

# Assessment of infection prevention and control practices for COVID-19 isolation areas in healthcare facilities

*Interim recommendations, 14 April 2020*

PAHO/PHE/IM/Covid-19/20-006

## Objective

- To provide a tool for assessment of infection prevention and control (IPC) practices used in isolation areas of healthcare facilities<sup>1</sup> in the context of the novel coronavirus (COVID-19).

These recommendations are preliminary and subject to review as new evidence becomes available.<sup>2</sup>

## Key considerations

- IPC practices need to be implemented to guarantee the safety of healthcare workers and patients in healthcare facilities. These measures are crucial for the prevention of cross contamination and containment of spread of COVID-19.
- As of 14 April 2020, the following precautions are recommended for the care of patients with suspected or confirmed cases of COVID-19<sup>3</sup>:
  - For any suspected or confirmed cases of COVID-19: **standard + contact + droplet precautions**
  - For any suspected or confirmed cases of COVID-19 and Aerosol Generated Procedure: **standard + contact + airborne precautions**
- The results of the application of this evaluation tool, in addition to other tools<sup>4</sup>, will provide a general view of whether IPC standards are adequately implemented in the area under evaluation. However, the tools cannot make judgments about risk to individual patients. This tool is an external diagnostic instrument to support IPC professionals and managers to assess gaps in compliance with standards and take corrective measures.

## Structure of the checklist

This checklist is divided in four components and those components are sub-divided into a total of nine assessment areas covering all aspects of IPC in COVID-19 isolation areas:

- Component 1: Human resources
  - Healthcare workforce
  - Education and training
  - Healthcare workers health status and follow-up
- Component 2: Administrative strategies/governance
  - IPC activities
  - Patient containment and isolation in the healthcare facility
  - Environmental cleaning

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<sup>1</sup> Based on: Pan American Health Organization. Rapid evaluation guide for hospital programs for prevention and control of nosocomial infections. Washington, DC: PAHO, 2011 [accessed on 8 Apr 2020]. Available from: <https://www.paho.org/hq/dmdocuments/2011/HAI-Evaluation-guide-2011-ENG.pdf>.

<sup>2</sup> Updated information on COVID-19 can be obtained at: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>.

<sup>3</sup> For the most update information available on IPC measures for COVID-19, please refer to <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance>.

<sup>4</sup> World Health Organization. Infection prevention and control assessment framework at the facility level. Geneva: WHO; 2018 [accessed on 8 Apr 2020]. Available from: <https://apps.who.int/iris/handle/10665/330072>.

- Component 3: Hospital environment and sanitation
  - Hand hygiene
  - Isolation area
  - Medical waste management
  - Environmental cleaning
- Component 4: Cleaning, sterilization and high-level disinfection of medical devices

#### How to use the assessment tool and interpret the results

- For each of the indicators, use the suggested verification document to evaluate its status and check if it is “present” or “absent/no”. Use the “comments” space to provide additional relevant information.
- Transfer your results to the [data form collection](#). As data is inserted, an automated radar graph will be generated, plotting all results from the four components in the same graph. This method allows the visualization of key performance metrics for the isolation area under evaluation and highlights where quality improvement efforts should be directed.
- Any “absent/no” response should be immediately addressed through implementation of corrective measures.
- Ideally, the evaluation should be performed by the same professional or group on a regular basis (weekly).
- A summary report should be compiled to present results in the format of an executive summary for dissemination to key audiences.
- All indicators are allocated the same weighting in the final score. The expected result is 100% compliance with all indicators.
- One assessment tool should be used for each isolation area because issues can differ from one area to another, even within a department, and must be addressed locally.
- A glossary for key terms is provided at the end of the document.

**IPC practices in COVID-19 isolation areas in healthcare facilities**

Description of the healthcare facility – isolation area

<b>Facility information</b>	
<i>Evaluation date</i>	
<i>Name of the facility</i>	
<i>Identification of isolation area</i>	
<i>City</i>	
<i>Country</i>	
<i>Triage area</i>	present <input type="checkbox"/> absent <input type="checkbox"/>
<i>Number of beds in the isolation area</i>	
<i>Number of intensive care unit beds</i>	

## Human resources

### Healthcare workforce

- Suggested verification documents: shift timetable

<i>Indicator</i>	<i>Number</i>	<i>Comment</i>
<i># of nursing professionals<sup>5</sup></i>		
<i># of physicians<sup>6</sup></i>		
<i># cleaners<sup>7</sup></i>		

### Education and training

- Suggested verification documents: training program evaluation forms, attendance reports

<i>Indicator</i>	<i>Status</i>		<i>Comment</i>
	<i>Present</i>	<i>Absent</i>	
<i>Orientation about infection prevention and control for healthcare workers available and implemented<sup>a</sup></i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Training of healthcare workers in prevention of percutaneous exposures to blood or body fluids available and implemented<sup>b</sup></i>	<input type="checkbox"/>	<input type="checkbox"/>	

<sup>a</sup> Organized training activities to ensure that health care personnel are familiar with the hospital's IPC protocols and standards including standard precautions and use of personal protective equipment (PPE). <sup>b</sup> Prevention and monitoring of specific biological risks, injection safety.

