

Operational considerations for managing COVID-19 cases or outbreak in aviation

Interim guidance
18 March 2020



Background

This document is based on the evidence currently available about coronavirus disease (COVID-19) transmission (human-to-human transmission primarily via respiratory droplets from, or direct contact with, an infected individual). It should be used in conjunction with WHO's Handbook for the Management of Public Health Events in Air Transport.¹

The target audience is any authority involved in public health response to a public health event in aviation, including International Health Regulations (IHR) National Focal Points (NFP), health authorities at airports, local, provincial and national health surveillance and response systems, as well as civil aviation authorities, airport operators, aircraft operators, airports and airlines.

Awareness of aviation personnel

Airport operators, aircraft operators, airlines, and airports should provide guidance to crew and ground staff on the recognition of signs and symptoms of COVID-19. Crew and ground personnel should be further reminded about measures to prevent transmission of COVID-19, including social distancing, hand hygiene, respiratory etiquette, environmental cleaning, waste disposal, when and how to use a mask, avoidance of contact with people presenting respiratory symptoms, and seeking medical advice early if signs and symptoms develop.

Medical face masks should be reserved for persons with respiratory symptoms (and who can tolerate them) to avoid contamination to others.

Personnel should be trained on hand hygiene and how to put on and remove personal protective equipment (PPE). Personnel in close contact with symptomatic persons (e.g. when providing first aid) should wear a medical mask, eye protection (face shield or goggles), gloves, and gown.

WHO advice and technical guidance for COVID-19 is available on the [WHO website](https://www.who.int).

Advice for crew and ground staff working or staying in areas where local or community transmission is being reported

- Be familiar with local protocols for the reporting and management of ill travellers and their possible contacts, in the context of COVID-19.
- Take precautionary measures to reduce the possibility of infection:
 - Avoid rush hours in public transport and use private transport when possible, minimizing

- contact with other people while moving between the airport and ground transportation.
- Minimize time spent in public areas, applying social distancing whenever out in public by maintaining a distance of at least 1 meter (3 feet) from other people.
- Wash hands frequently with soap and water or use an alcohol-based hand rub if hands are not visibly dirty.
- Avoid touching eyes, nose, and mouth
- Self-monitoring: If you develop fever, cough, or difficulty breathing, immediately isolate yourself according to local health procedures, wear a mask, report the situation to your employer, and seek medical attention. The aircraft operator or airline concerned should report it to the local health authority immediately.
- If you develop fever, cough, and difficulty breathing during flight, discontinue your work duties as soon as it is safe to do so, inform other crew, and follow the measures required for a suspected case, as described in Global Surveillance for human infection with coronavirus disease (COVID-19).²

Management of a suspected case

Case definitions

Please refer to the Global Surveillance for human infection with coronavirus disease (COVID-19)² for the latest WHO case definitions for suspected case of COVID-19.

Suspected case at airport

Suspected cases should be managed under the framework of the airport public health contingency plan in coordination with airport health authorities. For further detail, please refer to WHO guidance document on the Management of ill travellers at Points of Entry – international airports, seaports and ground crossings – in the context of COVID-19.³

Suspected cases should also be managed in accordance with ICAO Annex 9 (Facilities required for implementation of public health measures) and the aerodrome emergency plan (ICAO Annex 14), coordinating the response with the all agencies that could be of assistance in responding to an emergency. Please refer to ICAO Annexes 9 and 14 and the ICAO guidance documents (Facilitation Manual and Model National Air Transport Facilitation Programme) available at: <https://www.icao.int/Security/COVID-19/Pages/default.aspx>.

Support services may include aircraft cleaners, cargo and baggage handlers, water handling services, and waste

removal services. The port health authorities should inform service providers about the health event on board and the associated health risk, so they can implement safe handling procedures and reduce the risk of further infection. Personnel responsible for waste management at airport should apply regular procedures for hazardous waste disposal.

