

Safe Route to Care

Primary health center redesign to protect chronic disease patients during the COVID-19 pandemic

OVERVIEW

A robust response to COVID-19 that takes cardiovascular risk factors into account can mitigate the health, social, and economic ravages of the pandemic. In addition to strong public health and social measures and drug and vaccine development, the health system response can protect cardiovascular disease (CVD) patients from COVID-19 infection while guaranteeing that ongoing and essential treatments are not interrupted (Figure 1).

In areas with community spread of the virus, it is essential to keep stable chronic disease patients away from health facilities where COVID-19 may spread. This can be achieved through telemedicine communications between patients and their providers, longer prescription duration (e.g., 90-day supply of essential medicines), and access to monitoring and medications at home or in the community.

Even with measures in place to deliver chronic care away from health facilities, chronic disease patients may nonetheless need to access primary health facilities. Prescription refills may require ink signatures; community delivery of medicines may become impossible if community health workers workforce is compromised or insufficiently protected with protective equipment. In some jurisdictions, telemedicine services are limited due to legal restrictions or unreliability or insufficient privacy protection of the telemedicine platform.

Within primary health centers (PHCs), smart design can channel chronic disease patients without COVID-19 symptoms to secure areas and dedicated staff that are separated from patients with suspected COVID-19. For example, prescription refills can be provided to patients outdoors, with lines demarcated for spacing 6 feet apart with a minimum of 3 feet if there are space constraints, or, better still, community health workers can deliver medications to patients' doorsteps. Taken together, these patient-centered approaches will not only protect patients with prior CVD or its risk factors but also allow health care facilities to focus on providing the best possible care for COVID-19 cases that meet criteria for hospitalization. Reinforcing community- and primary care-based prevention measures is particularly important in low- and middle-income settings, where hospital and acute care resources are scarce.

This document presents administrative control measures that PHCs may take to redesign the physical space and staff assignments to protect chronic disease patients. For health centers planning such redesign measures, more detailed official guidelines should be consulted. National or subnational guidelines are highest priority. If these are lacking, guidance from the

[World Health Organization](#) or [United States Centers for Disease Control and Prevention](#) may be consulted.

The recommendations in **Section A**—a triage algorithm (*Figure 2*) and PHC redesign “floor plan” (*Figure 3*)—are self-explanatory. One important detail to emphasized is that **even patients presenting to PHCs for chronic disease care must be screened for potential COVID-19 symptoms**. This is a necessary precaution to ensure that patients with possible COVID-19 are not mixing with other chronic disease patients or health care providers within the PHC facility. At the PHC, stable patients should be dispensed the longest duration prescriptions for their chronic medications possible: 90-day prescriptions are ideal. Once the chronic disease patient receives their necessary services at the PHC, they should be directed to pursue further care via **telemedicine** and **receive their medicines in the community**, if these are available. **Section B** provides recommendations for specific chronic disease patients.

FIGURE 1.
PROTECTING CHRONIC DISEASE PATIENTS DURING THE COVID19 PANDEMIC

PROTECTING CHRONIC DISEASE PATIENTS DURING COVID-19

- TELEMEDICINE
- 90-DAY PRESCRIPTIONS
- COMMUNITY MEDICATION DELIVERY
- HEALTH FACILITY RE-DESIGN TO PREVENT INFECTION



Telemedicine, 90-day prescriptions, and community medicine deliveries keep chronic disease patients away from health facilities where suspected COVID-19 cases may gather. Health facility redesign triages and diverts suspected COVID-19 cases and keeps patients with chronic disease who must visit the clinic from being exposed to infection.

A. Recommendations for screening and triage at primary health centers (PHCs) to protect chronic disease patients and other patients not seeking care for COVID-19 illness

