

COVID-19 Scientific and Public Health Policy Update – (March 24, 2020)

In addition to our weekly brief on the spread of COVID-19 and the actions that Africa CDC is taking to help member states, Africa CDC has begun to share a weekly brief detailing the latest changes in scientific knowledge and public health policy changes, as well as updates to the latest guidance from WHO and others. Contents of this document are not intended to serve as recommendations from the Africa CDC; rather, it is a summary of the factbase to help inform member states. It is important to note that the outbreak is evolving rapidly and that the nature of this information will continue to change. So we will continue to provide regular updates to ensure member states are informed of the most critical developments in these areas.

A. Executive summary

- A report on COVID-19 patients in China suggest that prior to the travel restrictions in January 23, 86% of all infections were undocumented and that these infections were the source of 79% of documented cases.
- A published study on aerosol and surface stability of SARS-CoV-2 suggests that the virus can remain viable in aerosols for up to 3 hours, copper for up to 4 hours, cardboard for up to 24 hours and plastics and steel for up to 3 days.
- An epidemic-modeling report suggests that a combination of case isolation, home quarantine and social distancing of >70-year-olds could reduce peak critical care demand by two-thirds and halve the number of deaths. However, this would still result in an 8-fold higher peak demand than surge capacity on critical care beds in both UK and the US. Leveraging population-wide social distancing, home isolation of cases and school and university closures have the potential to suppress transmission below the threshold of $R=1$, however, to avoid rebound in transmission, these policies would need to be maintained until large stocks of vaccines are available (which could be in 18 months).
- A clinical trial of lopinavir-ritonavir treatment on 199 patients found that intake of the drugs resulted in no benefit beyond standard care. Meanwhile, an observational trial suggests that chloroquine could be a promising treatment based on lower viral loads observed in patients who were administered the drug. However, randomized control trials need to be conducted in order to validate viability of the drug. Multiple trials are underway including a large global trial, SOLIDARITY, launched by WHO.
- The US FDA has granted 'emergency use authorization' to Cepheid's COVID-19 test. The test is a molecular, PCR-based test, that can provide accurate results in 45 minutes. The tests are planned to be rolled out on March 30.
- As cases in the continent continue to rise over the past week, African countries have imposed tighter travel and public health policies such as full border closures (e.g., Angola, Rwanda, Nigeria), cessation of air traffic (e.g., Kenya, Sierra Leone, Mauritania), entry restrictions for non-citizens / non-residents (e.g., Seychelles), lockdown (e.g., South Africa, Rwanda) and etc.
- Similarly, heavily affected countries globally have continued to enforce strict public health and travel policies such as entry restrictions for all foreigners (e.g., EU), closure of schools and non-essential businesses (e.g., Italy, US, UK) etc.

B. New guidelines and resources

- Since March 17th, WHO has published new and updated guidance on [Critical Preparedness and Response Actions for COVID-19](#), [Home care for patients with COVID-19 presenting with mild symptoms](#), [Rights, Roles and Responsibilities of health workers](#), [IPC during health care](#), Guidance for [Mental Health and Psychosocial considerations](#), Guidance for [Population-based age-stratified seroepidemiological investigation protocol for COVID-19](#), [Advice on the use of masks in the community, during home care and in healthcare settings](#)
- US CDC has published new and updated guidance on [Preparedness of Healthcare Facilities](#), [Long-term Care Facilities / Nursing Homes](#), [Criteria for Return to Work of a Healthcare Personnel with Confirmed or Suspected COVID-19](#), [IPC for Outpatient Hemodialysis Facilities](#), [Interim Guidelines for Collecting, Handling and Testing Clinical Specimens](#), [Travel](#), Protecting and Preparing [Home](#) and [Family](#) for COVID-19
- ECDC has issued new guidance and resources on [Safe handling of bodies of deceased persons with suspected or confirmed COVID-19](#), [Supply of substances of human origin in the EU/EEA](#), [Discharge criteria for confirmed COVID-19 cases](#), [IPC in Healthcare Settings](#), [Information for Specific Groups \(e.g., Elderly, Chronic Disease Patients, Pregnant Women etc.\)](#) and [Considerations relating to Social Distancing Measures](#)
- The full list of latest guidance and resources from WHO and other public health institutions are listed at the end of this update in **section G**.