### Healthcare workers health status and follow-up

- Suggested verification documents: standards

<i>Indicator</i>	<i>Status</i>		<i>Comment</i>
	<i>Present</i>	<i>Absent</i>	
<i>Procedure to follow-up health status of healthcare workers exposed to COVID-19 patients available and implemented<sup>a</sup></i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Program in place to follow-up healthcare workers who experience percutaneous exposure to blood or body fluids available and implemented<sup>b</sup></i>	<input type="checkbox"/>	<input type="checkbox"/>	

<sup>a</sup> Program in place to facilitate follow-up of the health status of healthcare workers, including capture of information on type of exposure, onset of symptoms and recommendations about separation from work and return to work after disease resolution. <sup>b</sup> Follow-up measures and prophylaxis available for HCW with exposure to blood and body fluids.

<sup>5</sup> Rate between nurse and patient will vary depending on the level of care needed but need to establish at each healthcare setting.

<sup>6</sup> The number of doctors required will depend on number of patients and severity but need to establish at each healthcare setting.

<sup>7</sup> At least one dedicated worker per shift.

**Administrative strategies/governance**

**IPC activities**

- Suggested verification documents: standards and procedures manuals; check list or assessment tool

<i>Indicator</i>	<i>Status</i>		<i>Comment</i>
	<i>Present</i>	<i>Absent</i>	
<i>Existence of a complete regulatory technical basis – standard precautions<sup>a</sup></i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Existence of a complete regulatory technical basis – transmission-based precautions<sup>b</sup></i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Oversight compliance by the staff</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Availability of checklist or tools for supervision of standard precautions</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Availability of checklist or tools for supervision of transmission-based precautions</i>	<input type="checkbox"/>	<input type="checkbox"/>	

<sup>a</sup> Minimal information: hand hygiene, use of PPE based on risk assessment, respiratory etiquette, injection safety, cleaning, disinfection and sterilization of medical devices, environmental cleaning and waste management. <sup>b</sup> Minimal information: handwashing before and after patient care and, use of PPE (gloves, waterproof gown, masks, respirators and goggle or face shield) for contact precaution, droplet precautions and airborne precautions.

**Patient containment and isolation into the healthcare facility**

- Suggested verification documents: standard operational procedures, manual

<i>Indicator</i>	<i>Status</i>		<i>Comment</i>
	<i>Present</i>	<i>Absent</i>	
<i>Policies for admission and discharge of patient in COVID-19 isolation area in place</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Policies for containment and flow of patients into the healthcare setting in place</i>	<input type="checkbox"/>	<input type="checkbox"/>	

**Environmental cleaning**

- Suggested verification documents: standard operational procedures, manual

<i>Indicator</i>	<i>Status</i>		<i>Comment</i>
	<i>Present</i>	<i>Absent</i>	
<i>Policies for environmental cleaning of isolations areas/rooms defined</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Policies for storage of cleaning supplies of isolations areas/rooms defined</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Policies on transportation and final destination of patient used linen and cloths defined</i>	<input type="checkbox"/>	<input type="checkbox"/>	

**Isolation area environment and sanitation**

**Hand hygiene**

- Suggested verification documents: direct observation of the procedure

<i>Indicator</i>	<i>Status</i>		<i>Comment</i>
	<i>Present</i>	<i>Absent</i>	
<i>Potable water is available on an ongoing basis with a minimum of 8 hours supply</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Accessible and operational washbasins with soap and supplies for drying hands in all patient care areas<sup>a</sup></i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Alcohol hand rub solution in all patient care areas<sup>b</sup></i>	<input type="checkbox"/>	<input type="checkbox"/>	

<sup>a</sup> Wash basins should be inside and outside the patients' hospital rooms or isolation area. <sup>b</sup> Alcohol dispensers should be accessible from each bed.