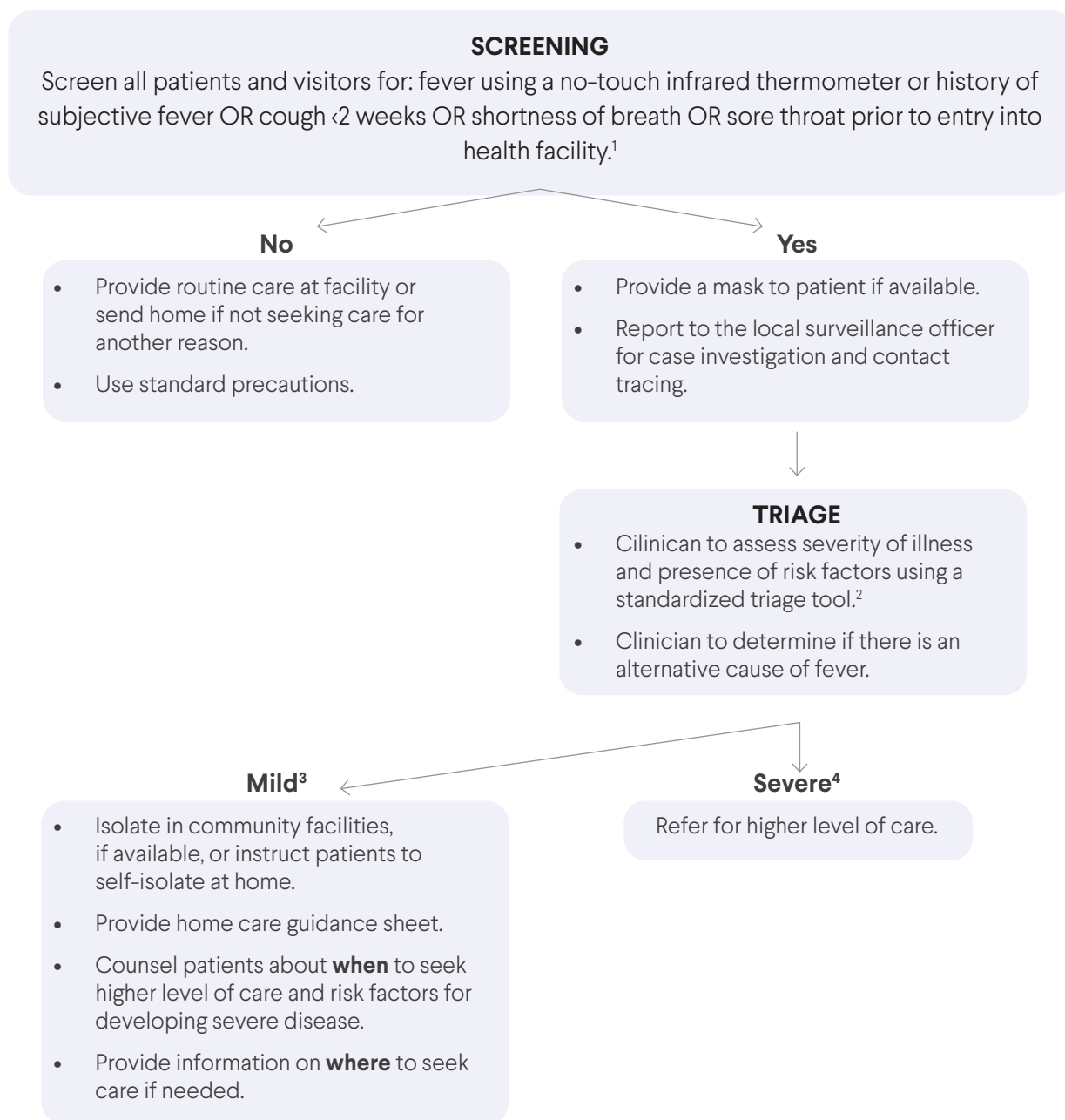
(see Figure 2 and Figure 3)

2. Communicate with patients before they arrive for care:
 - Inform patients that health facilities are open to provide routine services, and mechanisms are in place, including screening procedures, to minimize risk of infection. Inform them of preventive measures to take if they seek care (e.g. wearing a mask, using tissues to cover cough/sneeze). Use traditional and social media to send these messages out to the community.
3. Outside, prior to entry to the health facility, a health care worker with a mask should ask all patients and visitors presenting to the primary health center (PHC) their reason for visit and direct them to the appropriate outdoor screening area.
 - One screening area for patients presenting to the PHC with respiratory symptoms/concern for COVID-19
 - One screening area for patients and visitors presenting for routine/other care (e.g. antenatal, vaccine, TB, HIV, chronic disease care, etc.)
4. Screening area specifications:
 - Ensure the screening areas have adequate ventilation
 - Four posts with a roof may be used
 - The roof should have an overhang to address weather (heat, rain)
 - Use bricks, tape, pen, etc. to mark spacing between patients as they queue for screening.
 - Individual seating (not benches) should be used and placed at least 2 meters apart. If benches are used, mark seats 2 meters apart using a pen, marker, tape, etc.
 - A space of 2 meters should be maintained between all patients and/or visitors and between patients and health care workers. If there are space constraints, **at least 1 meter of space should be maintained.**
 - **Place signs with information on cough etiquette, disposal of contaminated items, and hand hygiene in strategic areas.**
5. Dedicated, trained staff should conduct screening and triage. Training should include: screening and triage procedures, COVID-19 case definition, and appropriate use of personal protective equipment (PPE). Consultation with the PHC clinician should be available for triage/risk stratification of suspected cases.
6. Equipment needed for screening staff as well as any other staff working in the screening areas or inside the PHC:
 - Alcohol-based hand rub
 - Face shields and medical masks (not N95 respirators)

