

Operational considerations for case management of COVID-19 in health facility and community

Interim guidance
19 March 2020



Background

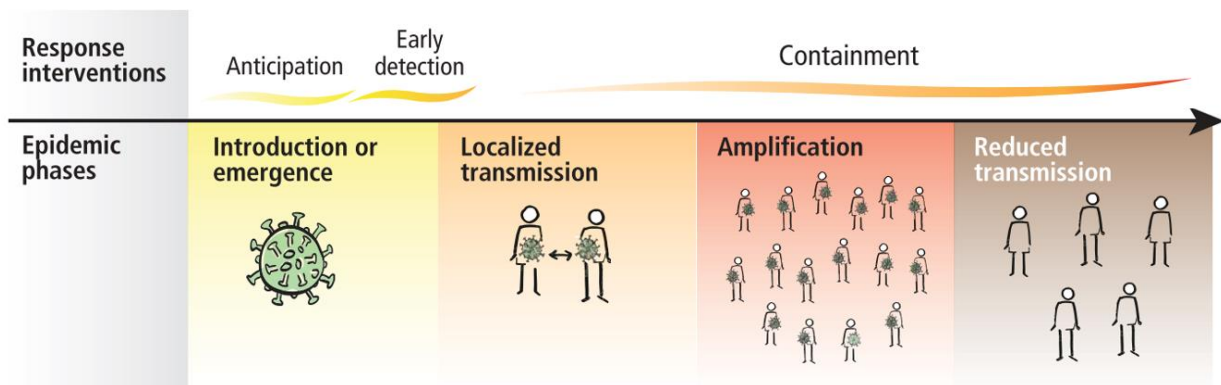
This document is intended for health ministers, health system administrators, and other decision-makers. It is meant to guide the care of COVID-19 patients as the response capacity of health systems is challenged; to ensure that COVID-19 patients can access life-saving treatment, without compromising public health objectives and safety of health workers.

It promotes two key messages:

1. Key public health interventions regardless of transmission scenario; and
2. Key action steps to be taken by transmission scenario to enable timely surge of clinical operations.

The public health objectives at all stages of the preparedness and response plan are to:

- Prevent outbreaks, delay spread, slow and stop transmission.
- Provide optimized care for all patients, especially the seriously ill.
- Minimize the impact of the epidemic on health systems, social services, and economic activity.



Based on the largest cohort of COVID-19 patients, about 40% of patients with COVID-19 may have mild disease, where treatment is mostly symptomatic and does not require inpatient care; about 40% of patients have moderate disease that may require inpatient care; 15% of patients will have severe disease that requires oxygen therapy or other inpatient interventions; and about 5% have critical disease that requires mechanical ventilation.¹

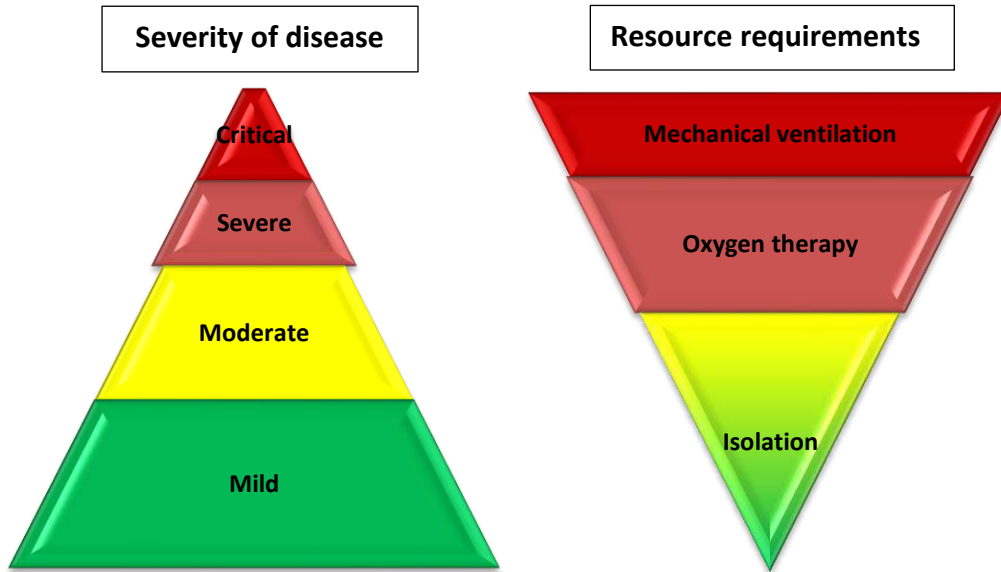
However, the evolution of the outbreak in some countries has shown a higher proportion of severe and critical cases and the need to rapidly increase surge capacity to prevent rapid exhaustion of biomedical supplies and staff. In some countries, doubling rates of cases every 3 days has been observed.²