C. Scientific updates

Basic science (virology, immunology, pathogenesis)

- A published study on aerosol and surface stability of SARS-CoV-2 suggests that the [virus can remain viable in aerosols for up to 3 hours, copper for up to 4 hours, cardboard for up to 24 hours and plastics and steel for up to 3 days](#).
- A review of the viral dynamics of mild and severe patients (76) in Nanchang found that [severe COVID-19 patients tend to have a high viral load \(mean viral load that was 60x higher than that of mild cases'\) and a long virus-shedding period](#) (90% of mild cases tested negative after 10 days, while severe cases all still tested positive).
- A case report on the kinetics of immune responses in relation to clinical and virologic features of a patient with mild-to-moderate COVID-19 found that [increased antibody-secreting cells \(ASCs\), follicular helper T cells \(TFH cells\), activated CD4+ T cells and CD8+ T cells and immunoglobulin M \(IgM\) and IgG antibodies that bound the COVID-19-causing coronavirus SARS-CoV-2 were detected in blood before symptomatic recovery](#). These immunological changes persisted for at least 7 days following full resolution of symptoms. Further examinations of larger cohort sizes are needed to determine if such immune parameters can be used to predict disease outcomes.

Epidemiology

- An estimation of undocumented COVID-19 patients in China suggest that prior to the travel restrictions in January 23, [86% of all infections were undocumented](#) and that these undocumented infections (many of whom were most likely not severely symptomatic) were the source of 79% of documented cases.
- A review of 1391 children tested (of which 171 or 12.3% were positive) from Jan 28 to Feb 26 in Wuhan suggests that [most children have a milder clinical course and that asymptomatic cases are not uncommon](#). Only 42% of the children had fever, only 3 required intensive care (all of whom had coexisting conditions). As of March 8, there was only 1 death (a 10-month-old child with intussusception). 21 patients were in stable condition and 149 have been discharged.
- An investigation of 10 pediatric SARS-CoV-2 infection cases found that [8 of 10 children persistently tested positive on rectal swabs even after nasopharyngeal testing was negative](#), suggesting the possibility of fecal–oral transmission and that rectal swab-testing may be more useful than nasopharyngeal swab-testing in judging the effectiveness of treatment and determining the termination of quarantine. However, the report found no evidence of replication-competent virus in fecal swabs, which is required to confirm the potential for fecal–oral transmission.
- A single center observational study on 8 severe pediatric COVID-19 patients found that [polypnea was the most common symptom, followed by fever and cough](#). Multiple patch-like shadows and ground-glass opacity in CT scans and a cytokine storm in these patients were observed.
- A review of literature describing 38 pregnant women with COVID-19 and their newborns in China [reveals that COVID-19 did not lead to maternal deaths](#). More importantly, there were no confirmed cases of intrauterine transmission of SARS-CoV-2 from mothers with COVID-19 to their fetuses.

Diagnostics

- The US FDA has granted 'emergency use authorization' to Cepheid's COVID-19 test. The test is a [molecular, PCR-based test, that can provide accurate results in 45 minutes](#). The tests are planned to be rolled out on March 30.
- An examination of the time kinetics of antibodies produced against SARS-CoV-2 suggests that humoral response to SARS-CoV-2 can aid in its diagnosis. [IgM ELISA assay when combined with PCR can increase positive detection rate to 98.6% vs. a single qPCR test \(51.9%\)](#). This methodology needs to be replicated further to fully assess effectiveness of IgM ELISA assay in diagnosis.

Care and Treatment

- A [clinical trial of lopinavir-ritonavir treatment on 199 patients show that intake of the drugs resulted in no benefit](#) i.e., clinical improvement that was one day shorter and no improvement in mortality or detectable viral RNA.
- An observational trial suggests that [chloroquine could be a promising treatment](#) based on lower viral loads observed in patients who were administered the drug. However, randomized control trials need to be conducted in order to validate viability of the drug.