- Tissues for patients to cover their mouth/nose when coughing or sneezing
 - Bins/waste receptacles with lids for disposable tissues
 - No-touch infrared thermometers
- 7.** Patients suspected to have COVID-19 should be immediately provided a mask. Those who need to be referred for isolation or a higher level of COVID-19 care should wait in a separate, dedicated space allocated within the outdoor screening area that is only for suspected COVID-19 cases. The waiting area should have hand hygiene stations, tissues, and trash bins with lids.
- 8.** Maintain nationally prioritized routine services at the PHC. Routine care for patients with stable chronic health conditions and elective services should be deferred, delayed or replaced with telemedicine where possible.

FIGURE 2. SCREENING ALGORITHM/DECISION TOOL

SCREENING ALGORITHM/DECISION TOOL IN THE CONTEXT OF WIDESPREAD COMMUNITY TRANSMISSION



1 Maintain at least 2 m of distance between patients and health care workers.

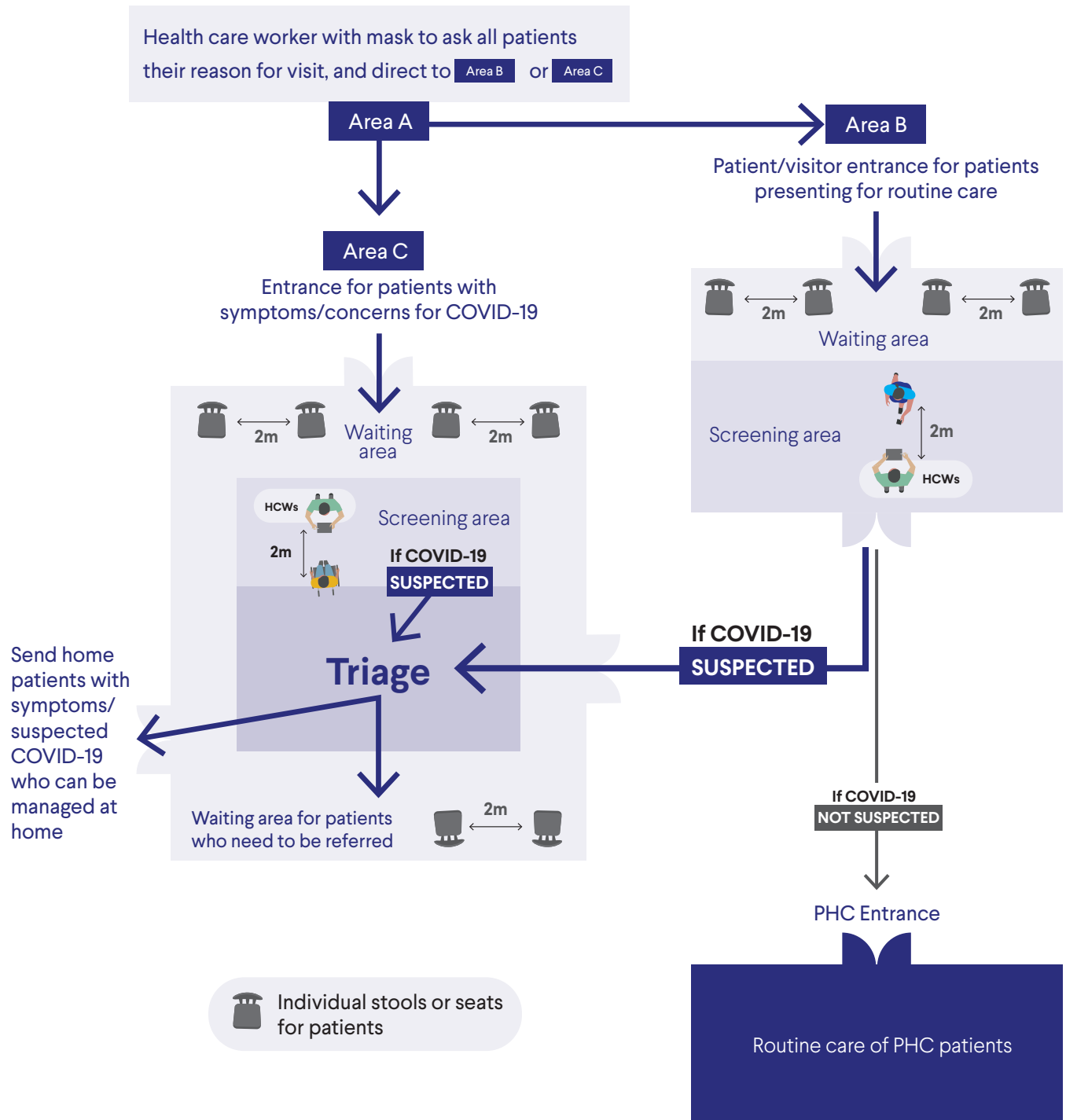
2 Known risk factors for severe COVID-19: Age ≥60, hypertension, diabetes, cardiovascular disease, chronic respiratory disease, immunocompromising conditions (e.g. HIV, cancer treatment).