Scenarios of transmission

Countries or subnational areas will have to respond rapidly to one or more epidemiological scenarios. Currently, four transmission scenarios are observed:³

1. Countries with no cases (no cases);
2. Countries with one or more cases, imported or locally acquired (sporadic cases);
3. Countries experiencing cases clusters in time, geographic location, or common exposure (clusters of cases);
4. Countries experiencing larger outbreaks of local transmission (community transmission).

Countries will experience one or more of these situations at the subnational level and must tailor their approach to the local context. For clinical care, six major interventions must be put into place immediately, and then scaled up according to epidemiologic scenarios (see Table 3).



The document is organized to guide key actions by transmission scenario to enable timely surge of clinical operations.

Scenario and strategic priorities

Table 1. Key recommendations based on case severity and risk factors, irrespective of transmission scenario

Case severity, risk factors ^a	Recommendations
Mild Moderate, with no risk factors	Patient should be instructed to self-isolate and contact COVID-19 information line for advice on testing and referral. Test suspected COVID-19 cases according to diagnostic strategy. Isolation/ cohorting in: <ul style="list-style-type: none"> • Health facilities, if resources allow; • Community facilities (e.g. stadiums, gymnasiums, hotels) with access to rapid health advice (i.e. adjacent COVID-19 designated health post/EMT-type 1, telemedicine)⁴; Self-isolation at home according to WHO guidance.
Moderate, with risk factors Severe Critical	Patient should be instructed to self-isolate and call COVID-19 hotline for emergency referral as soon as possible. Hospitalization for isolation (or cohorting) and inpatient treatment. Test suspect COVID-19 cases according to diagnostic strategy.

^a Known risk factors for severe COVID-19: age over 60 years, hypertension, diabetes, cardiovascular disease, chronic respiratory disease, immunocompromising conditions.

Note: Probable cases should be retested immediately.

