

# Strategic priority infection prevention and control (IPC) activities for containment and prevention of COVID-19 cases at healthcare facilities in non-US settings

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/non-us-settings/ipc-healthcare-facilities-non-us.html>

The Centers for Disease Control and Prevention (CDC) is working closely with international partners to respond to the coronavirus (COVID-19) pandemic. CDC provides technical assistance to help other countries increase their ability to prevent, detect, and respond to health threats, including COVID-19.

**This document is provided by CDC and is intended for use in non-US healthcare settings. It is current as of April 2, 2020**

## 1. Use of this document

This document is intended to guide national-level coordination, healthcare facilities, and implementing partners in considering and planning high-priority IPC activities to prevent healthcare-associated transmission of SARS-CoV-2 (COVID-19 virus). Aspects of this document are relevant for all countries, but a focus is placed on priorities for low- and middle-income settings given resource constraints.

The goal of IPC activities in the coronavirus disease 2019 (COVID-19) response is to support the maintenance of essential healthcare services by preventing healthcare-associated transmission of SARS-CoV-2 among healthcare workers (HCW) and patients.

This requires:

- Rapid identification of suspect cases
- Immediate isolation and referral for testing
- Safe clinical management
- Adherence to standard IPC precautions

This document focuses on implementation of rapid identification of COVID-19 in healthcare facilities, which forms the basis for subsequent isolation, testing and management decisions.

Planning and coordination of activities should be conducted in collaboration with emergency response officials, in addition to relevant public health officials (e.g., Ministry of Health, sub-national health offices, facility administration).

This document addresses specific details on prioritized activities around rapid identification of COVID-19 in healthcare facilities under four different epidemiological scenarios of COVID-19 transmission. However, national and sub-national public health authorities and healthcare facilities in all countries should be doing certain core activities to support and prepare for the start of any of the activities outlined in section 5, regardless of the current state of COVID-19 transmission in the country.

## 2. National activities to support and enable prioritized facility IPC activities

National and sub-national public health authorities play a critical role in enabling priority IPC activities at healthcare facilities. Specific areas of focus for national and sub-national authorities should include:

- Development of national or sub-national policies and guidance on implementation of priority activities outlined in section 5 of this document in healthcare facilities (e.g., HCW screening, triage at facilities, isolation and cohorting in facilities, facilitating safe home care for cases with mild symptoms, movement and monitoring of exposed HCW)
- Linkage of Ministry of Health and sub-national IPC focal points to COVID-19 preparedness planning work (e.g., epidemiology and laboratory pillars)
- Development of forecasting plans for personal protective equipment (PPE) and other IPC consumables (e.g., alcohol-based hand rub) that prioritize:
  - Healthcare system needs
  - Development of plans for stockpiling PPE
  - Deploying stocks when need arises
  - Communication with facilities to ensure continuity of stocks
- Assessment of IPC readiness for facility inpatient areas for priority activities (outlined in section 5) and use this information to do the following:
  - Define national referral networks to direct suspected or confirmed cases to designated, prepared hospitals
    - *Note: this is most relevant during containment phase of the response (epidemiologic scenarios 1 and 2, below) when there are relatively few cases that are epidemiologically linked*
  - Strengthen priority IPC areas at all hospitals, starting with highest risk, in preparation for limited and widespread community transmission
- Development of national policies and procedures to avoid overwhelming healthcare facilities from influx of suspected COVID-19 cases, particularly mild cases. This should include:
  - Consideration of remote triage capabilities for suspected COVID-19 cases through hotlines, telemedicine or other modalities
  - Communicating with symptomatic contacts of known COVID-19 cases to alert designated authorities in advance of presenting for medical care
  - Development of messaging on this topic for healthcare facilities and general population (e.g., stay at home except to get medical care)
- Ensuring the availability of COVID-19 laboratory testing in country and linkages to healthcare facilities that may need testing services
- Development of training materials on priority IPC activities to prevent healthcare-associated spread of COVID-19
  - Dissemination of training materials to professional societies, sub-national public health authorities, healthcare facilities, and front-line healthcare workers