**Isolation: physical area**

- Suggested verification documents: direct observation of the procedure

<i>Indicator</i>	<i>Status</i>		<i>Comment</i>
	<i>Present</i>	<i>Absent</i>	
<i>Separation of a meter or more between beds in cohort area or multiple-patient rooms</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Availability of a pre-room area for putting on PPE, fully functional wash basins, or alcohol hand rub solution</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Availability of room for isolation of individual patients or groups with closed doors, fully functional wash basins, and alcohol hand rub solution</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Availability of a bathroom, toilet and sluice for patient use</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Areas for isolation and patients in isolation are clearly marked with signs</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Enough and correct PPE available for healthcare workers and janitors</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Exit area for removal of PPE with fully functional wash basins, or alcohol hand rub solution and waste bin.</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Permanent environmental ventilation in patient care areas is available<sup>a</sup></i>	<input type="checkbox"/>	<input type="checkbox"/>	

<sup>a</sup> Natural ventilation 160 L/per min/person or mechanical ventilation with 12 air changes per hour (ACH) for aerosol generated procedure area. 60 L/ per min/person in room for patients under droplet precautions.

**Medical waste management**

- Suggested verification documents: direct observation of the process, standards and procedures manuals

<i>Indicator</i>	<i>Status</i>		<i>Comment</i>
	<i>Present</i>	<i>Absent</i>	
<i>Disposal of sharp objects in waterproof, puncture-resistant containers</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>The containers for sharps are in a safe place adequate for guaranteeing the safety of patients and healthcare workers</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Policies on segregation of medical waste are defined</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Policies on transportation of medical waste are defined</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Policies on final destination of medical waste are defined</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Training of professionals involved in management of medical waste is in place</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Personnel handling waste use protective barriers</i>	<input type="checkbox"/>	<input type="checkbox"/>	

**Environmental cleaning**

- Suggested verification documents: standards and procedures manuals<sup>8</sup>

<i>Indicator</i>	<i>Status</i>		<i>Comment</i>
	<i>Present</i>	<i>Absent</i>	
<i>Cleaning materials are kept inside the isolation area</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Only disinfectants with proven efficacy are used</i>	<input type="checkbox"/>	<input type="checkbox"/>	

<sup>8</sup> World Health Organization, UNICEF. Water, sanitation, hygiene, and waste management for the COVID-19 virus. Geneva: WHO, 2019 [accessed on 8 Apr 2020]. Available from: <https://www.who.int/publications-detail/water-sanitation-hygiene-and-waste-management-for-covid-19>.

**Cleaning, sterilization and high-level disinfection of medical devices**

- Suggested verification document: direct observation, standards and procedures manuals

<i>Indicator</i>	<i>Status</i>		<i>Comment</i>
	<i>Present</i>	<i>Absent</i>	
<i>Only detergent for hospital use is used</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Cleaning of medical equipment is done before disinfection or sterilization</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Only sterilization methods of proven efficacy are used<sup>a</sup></i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Standards and procedures have been established for all processes related to sterilization</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Only high-level disinfection of methods of proven efficacy are used<sup>b</sup></i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Standards and procedures are established for all processes related to disinfection</i>	<input type="checkbox"/>	<input type="checkbox"/>	

<sup>a</sup> As of 14 April 2020, the sterilization methods with proven effectiveness are: autoclaves, dry heat, ethylene oxide in automated equipment, formaldehyde in automated equipment, hydrogen peroxide plasma in automated equipment, per acetic acid in automated equipment. <sup>b</sup> High-level disinfection methods include: 2% glutaraldehyde per acetic acid, orthophthalaldehyde (OPA).



**Glossary**

<b>Disinfection</b>	Procedure designed to eliminate pathogenic agents from spaces and equipment in order to decrease the risk of infection. Microbial spores are not usually eliminated by this process. Different levels of disinfection are distinguished using Spaulding’s classification. High-level disinfection processes are of particular interest.
<b>Health care workers</b>	In the context of this document, healthcare workers are all workers working inside the isolation area including professionals or other categories.
<b>High-level disinfectants with proven effectiveness</b>	The following formulations are known to be effective for high-level disinfection: those based on glutaraldehyde, >2%; orthophthalaldehyde (OPA), 0.55%; hydrogen peroxide, 7.5%; peracetic acid, >0.2%; hydrogen peroxide, 7.35%. and peracetic acid, 0.23%; hydrogen peroxide, 1%, and peracetic acid, 0.08%.
<b>Management of personnel exposed to infectious agents</b>	This process involves the performance of rapid diagnostic tests and implementation of appropriate post-exposure prophylaxis following accidents in the workplace.
<b>Manual</b>	Reference document that organizes and summarizes the regulations, instructions, procedures, or any other type of information, usually operational, on a specific subject.
<b>Professional</b>	Worker with a university education and degree.
<b>Standard</b>	Standing order that must be complied with.
<b>Sterilization</b>	Procedure designed to eliminate all forms of microbial life from spaces and equipment in order to decrease the risk of infection.
<b>Supervision</b>	Process of observation for measuring compliance with standards, instructions, care procedures, or other characteristics of daily practice.