Suspected case on board an aircraft

1. Activating the on-board procedures for cabin crew to manage ill traveller (s)

Universal precaution kits should be carried on aircraft that are required to operate with at least one cabin crew member, as prescribed in the International Civil Aviation Organization ICAO Standards and Recommended Practices (SARPs) and guidelines.⁴ They include:

- Dry powder that can convert small liquid spills into a sterile granulated gel
- Germicidal disinfectant/wipes for surface cleaning
- Face/eye mask (separate – goggles and medical mask or combined – face shield)
- Gloves (disposable)
- Protective apron
- Full-length long-sleeved gown (if available)
- Biohazard disposable waste bag (if available)

If a traveller develops symptoms of acute respiratory infection or shows signs or symptoms compatible with a communicable disease, including COVID-19, as documented in the Aircraft General Declaration (the IHR Annex 8, ICAO Annex 9, Appendix 1), efforts should be made to minimize contact of passengers and cabin crew with the ill person. Crews should follow the International Air Transport Association (IATA) procedures.⁵

- Separate the ill person from the other passengers by minimum of 1 meter (usually about two seats left empty in all directions, depending on the cabin design) from the seat occupied by the suspected case. Where possible this should be done by moving other passengers away.
- Ask the ill person to wear a medical mask and practice respiratory hygiene when coughing or sneezing. If the medical mask cannot be tolerated by the ill person, provide tissues to cover mouth; discard tissue immediately into a biohazard disposal waste bag carried in the Universal Precaution kit.⁴ If no biohazard disposal waste bag is available, place it into an intact plastic bag, seal it, and consider it “biohazard” waste; wash hands with soap and water or alcohol-based hand rub.
- Designate one crew member to serve the ill person, preferably a crew member trained in infection prevention and control measures and not necessarily the crew member that has already been attending to this traveller.
- If possible, designate one toilet for use only by the ill person.
- When attending to an ill traveller coming from an area with local or community COVID-19 virus transmission who displays fever, persistent cough, or difficulty breathing, always use personal protective equipment (PPE) (provided in the

Universal Precaution Kit), including mask, eye protection, gloves, and a gown.

- Wear disposable gloves when tending to an ill traveller or touching body fluids or potentially contaminated objects and surfaces. Remove gloves carefully to avoid contaminating yourself, dispose of them and other disposable items that had contact with ill person in a biohazard bag and wash hands with soap and water or alcohol-based hand rub.
- Crew should make sure not to touch other service utensils or cutlery after tending to an ill traveller.
- Crew members should be provided with instructions for communicating with an ill person suspected of COVID-19 (see Annex 1). It is also important for crew members to be aware that it is ok to touch or comfort a suspected or a confirmed COVID-19 case on the condition that they are wearing appropriate PPE.

2. Obligations for aircraft operators, airlines, and aircraft with suspected case(s) on board

Reporting

In accordance with the International Health Regulations (2005), pilots shall make known to airport control as early as possible before arrival at the airport of destination any cases of illness indicative of a disease of an infectious nature or evidence of a public health risk on board as soon as such illnesses or public health risks are made known to the pilot in command.⁶

Crews should follow the procedures in accordance with ICAO Annex 9 and Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM, Doc 4444) when reporting a suspected case on board.

Implementing public health measures

Aircraft operators/airlines shall comply with the health measures recommended by WHO and national authorities and inform travellers of the health measures implemented by ground personnel and crews on board.

Aircraft operators/airlines may be required to provide to the airport health authorities the Health part of the Aircraft General Declaration, as per Annex 9 of the International Health Regulations, upon arrival to conduct preliminary risk assessment.

Aircraft operators/airlines may be asked to provide to the airport health authorities the Passenger Manifest (ICAO Annex 9 Appendix 2) and/or the Passenger Locator Form (PLF), preferably the IATA model⁷ (see Annex 2) (ICAO Annex 9 Appendix 13), if a passenger or crew member has developed signs/symptoms of acute respiratory illness (as defined above) onboard. The PLF must be completed for the ill person and all potential contacts on board.

Information collected should be held by health authorities in accordance with applicable law and used only for authorized public health purposes. Until the Public Health Emergency of International Concern (PHEIC) in relation to COVID-19 is terminated, an adequate number of PLFs should be available onboard passenger aircraft.

Depending on local risk assessment, some airport health authorities or national authorities may ask all passengers and crew to complete a PLF. The completed PLFs must be

collected and delivered to the airport health authority upon arrival at the airport.