### 3. Core facility IPC activities regardless of epidemiologic scenario

- Develop plans to carry out actions outlined in section 5 in order to prevent the spread of acute respiratory infections (ARI), such as COVID-19, within the facility
- Develop SOPs for environmental cleaning procedures, particularly for the triage and isolation areas where suspected or confirmed COVID-19 patients will be placed
- Develop staffing plans to adequately staff isolation areas and consider whether cohorting staff is feasible
- Develop contingency plans for PPE shortages and other IPC consumable (e.g., alcohol-based hand rub) shortages in collaboration with national and sub-national public health authorities
- Develop communication plans to ensure adequate internal and external communication regarding COVID-19
- Educate HCW, patients, and visitors on COVID-19 signs, symptoms, and required IPC protocols
- Develop policies for visitor restriction (e.g., restrict visitors who are sick with ARI)
- Develop policies to identify and risk stratify HCW exposed to COVID-19 cases and monitor their movement and return to work

- Establish communication channels between healthcare facilities and public health authorities who can facilitate linkages with laboratory testing and epidemiology/contact tracing

#### 4. Epidemiologic scenarios

1. **No known cases in country**
2. **Confirmed cases, but no known community transmission**
  - a. If secondary cases present, all are linked to other confirmed cases
3. **Confirmed cases, limited community transmission**
  - a. Limited amount of unlinked cases identified in the community
4. **Confirmed cases, widespread community transmission**
  - a. Many unlinked cases identified in the community

**Note:** there may be situations within a country whereby different geographic areas meet different scenario criteria. Ministries of Health, in coordination with relevant stakeholders, should consider the appropriateness and feasibility of applying a single set of prioritized IPC activities across the country matched to the most severe transmission scenario met versus implementing multiple sets of prioritized IPC activities in differently affected geographic units. Experience in this pandemic has shown that once a region is at scenario 2 (confirmed cases, no known community transmission), aggressive testing strategies of undiagnosed respiratory infections may quickly reveal underlying community transmission. This can result in a rapid progression to scenario 4 (widespread community transmission), sometimes within a little as a week. Thus it is absolutely critical that countries prepare aggressively for future epidemiologic scenarios even as the implement activities for their current situation. Ministries of Health and healthcare facilities must act quickly once cases are identified to prevent and prepare for scenario 4 (widespread community transmission).

#### 5. Prioritized IPC activities for prevention and containment of COVID-19 cases, by epidemiologic scenario

Prioritized IPC activities for prevention and containment of COVID-19 cases, by epidemiologic scenario

Domain	Priority Activities	Rationale
<b>Scenario 1: No known cases in country</b>		
<b>Limiting entry of healthcare workers with suspected COVID-19</b>	<ul style="list-style-type: none"> <li>• Passive identification of HCWs at inpatient and outpatient healthcare facilities who are ill with ARI</li> <li>• Reinforce messages about not coming to work if sick, especially with ARI</li> </ul>	HCWs can spread COVID-19 in healthcare facilities if they are an unknown case. This may be an early to medium indicator of introduction of COVID-19 in healthcare system.
<b>Identification of inpatients with suspected COVID-19</b>	<ul style="list-style-type: none"> <li>• Encouraging staff to maintain a high suspicion for COVID-19 if seeing inpatients with compatible symptoms and no other clear etiology of illness AND inquire about any epidemiologic links (e.g., travel history, contact with confirmed case).</li> </ul>	Systematic screening of inpatients is a resource intensive activity and ARI/healthcare-associated pneumonia is common. However, it is important that clinicians maintain a high level of suspicion for COVID-19 when there is a compatible presentation and inquire about any epidemiologic links since this may be an early sign of introduction to the healthcare facility.