Table 2. Summary of strategic priorities by scenario

Scenario	Priorities
No cases	<ol style="list-style-type: none"> 1. Set up screening and triage protocols at all points of access to the health system, including primary health centres, clinics, hospital emergency units, and ad hoc community settings. 2. Set up COVID-19 telephone hotline and referral system to refer patients to the appropriate destination for clinical assessment and/or testing as per local protocol. 3. Set up COVID-19 designated wards in health facilities. 4. Conduct active case finding, contact tracing and monitoring, quarantine of contacts, and isolation of suspected cases. 5. Prepare for next scenario.
Sporadic cases	<ol style="list-style-type: none"> 1. Screen and triage at all points of access to the health system, including primary health centres, clinics, hospital emergency units, and ad hoc community settings. 2. Care for all suspected and confirmed COVID-19 patients in isolation (or cohorting) according to disease severity and acute care needs for treatment at the COVID-19 designated treatment area (Table 1). 3. Continue rapid and thorough contact tracing and quarantine of contacts. 4. Prepare for next scenario.
Clusters of cases	<ol style="list-style-type: none"> 1. Screen and triage at all points of access to the health system, including primary health centres, clinics, hospital emergency units, and ad hoc community settings. 2. Care for all COVID-19 patients in the designated treatment area, according to disease severity and acute care needs according to the recommendations in Table 1. 3. Surge by repurposing wards or ICUs into COVID-19 wards and hospitals. 4. Where health facilities can no longer manage patients with mild or moderate disease, isolate patients who are not at high risk for severe disease (< 60 years of age, no co-morbid diseases) either in community facilities (e.g. stadium, gymnasium, hotel, or tent) with access to rapid health advice (i.e. via adjacent dedicated COVID-19 health post, telemedicine) or at home according to WHO guidance.⁵ If patient develops symptoms that may correspond to complications, ensure rapid referral to hospital. 5. Plan for new structures to augment the health system based on the assumption that the number of cases will double every 3 to 7 days subject to the effectiveness of public health interventions.
Community transmission	<ol style="list-style-type: none"> 1. Screen and triage at all points of access to the health system, including primary health centres, clinics, hospital emergency units, and ad hoc community settings. 2. Care for all suspected and confirmed COVID-19 patients in the designated treatment area, according to disease severity and acute care needs according to the recommendations in Table 1. 3. Surge the health system with new structures established for care delivery, including rapid extension of designated hospitals to care for COVID-19 patients. 4. New hospitals or temporary structures can serve to augment COVID-19 patient care or essential health services, depending on national strategy. 5. Referrals adopt a “hub and spoke” model, with a central COVID-19 referral facility and all other health facilities in each geographical area referring patients to the nearest centre (see referral pathway b). 6. Manage all mild and low- to moderate risk patients with confirmed disease in designated community facilities (e.g. stadium, gymnasium, hotel or tent) with access to rapid health advice (i.e. via adjacent dedicated COVID-19 health post, telemedicine) or at home according to WHO guidance and national or subnational capacity.⁵ If patient develops symptoms that may correspond to severe disease or complications, ensure rapid referral to hospital. 7. Depending on testing strategy and capacity, mild and moderate patients may not be tested, and advised to self-isolate either in cohorted community facilities or at home.

Immediate public health interventions

Table 3. Summary of immediate public health interventions, irrespective of transmission scenario

Community messaging	<p>Messages should include the following:</p> <ol style="list-style-type: none"> 1. COVID-19 symptoms: distinction between mild symptoms versus severe symptoms. Mild patients should be isolated to reduce transmission and told to self-isolate at home and call COVID informational line for advice on testing and referral. Mild and moderate patients may be isolated either in health facility, community facilities (e.g. stadium, gymnasium, hotel or tent) with access to rapid health advice (i.e. adjacent COVID-19 dedicated health post/EMT-type 1, telemedicine) or self-isolate at home. Severely ill patients should call COVID hotline to seek emergency referral to health facility. 2. Engage everyone in hand washing, respiratory hygiene, and physical distancing. 3. Access local 24/7 COVID-19 telephone hotline or designated number that patients can call for information and direction about when and where they should seek care. 4. Access local authority's social media accounts for specific information on COVID-19. 5. Understand community coordinated network with local government authority, public health unit/district medical officer, prehospital care services (including community health workers, community first aid responders, ambulance services) and hospitals.
Health facility readiness	<ol style="list-style-type: none"> 1. Undertake a health facility readiness assessment to evaluate established health facilities response capacity. 2. Establish or reinforce screening and triage protocols at all points of first access to the health system, including primary health care centres, clinics, and hospital emergency units.⁶ 3. Ensure that each facility is able to implement basic emergency care (BEC) for seriously ill patients and then activate referral.⁷ 4. Develop a supply procurement and distribution plan for personal protective equipment (PPE) and biomedical equipment (including oxygen, ventilators), including contingency plan for shortages. 5. Develop policies for visitor restriction, e.g. visitors to confirmed cases or visitors who are sick with acute respiratory infection (ARI), including for parents or caregivers accompanying minor patients. 6. Assess testing and lab capacity, define testing strategy, and plan for surge.
Health staff readiness	<ol style="list-style-type: none"> 1. Ensure staff dedicated to communicating with patients, visitors, and media as required. 2. Strengthen infection prevention and control (IPC) measures to mitigate health care worker (HCW) and nosocomial infection; this includes identification of IPC focal points, COVID-19 IPC training, ensuring availability of key documents at all levels of care (SOPs, communication materials – visual alerts for screening), visitors' policy, and IPC supplies. 3. Strengthen clinical management; training on clinical management of COVID-19 for designated clinical staff, ensuring key documents are available (SOPs, guidance). 4. Develop staffing plans to identify and appropriately supervise staff for repurposing and surge at health facility level, based on local and national strategy. 5. Strengthen measures for protection of occupational health, safety, and security of health workers – prevention of violence, addressing fatigue, and access to health care and social support.
Referral system readiness ⁸	<ol style="list-style-type: none"> 1. Communicate the details of COVID-19 designated facilities to all command and dispatch centres for appropriate destination triage.