3 Mild illness: Patients with uncomplicated upper respiratory tract viral infection may have nonspecific symptoms: fever, cough, fatigue, malaise, muscle pain, sore throat, dyspnea, nasal congestion or headache. Rarely, patients may present with gastrointestinal symptoms. Older patients and those with immunocompromising conditions may have atypical symptoms. (World Health Organization. Clinical management of severe acute respiratory infection (SARI) when COVID-19 disease is suspected. [https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-\(ncov\)-infection-is-suspected](https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-(ncov)-infection-is-suspected). Older patients may not have fever, but worsening cough or respiratory symptoms. (CDC. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/non-us-settings/sop-triage-prevent-transmission.html>)

4 Warning signs of severe disease include: respiratory rate >30, trouble breathing, confusion/difficulty to arouse. In children, warning signs include: signs of respiratory distress (grunting, chest indrawing, inability to breastfeed/drink, central cyanosis), fast breathing (in breaths/min): < 2 months: ≥ 60; 2–11 months: ≥ 50; 1–5 years: ≥ 40, lethargy or unconsciousness, and convulsions.

FIGURE 3.
FLOOR PLAN FOR PRIMARY HEALTH CENTER (PHC) REDESIGN TO PROTECT CHRONIC DISEASE PATIENTS

DIAGRAM/SCHEMATIC OF SCREENING AND TRIAGE AREAS



B. Considerations for specific populations and chronic diseases

Comorbidity/ Population	Risk Level	Considerations
Hypertension	Higher Risk ¹	<p>Ensure adequate supplies of medications. Provide prescriptions for as long as possible (e.g., three months).</p> <p>Use telemedicine services where available and already in place for routine consultations</p> <p>Use trained, remunerated and supplied community health workers to increase home-based service support.²</p> <p>Advise patients to protect themselves from COVID-19: hand-washing, cleaning and disinfecting high-touch surfaces, staying at home, avoiding crowds and travel, and staying away from ill persons.³</p>
Diabetes	Higher Risk ¹	<p>Ensure adequate supplies of medications. Provide prescriptions for as long as possible (e.g., three months).</p> <p>Use telemedicine services where available and already in place for routine consultations</p> <p>Use trained, remunerated, and supplied community health workers to increase home-based service support.²</p> <p>Advise patients to protect themselves from COVID-19: hand-washing, cleaning and disinfecting high-touch surfaces, staying at home, avoiding crowds and travel, and staying away from ill persons.³</p>
Tuberculosis	Limited information People with TB and COVID-19 may have worse outcomes ⁴	<p>Administrative and personal protection measures apply to both conditions (infection prevention and control, cough etiquette, isolation of people suspected to be affected).⁴</p> <p>Patient-centered outpatient and community-based care for patients with TB is preferred.⁴</p> <p>Provide adequate supplies of medicines to minimize unnecessary visits to treatment centers to collect medicines.⁴</p> <p>Use telemedicine technology: electronic medication monitors, video-supported therapy.⁴</p> <p>Advise patients to protect themselves from COVID-19: hand-washing, cleaning and disinfecting high-touch surfaces, staying at home, avoiding crowds and travel, and staying away from ill persons.³</p>

1 The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team. The Epidemiological Characteristics of an Outbreak of 2019 Novel Coronavirus Diseases (COVID-19) – China, 2020[J]. *China CDC Weekly*, 2020, 2(8): 113–122.