Prioritized IPC activities for prevention and containment of COVID-19 cases, by epidemiologic scenario

Domain	Priority Activities	Rationale
<b>Triage at initial healthcare facility encounter</b>	<ul style="list-style-type: none"> <li>Strengthen IPC during routine triage to ensure Standard precautions are used (e.g., hand hygiene, respiratory hygiene) and separation of ARI patients from other patients in the waiting room/triage area.</li> <li>Encourage intake and medical staff to have a high suspicion for COVID-19 if seeing patients with symptoms and travel to a country with widespread community transmission or with known contact with a confirmed COVID-19 case.</li> </ul>	<p>Carrying out systematic screening for COVID-19 at all healthcare facilities in a country without cases is prohibitively resource intensive with a low return on investment (i.e., low likelihood of identifying a confirmed case). Limitations in laboratory testing can make implementing systematic triage for COVID-19 at inpatient facilities in countries with no known cases very challenging.</p>
<b>Scenario 2: Confirmed cases, but no known community transmission</b>		
<b>Limiting entry of healthcare workers with suspected COVID-19</b>	<ul style="list-style-type: none"> <li>Same as Scenario 1 with enhancement of detection (e.g., policy for HCW to call supervisor if sick or for supervisor to report if an employee does not come to work).</li> </ul>	<p>Once cases are identified in a country, enhancing identification of ill HCWs is necessary.</p>
<b>Identification of inpatients with suspected COVID-19</b>	<ul style="list-style-type: none"> <li>Same as scenario 1 with enhanced passive detection if feasible (e.g., clinician reminders to consider COVID-19 in inpatients disseminated daily)</li> </ul>	<p>Identification of ARI clusters within a healthcare facility builds on healthcare epidemiology that should be ongoing in hospitals to review clusters of infections in time and space. During COVID-19, special attention should be paid to clusters of ARI in inpatients that might suggest a healthcare-associated COVID-19 transmission</p>
<b>Triage at initial healthcare facility encounter</b>	<ul style="list-style-type: none"> <li>Strengthen basic triage as in Scenario 1</li> <li>Strengthen linkages to contact tracing teams to ensure contacts of known COVID-19 cases can access designated healthcare points if they become symptomatic in order to prevent known symptomatic contacts from</li> </ul>	<p>Focus at this stage should be on ensuring that symptomatic contacts of confirmed cases are directed to present at healthcare facilities prepared to receive them. This is the priority activity in order to prevent COVID-19 patients from arriving unrecognized at healthcare facilities. Carrying out widespread systematic COVID-19</p>

Prioritized IPC activities for prevention and containment of COVID-19 cases, by epidemiologic scenario