3. Disembarkation of suspected case(s)

Symptomatic travellers should disembark the aircraft according to instructions from the airport health authority to minimise the risk of contaminating other passengers, crew members, and ground personnel. Symptomatic travellers will be assessed for their condition and exposure at the designated facility of the airport and, if they fulfil the definition of a suspected case, will be transferred to a designated health care facility. Management of contacts will take place in accordance with instructions from the local public health authority. The airport health authority should rapidly update the airline on the outcome of examinations and if further actions must be taken.

Personnel involved in the transportation of the suspected case should apply IPC measures according to WHO guidance:^{3,8}

- Ensure that the suspected case is wearing a medical mask
- Transport personnel should routinely perform hand hygiene and wear a medical mask, eye protection, gloves, and gown when loading suspected COVID-19 patients into the ambulance.
- If more than one suspected case is being disembarked, personnel and health personnel should change their PPE between each patient to avoid possible cross-contamination. They should dispose of the used PPE appropriately in containers with a lid in accordance with national regulations for infectious waste.
- The driver of the ambulance should stay separated from the cases. No protection is required if a physical separation exists between the driver and the suspected case. If possible, the driver should not be involved in loading the patient into the ambulance. If assisting with the loading of the suspected COVID-19 patient the driver should wear PPE, including a mask, gloves, gown, and eye protection.
- Transport staff should frequently clean their hands with alcohol-based hand rub of at least 60% alcohol or soap and water and should ensure that they clean their hands before putting on PPE and after removing PPE.
- Ambulance or transport vehicles should be cleaned and disinfected with special attention to the areas in contact with the suspected case. Cleaning should be done with regular household disinfectant containing 0.5% sodium hypochlorite (i.e. equivalent to 5000 ppm or 1-part bleach to 99 parts of water) should be applied. After the bleach has been allowed to remain in contact with the surface for at least 1 minute, it may be rinsed off with clean water. As an alternative to bleach, ambulances may use hospital-grade disinfectant products. Those products should be used according to manufacturer's guidelines and may be rinsed off with clean water after appropriate contact time.

4. Notification and reporting requirements

The airport health authority shall inform immediately its NFP if a suspected case of COVID-19 has been identified

following the predefined procedures for communication between points of entry and the NFP in the point of entry public health emergency plan. If the suspected case tests positive for COVID-19, then the NFP shall inform WHO.

If some travel restrictions are envisaged after the identification of a confirmed case, the NFP should ensure compliance with IHR Article 43 on Additional Health Measures. In particular, Article 43 states that State Parties implementing additional health measure that significantly interfere with international traffic (refusal of entry or departure of international travellers and/or aircraft or delay for more than 24 hours) shall provide to WHO the public health rationale for it and relevant scientific information.

Identification and management of contacts

The identification of contacts should begin immediately after a suspected case has been identified on board.

Definition of contacts on board the aircraft

Applying the general definition of a contact² to the specific context of an aircraft, a contact in an aircraft can be identified as follows:

- Any person sitting within 2 metres of the suspected case
- Any travel companions or persons providing care who had close contact with the suspected case
- Any cabin crew member designated to look after the ill traveller(s), and crew members serving in the section of the aircraft where the suspected case(s) was seated. Cockpit crew are not concerned if they have not circulated into the cabin and come close to the ill traveller(s).
- If the severity of the symptoms or numerous movements of the case(s) indicate more extensive exposure, passengers seated in the entire section or, depending on aircraft design and assessment on arrival by airport health authorities, all passengers on the aircraft may be considered contacts.⁹

Upon landing and arrival at the airport, the suspected case(s) and their identified contacts should be kept under public health observation at the airport until they are able to be safely assessed for risks and advised or transferred according to public health advice. Note: Persons having interacted with a non-symptomatic person who meets the definition of a contact are not themselves contacts.

If the laboratory result of a suspected case is positive following a flight, then WHO recommends that all contacts be quarantined (preferably in a dedicated facility or at home) or isolated, depending on national policy. WHO has developed a guidance document on the Considerations for quarantine of individuals in the context of coronavirus disease (COVID-19).¹⁰

If the laboratory result of the suspected case is positive, then all other passengers onboard the aircraft who do not fulfil the definition of a contact may be considered as having low-risk exposure and may be advised to implement precautionary measures. They should be asked to self-monitor for COVID-19 symptoms, including fever, cough, or difficulty breathing, for 14 days from the date of the flight. Should they develop symptoms indicative of COVID-19 within 14 days, they

should immediately self-isolate and contact local health services. These precautionary measures can be modified and adapted to the risk assessments conducted by the public health authorities. All travellers considered to have had a low-risk exposure should be provided with information about the disease, its transmission, and preventive measures.