2 World Health Organization. COVID-19: Operational guidance for maintaining essential health services during an outbreak. <https://www.who.int/publications-detail/covid-19-operational-guidance-for-maintaining-essential-health-services-during-an-outbreak>. Accessed March 31, 2020

3 CDC COVID-19 Response Team. Preliminary Estimates of the Prevalence of Selected Underlying Health Conditions Among Patients with Coronavirus Disease 2019 – United States, February 12–March 28, 2020. *MMWR Morb Mortal Wkly Rep.* ePub: 31 March 2020. DOI: <http://dx.doi.org/10.15585/mmwr.mm6913e2external icon>

4 World Health Organization. WHO Information Note Tuberculosis and COVID-19. https://www.who.int/tb/COVID_19considerations_tuberculosis_services.pdf. Accessed March 29, 2020

<p>HIV</p>	<p>No evidence to suggest people living with HIV who are clinically and immunologically stable on treatment are at higher risk of acquiring infection or developing more severe illness.⁵</p> <p>People living with HIV with advanced disease, low CD4 and high viral load, and not on treatment, have an increased risk of infections and related complications in general.⁵</p>	<p>For patients stable on ART, use less frequent clinic visits.⁵ Postpone routine medical and lab visits to the extent possible for stable patients and who have a suppressed viral load.⁶</p> <p>Use multi-month prescriptions and multi-month dispensing for 3–6 months for people living with HIV stable on treatment.⁵</p> <p>Ensure plans for access to care (telemedicine, virtual/ phone and messaging, etc.) with strong community systems, when available, to support adherence.⁷</p> <p>Engage and leverage civil society organizations and people living with HIV networks.⁷</p> <p>Advise patients to protect themselves from COVID-19: hand-washing, cleaning and disinfecting high-touch surfaces, staying at home, avoiding crowds and travel, and staying away from ill persons.³</p>
<p>Pregnant Women</p>	<p>Unknown⁸</p> <p>Immunologic and physiologic changes during pregnancy generally increase susceptibility to viral respiratory infections.⁶</p>	<p>Essential to screen all pregnant women.</p> <p>Symptoms due to physiologic adaptations of pregnancy or adverse pregnancy events, such as dyspnea, fever, gastrointestinal symptoms or fatigue, may overlap with COVID-19 symptoms.⁹</p> <p>Advise patients to protect themselves from COVID-19: hand-washing, cleaning and disinfecting high-touch surfaces, staying at home, avoiding crowds and travel, and staying away from ill persons.³</p>
<p>Persons >60 years of age</p>	<p>Higher Risk^{10,11}</p>	<p>Ensure adequate supplies of medications. Provide prescriptions for as long as possible (e.g., three months).</p> <p>Advise to stay at home as much as possible; maintain contact with family and health care providers by telephone.</p> <p>Advise patients to protect themselves from COVID-19: hand-washing, cleaning and disinfecting high-touch surfaces, staying at home, avoiding crowds and travel, and staying away from ill persons.³</p>

5 World Health Organization. Q&A on COVID-19, HIV and antiretrovirals. <https://www.who.int/news-room/q-a-detail/q-a-on-covid-19-hiv-and-antiretrovirals>. Accessed March 29, 2020

6 U.S. Department of Health and Human Services. Interim Guidance for COVID-19 and Persons with HIV. <https://aidsinfo.nih.gov/guidelines/html/8/covid-19-and-persons-with-hiv--interim-guidance-/554/interim-guidance-for-covid-19-and-persons-with-hiv> (March 20, 2020). Accessed March 29, 2020

7 Pan American Health Organization. Coronavirus Disease 2019 (COVID-19) and HIV: Key Issues and Actions. <https://www.paho.org/en/documents/coronavirus-disease-2019-covid-19-and-hiv-key-issues-and-actions>. Accessed March 29, 2020

8 Luo Y, Yin K. Management of pregnant women infected with COVID-19. *Lancet Infect Dis* 2020; (published online March 24, 2020). DOI: [https://doi.org/10.1016/S1473-3099\(20\)30191-2](https://doi.org/10.1016/S1473-3099(20)30191-2).

9 World Health Organization. Clinical management of severe acute respiratory infection (SARI) when COVID-19 disease is suspected. [https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-\(ncov\)-infection-is-suspected](https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-(ncov)-infection-is-suspected). Accessed March 30, 2020.

10 CDC COVID-19 Response Team. Severe Outcomes Among Patients with Coronavirus Disease 2019 (COVID-19) – United States, February 12–March 16, 2020. *MMWR Morb Mortal Wkly Rep* 2020;69:343-346. DOI: [http://dx.doi.org/10.15585/mmwr.mm6912e2external icon](http://dx.doi.org/10.15585/mmwr.mm6912e2external%20icon).

11 Zhou F, Yu T, Du R, et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. *Lancet* 2020; 395:1054-62. doi: 10.1016/S0140-6736(20)30566-3