	<ol style="list-style-type: none"> 2. Dedicate transfer vehicles and ambulances for all suspected or confirmed COVID-19. Ensure that IPC measures are always respected during patient retrieval and transport⁹ and that vehicles are disinfected properly. 3. Consider establishing expanded screening and appropriate referral pathways in community settings (e.g. fever clinics).
<p>Designate COVID-19 treatment areas within health facilities</p>	<ol style="list-style-type: none"> 1. Establish COVID-19 treatment areas within health facilities (rooms/ward/unit) or designate separate COVID-19 hospitals. <ol style="list-style-type: none"> a. COVID-19 treatment areas should be designed to allow implementation of all required IPC interventions. b. COVID-19 treatment areas should be designed to deliver life-saving oxygen therapy. Most patients hospitalized with severe disease will need oxygen, and a smaller proportion will require ventilation. 2. Establish COVID-19 surge plan. <ol style="list-style-type: none"> a. Plan for repurposing of wards for severely or critically ill patients. b. Plan for community facilities for isolation of mild or moderate patients or for self-isolation at home. 3. Re-evaluate COVID-19 discharge criteria and disposition during recovery period.
<p>Maintain essential health services</p>	<ol style="list-style-type: none"> 1. Establish simplified, purpose-designed, governance, and coordination mechanisms to complement response protocols. The impact of repurposing health system capacities for COVID-19 care should be evaluated on a regular basis. 2. Ensure context-relevant core health services and business continuity are not compromised. 3. Optimize or modify service delivery platforms as per context-relevant core health services. 4. Redistribute health workforce capacity as needed. 5. Develop a consultative and collaborative mechanism to establish non-urgent care priorities.

Key clinical and IPC activities for different transmission scenarios

Table 4. Key clinical and IPC activities for different transmission scenarios

	No case	Sporadic cases	Clusters of cases	Community transmission
Facility space, including for triage	Usual space. Enhanced screening and triage at all points of first access to the health system.	Dedicated COVID-19 patient care areas within health facility (e.g. infectious disease ward, isolation rooms in emergency or ICU wards).	More patient care areas repurposed for COVID-19 within the health system, especially for severe cases.	Expanded care for severe cases in new hospitals or temporary hospital facilities.
Staff	Usual staff. Train all staff for safe COVID-19 recognition and care. Activate IPC task force.	Additional staff called in and trained.	Staff extension (supervision of larger number of staff). Expanded care team model with task shifting or task sharing, and relevant changes in responsibility.	Make every effort to ensure sufficient staff available. Expanded care team model and additional emergency medical teams (EMTs). ⁴
Supplies	On-hand supplies. Equip wards for COVID-19 treatment. Identify essential equipment and supplies, including oxygen. Prepare expanded local supply chain.	Expanded inventory of supplies with detailed protocols for use. Activate expanded local supply chain. Prepare national supply chain.	Conservation, adaptation, selected re-use when safe. Activate contingency planning and procurement for essential equipment and supplies. National supply chain. Prepare expanded supply chain at global level.	Activate contingency planning should critical equipment be in short supply. Determine allocation of life-saving resources for HCWs and patients. Activate expanded global supply chain.
Standard of care	Usual care with enhanced awareness and recognition of immediate needs for first COVID-19 patients.	Usual care and treatment for all patients, including those with COVID-19.	Identify context-relevant core services. Shift service delivery platforms. Consider reduction in elective patient encounters, including elective surgical procedures.	Mass critical care (e.g. open ICU for cohorted patients).
Care areas expansion	No requirements for expansion.	Designate 10 beds per suspected COVID-19 case.	Expand COVID-19 patient-care areas by a factor of 3-5.	Expand COVID-19 patient care areas by a factor of 5-8.

