areas including pantries close to affected cabins, air from case cabins and medical room in which cases were isolated, air from sewage treatment unit exhaust and engine exhaust, air ducts, air filters, in the air handling units of the cabin, sewage, recreational water buffer tanks.

## References

1. World Health Organization. Handbook for management of public health events on board ships. 2016.
2. World Health Organization. Global Surveillance for human infection with novel coronavirus (2019-nCoV). Interim guidance v3 2020 31 January 2020 Report No.: WHO/2019-nCoV/SurveillanceGuidance/2020.3 Contract No.: 2 February 2020.
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9. European Centre for Disease Prevention and Control. Public health management of persons having had contact with cases of novel coronavirus in the European Union. Stockholm: ECDC, 2020 30 January 2020. Report No.
10. World Health Organization. Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected. Interim guidance. 25 January 2020. 2020.

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## ANNEX 1

### PRE-BOARDING SAMPLE QUESTIONNAIRE

(to be completed by any adult person prior to embarkation)

Name as shown in the passport:

- ..

Names of all children travelling with you under 18 years old:

- ..
- ..
- ..
- ..

#### Questions:

##### Within the past 14 days:

- Have you, or any person listed above, had close contact with anyone diagnosed as having Coronavirus disease (COVID-19)?
- Have you, or any person listed above provided direct care for COVID-19 patients, working with health care workers infected with novel coronavirus?
- Have you, or any person listed above visited or stayed in a closed environment with any patient having Coronavirus disease (COVID-19)?
- Have you, or any person listed above, worked together in close proximity, or sharing the same classroom environment, with a COVID-19 patient?
- Have you, or any person listed above, traveled together with COVID-19 patient in any kind of conveyance?
- Have you, or any person listed above, lived in the same household as a COVID-19 patient?

## ANNEX 2

### Public Health Passenger/Crew Locator Form

Date of form completion: (yyyy/mm/dd) <div style="border: 1px solid black; display: inline-block; padding: 2px;"> <div style="display: flex; align-items: center;"> <div style="width: 20px; height: 20px; border: 1px solid black; text-align: center; line-height: 20px;">2</div> <div style="width: 20px; height: 20px; border: 1px solid black; text-align: center; line-height: 20px;">0</div> <div style="width: 20px; height: 20px; border: 1px solid black;"></div> <div style="width: 20px; height: 20px; border: 1px solid black;"></div> <div style="width: 20px; height: 20px; border: 1px solid black;"></div> <div style="width: 20px; height: 20px; border: 1px solid black;"></div> </div> </div>			
<div style="border: 1px solid black; padding: 5px;"> <b>Public Health Passenger/Crew Locator Form:</b> To protect your health, public health officers need you to complete this form whenever they suspect a communicable disease onboard a cruise. Your information will help public health officers to contact you if you were exposed to a communicable disease. It is important to fill out this form completely and accurately. Your information is intended to be held in accordance with applicable laws and used only for public health purposes. ~Thank you for helping us to protect your health.         </div>			
<i>One form should be completed by an adult member of each family/crew member. Print in capital (UPPERCASE) letters. Leave blank boxes for spaces.</i>			
<b>CRUISE INFORMATION:</b> 1. Cruise line name & 2. Cruise ship name    3. Cabin Number    4. Date of disembarkation (yyyy/mm/dd)			
<b>PERSONAL INFORMATION:</b> 5. Last (Family) Name    6. First (Given) Name    7. Middle Initial    8. Your sex			
<b>PHONE NUMBER(S) where you can be reached if needed. Include country code and city code.</b>			
9. Mobile		10. Business	
11. Home		12. Other	
13. Email address			
<b>PERMANENT ADDRESS:</b> 14. Number and street (Separate number and street with blank box)    15. Apartment number			
16. City		17. State/Province	
18. Country		19. ZIP/Postal code	
<b>TEMPORARY ADDRESS:</b> If in the next 14 days you will not be staying at the permanent address listed above, write the places where you will be staying.			
20. Hotel name (if any)		21. Number and street (Separate number and street with blank box)	
22. Apartment number		23. City	
24. State/Province		25. Country	
26. ZIP/Postal code		27. Last (Family) Name	
<b>EMERGENCY CONTACT INFORMATION of someone who can reach you during the next 30 days</b>			
28. First (Given) Name		29. City	
30. Country		31. Email	
32. Mobile phone		33. Other phone	
<b>34. TRAVEL COMPANIONS – FAMILY:</b> Only include age if younger than 18 years			
Last (Family) Name		First (Given) Name	
Cabin number		Age <18	
(1)			
(2)			
(3)			
(4)			
<b>35. TRAVEL COMPANIONS – NON-FAMILY:</b> Also include name of group (if any)			
Last (Family) Name		First (Given) Name	
Group (tour, team, business, other)			
(1)			
(2)			

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**WHO reference document:** [WHO/2019-nCov/IHR\\_Ship\\_outbreak/2020.1](#)