Cleaning and disinfection

At the airport

Hygiene services should be enhanced in accordance with national health authority's recommendations. Guidance from Airport Council International (ACI) should be followed: <https://aci.aero/about-aci/priorities/health/documentation/>

A written plan for enhanced cleaning and disinfection should be agreed between the airport health authority, airport operators, and service providers, according to the standard operating procedures outlined in the WHO Guide to Hygiene and Sanitation in Aviation.¹¹ If no symptomatic passengers were identified during or immediately after the flight, routine operating procedures for cleaning aircraft, managing solid waste, and wearing PPE should be followed.

If symptomatic passengers were identified during or immediately after the flight, cleaning procedures should be followed. The following should be implemented:

- Service providers should be trained in the preparation, handling and application, and storage of these products.
- Service providers should wear gowns, heavy-duty gloves, face shield/goggles and medical mask when cleaning.
- Surfaces should be cleaned with detergent followed by regular household disinfectant containing 0.1% sodium hypochlorite (that is, equivalent to 1000 ppm). Surfaces should be rinsed with clean water after 10 minutes contact time for chlorine.
- In case a surface has been soiled with respiratory secretions or other body fluids, wipe the surfaces with absorbent (paper) towels first, dispose of towel, and then clean and disinfect as described above.
- Any contaminated items must be handled appropriately to mitigate the risk of transmission; disposable items (e.g. hand towels, gloves, masks, tissues) should be placed in a disposable bag and disposed of according to national regulations for infectious waste.
- Ventilation systems should be kept running while cleaning crews are working aboard the airplane.

In the aircraft

Post-event cleaning and disinfection procedures should meet the requirements under 3.2.4 and Annex F of Guide to Hygiene and Sanitation in Aviation, ICAO Annex 9 Chapter 2 (E) requirements. IATA Guidelines for cleaning crew to manage affected aircraft carrying suspected communicable disease, also outlines general considerations.¹²

Advice on cleaning, disinfecting, and decontamination may be provided by environmental health officers upon arrival. It is critical that all products used on board the aircraft have been approved by the aircraft manufacturer, are compatible

with aircraft surfaces and components, and used according to label instructions.

During short layovers, special attention should be given to the zone of risk in the cabin area (e.g. seats, headrests, tabletops, handsets, windows, window shades, video monitors and other materials coming in contact with the suspected case) where the case(s) was originally and finally seated and surroundings including the lavatory used by the ill travellers(s) as well as all shared facilities and high-touch surfaces.^{3,8} The service staff who clean and disinfect the aircraft should be trained to be able to apply the standard procedures for cleaning and disinfecting contaminated surfaces with infectious agents suitable for aircraft, using the appropriate PPE.

WHO advises the following procedures for cleaning and disinfection in case a public health event has occurred on board:

- Ensure any disinfection is conducted using products licensed for use in the country. The disinfection products should have a label claim against coronaviruses. The disinfectants must be tested by a certified laboratory according to the specifications of the aircraft manufacturers for material compatibility tests, and not be corrosive or detrimental to aircraft components. The disinfectant should be applied according to the label instructions (e.g. concentration, method and contact time).
- Any contaminated items must be handled appropriately to mitigate the risk of transmission: Disposable items (hand towels, gloves, masks tissues) should be put in the biohazard bag or double plastic bags and disposed of according to national regulations for infectious waste.
- Ensure that the cleaning and other measures meet the conditions required by the airport health authority to address the public health risks

References

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11. World Health Organization. [Guide to Hygiene and Sanitation in Aviation](#).

12. International Air Transport Association. IATA. [Suspected Communicable Disease: Guidelines for cleaning crew](#)

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WHO continues to monitor the situation closely for any changes that may affect this interim guidance. Should any factors change, WHO will issue a further update. Otherwise, this interim guidance document will expire 2 years after the date of publication.

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