Referral pathways

1. Screening and triage

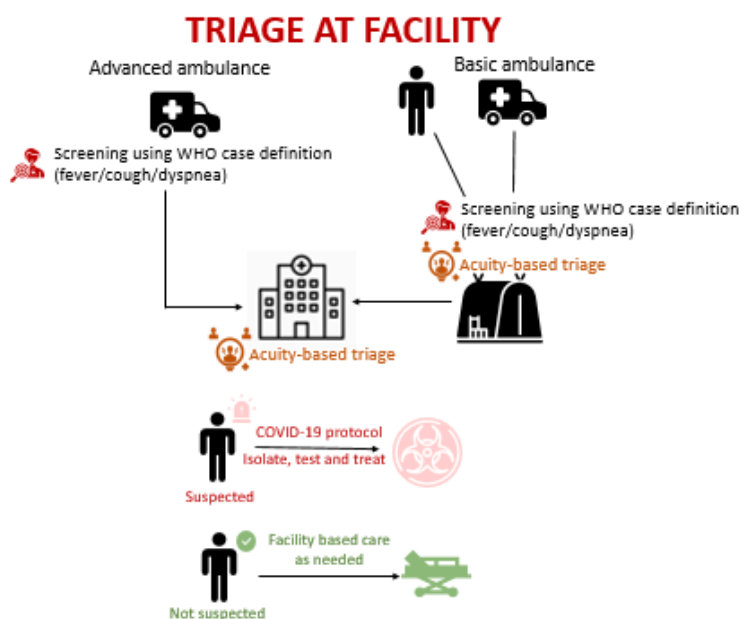
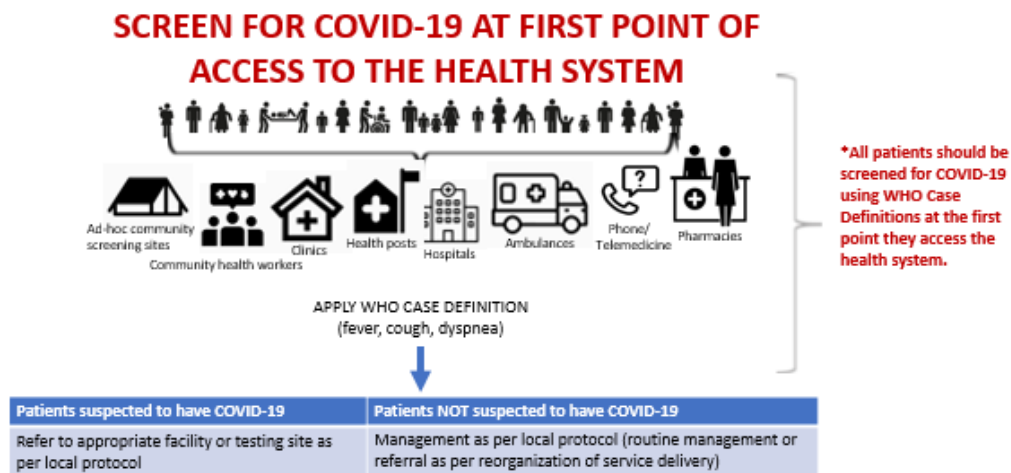
Screening: An area in which an individual is evaluated and screened using the case definition; if the person becomes a suspected case, refer to COVID-19 protocol.

Isolation: If the case definition is met, the patient should immediately be given a mask and directed to a separate area (an isolation room if available). At least 1 m distance should be kept between suspected patients and other patients.

Triage: Acuity-based triage is the standard method of sorting patients in the medical setting. This is used as the basis for identifying patients who require immediate medical intervention, patients who can safely wait, or patients who may need to be transported to a specific facility based upon their condition. A standard, validated tool should be used to assess for severity of patients and designation to the appropriate part of the facility or the health care system (such as the Integrated Interagency Triage Tool).