Domain	Priority Activities	Rationale
	showing up at unprepared healthcare facilities.	triage at healthcare facilities when cases are all epidemiologically linked is of lower priority.
<b>Limiting entry of visitors with suspected COVID-19</b>	<ul style="list-style-type: none"> <li>Implement policies to restrict visitors for patients with ARI admitted to healthcare facilities</li> <li>Passive detection of ill visitors, e.g., encouragement of visitors to not enter facility if they have ARI</li> </ul>	Visitors to healthcare facilities have the potential to introduce COVID-19, particularly when they are close contacts of patients with suspected COVID-19
<b>Scenario 3: Confirmed cases, limited community transmission</b>		
<b>Limiting entry of healthcare workers with suspected COVID-19</b>	<ul style="list-style-type: none"> <li>Same as Scenario 2 AND in high-risk facilities, consider implementing active screening to identify HCWs with ARI prior to work</li> </ul>	With growing transmission comes higher utility in expanding to active screening of HCWs, especially as community transmission widens and HCWs become increasingly likely to have contact with cases outside the healthcare facility
<b>Identification of inpatients with suspected COVID-19</b>	<ul style="list-style-type: none"> <li>Same as scenario 2</li> </ul>	Same as rationale in scenario 2 above.
<b>Triage at initial healthcare facility encounter</b>	<ul style="list-style-type: none"> <li>Strengthen IPC during routine triage as in Scenario 1</li> <li>Systematic screening of patients presenting to a healthcare facility to identify COVID-19 suspect cases guided by WHO, or country-specific, case definition</li> </ul>	<p>Once there is documented unlinked transmission in the country or region, identifying symptomatic contacts and sending to prepared facilities helps prevent unidentified COVID-19 cases from entering a healthcare facility. Systematic triage should be carried out widely in facilities with access to a laboratory or a triage facility to quickly confirm cases for the purposes of isolation.</p> <p>In areas without laboratory testing capacity, systematic triage should be carried out in high risk (e.g., have a high likelihood of having cases) and can consider active screening to avoid non COVID-19 cases being isolated with non-cases)</p>
<b>Limiting entry of visitors with suspected COVID-19</b>	<ul style="list-style-type: none"> <li>Visitor restrictions same as Scenario 1, consider expanding to eliminating visitors for all inpatients</li> <li>Consider implementation of active screening of visitors with ARI with non-entry for ill visitors</li> </ul>	Visitors to healthcare facilities have the potential to introduce COVID-19 contacts of patients with suspected COVID-19
<b>Scenario 4: Confirmed cases, widespread community transmission</b>		
<b>Limiting entry of healthcare workers with</b>	<ul style="list-style-type: none"> <li>Active screening to identify ill HCWs prior to work</li> </ul>	With widespread community transmission, as in prior outbreaks of ebola, there is a high risk for becoming cases. In this scenario HCW should be actively screened for transmission of COVID-19 if ill.

Prioritized IPC activities for prevention and containment of COVID-19 cases, by epidemiologic scenario

Domain	Priority Activities	Rationale
<b>suspected COVID-19</b>		
<b>Identification of inpatients with suspected COVID-19</b>	<ul style="list-style-type: none"> <li>• Same as scenario 2 with consideration of screening of inpatients for COVID-19, if resources allow.</li> </ul>	With increased community transmission the likelihood of missing patients is more likely as does the likelihood of healthcare-associated transmission. Identification of possible COVID-19 arising among inpatients should be prioritized.
<b>Triage at initial healthcare facility encounter</b>	<ul style="list-style-type: none"> <li>• Strengthen basic triage IPC as in Scenario 1</li> <li>• Systematic evaluation of every patient at triage as outlined in Scenario 3</li> </ul>	With widespread community transmission the likelihood of finding patients with suspected COVID-19 at triage is high. Highest priority should be placed on implementing functional triage. This may be challenging in places without access to laboratory services.
<b>Limiting entry of visitors with suspected COVID-19</b>	<ul style="list-style-type: none"> <li>• Active screening of all visitors to the hospital for illness consistent with COVID-19 with non-admission for sick visitors</li> </ul>	Visitors to healthcare facilities have the potential to introduce COVID-19. Limiting contacts of patients with suspected COVID-19 is a key strategy.

<sup>1</sup> High-risk facilities should be defined by public health authorities considering: proximity to facilities or communities with known COVID-19 cases, including those across administrative or international borders as well as prioritizing facilities seeing large numbers of patients at high risk of being a COVID-19 case and where introduction would be highly disruptive (e.g., large referral hospitals)

6. Additional considerations for inpatient facilities with admitted cases of confirmed COVID-19

Regardless of epidemiologic scenario in a country, once an inpatient facility is housing suspected or confirmed COVID-19 cases, specific IPC precautions for isolation will apply. These are outlined by the World Health Organization and accessible at the links below. Pursuant to this document, facilities with confirmed cases may need to carry out prioritized activities from other epidemiologic scenarios even if those scenarios do not represent the country-wide COVID-19 situation. This could include, for instance, a hospital with confirmed COVID-19 cases choosing to conduct active screening of healthcare workers for signs and symptoms of COVID-19, despite this not being listed under the routine priority activities in that country's epidemiologic scenario.