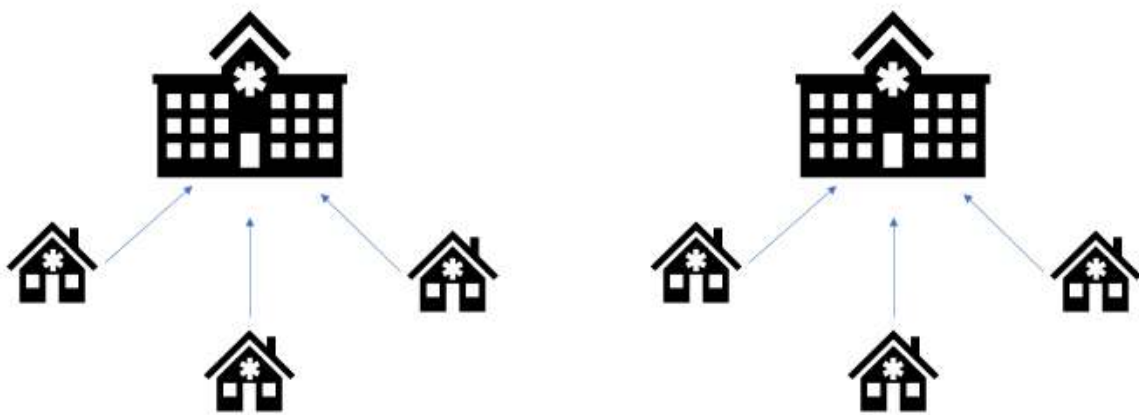
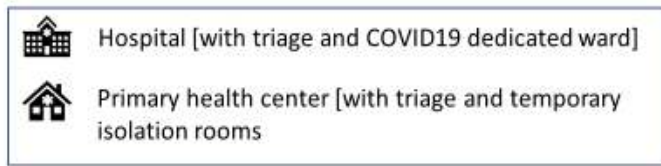
Example scenario 1: Mildly ill patient has concerns about having COVID-19. Patient calls COVID-19 hotline for information. Patient is instructed to go for testing at designated site, be evaluated at community centre, or to stay at home in self-isolation (determined by testing strategy and available facility resources).

Example scenario 2: Severely ill patient has concerns about having COVID-19. Patient calls prehospital care service and a basic COVID-19 ambulance is sent for the patient. Patient is transported to facility, screened as suspected COVID-19 patient, and triaged to appropriate level of emergency care based on acuity of disease presentation.



2. Hub and spoke model (community transmission)

Example scenario: During community transmission, there will be need for multiple COVID-19 treatment areas; a hub and spoke model of referral is recommended.



References

1. Wu Z, McGoogan JM. Characteristics of and Important Lessons From the Coronavirus Disease 2019 (COVID-19) Outbreak in China: Summary of a Report of 72 314 Cases From the Chinese Center for Disease Control and Prevention. JAMA. 2020. doi: 10.1001/jama.2020.2648. [Epub ahead of print]
2. Ministero della Salute. Nuovo coronavirus: Cosa c'è da sapere. http://www.salute.gov.it/portale/documentazione/p6_2_8.jsp?lingua=italiano (accessed 18 March 2020).
3. World Health Organization. [Critical preparedness, readiness and response actions for COVID-19.](#)
4. World Health Organization. [Emergency Medical Teams Initiative: Guidance and Publications.](#)
5. World Health Organization. [Considerations for quarantine of individuals in the context of containment for coronavirus disease \(COVID-19\).](#)
6. World Health Organization. [Infection prevention and control during health care when COVID-19 is suspected.](#)
7. World Health Organization. [Basic Emergency Care: approach to the acutely ill and injured.](#)
8. Pan American Health Organization. [Prehospital Emergency Medical Services Readiness Checklist for COVID-19: Instructive.](#)
9. World Health Organization. [Rational use of personal protective equipment for coronavirus diseases \(COVID-19\).](#)

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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WHO reference number: WHO/2019-nCoV/HCF_operations/2020.1