- A network-based methodology for systematic identification of drugs for potential treatment of SARS-CoV-2 has prioritized [16 candidate repurposable drugs and 3 potential drug combinations](#). However, although the majority of predictions have been validated by various literature data, these must be validated in various experimental assays and randomized clinical trials before being used in patients.
- WHO announced a [large global trial, called SOLIDARITY, focused on the four most promising therapies: remdesivir, chloroquine and hydroxychloroquine, lopinavir and ritonavir, and lopinavir and ritonavir plus interferon-beta](#), an immune system messenger that can help cripple viruses. Similarly, INSERM, announced that it will coordinate an add-on trial in Europe, named Discovery, that will follow WHO's example and will include 3200 patients from at least seven countries, including 800 from France. That trial will test the same drugs, except for chloroquine.

Vaccines

- China has [authorized clinical trials on its first vaccine](#) developed to combat the new coronavirus, according to a report in the ruling Communist Party's People's Daily.
- Moderna is seeking to [provide access to the vaccine to a limited group, likely consisting of healthcare workers, by as early as this fall](#). The company plans to do so under an emergency use authorization from the US FDA.

Non-pharmaceutical interventions, social distancing

- The epidemic-modeling report out of Imperial College London suggests that unmitigated, the outbreak would result in approximately 510,000 deaths in the UK and 2.2 million in the US. Implementing an "optimal" mitigation strategy (i.e., reducing R but not to less than 1 through a combination of case isolation, home quarantine and social distancing of >70-year-old) reduces peak critical care demand by two-thirds and halves the number of deaths. However, this scenario would still result in an 8-fold higher peak demand on critical care beds over and above the available surge capacity in both UK and the US. [Leveraging population-wide social distancing, home isolation of cases and school and university closures – has the potential to suppress transmission below the threshold of \$R=1\$](#) , however, to avoid rebound in transmission, these policies would need to be maintained until large stocks of vaccines are available (which could be in 18 months).

D. Related Public Health Policy

Contents of this section include only publicly announced public health policies. Sources of this section include official government communique and press search.

Africa

- As cases in the continent continue to rise over the past week, African countries have continued to impose tighter travel and public health policies to manage the outbreak: (not exhaustive)
 - **Full border closure (air, land, sea)** except for cargo / freight and emergencies: [Angola](#), [Burkina Faso](#), Congo Republic, [Gabon](#), [Gambia](#), [Ghana](#), [Niger](#), [Nigeria](#), Rwanda, [Uganda](#), Zimbabwe

- **International air traffic closure:** Kenya, Mauritania, [Sierra Leone](#)
- **Flight suspensions to/from high risk countries:** [Mali](#), [South Sudan](#)
- **Entry restrictions for non-citizens / non-residents coming from high risk countries:** Eswatini, Côte d'Ivoire, Sao Tome and Principe, Seychelles
- **Mandatory facility quarantine** at own expense of traveler: Kenya, Ethiopia, [Tanzania](#)
- **Lock down (limiting of movement outside home) and curfew:** Burkina Faso, Côte d'Ivoire, [DRC](#), [Gabon](#), [Madagascar](#), [Rwanda](#), Senegal, [South Africa](#), [Tunisia](#)
- **Shutdown of educational / religious institutions and entertainment venues, banning of mass gatherings:** [Burkina Faso](#), [Cote d'Ivoire](#), DRC, Eswatini, Gabon, [Mali](#), [Kenya](#), [Nigeria](#), [Sierra Leone](#), [South Africa](#), [Zambia](#), [Zimbabwe](#) and etc.
- **Limitation on prison and hospital visits:** Eswatini, Gabon, Zimbabwe
- [Equatorial Guinea](#) has committed to contribute 5 billion CFA francs (about \$8 million) to a special emergency fund to manage the COVID-19 outbreak.
- [Kenya](#), [Uganda](#), [Cameroon](#) and [Ghana](#) have asked banks and mobile network operators to promote more efficient, digital forms of payment (e.g., lower or no tariffs on mobile money transfers)
- [Ethiopian Airlines has started the distribution of coronavirus donation](#) made to Africa by Chinese business mogul Jack Ma, CEO of e-commerce giants Ali Baba. The carrier will start distribution to its neighbors – Eritrea, Djibouti, Egypt and Sudan.
- [Ethiopian Airlines](#) has suspended flights to 30 affected countries.
- **Refer to Section E and F** for the full summary of travel restrictions and social distancing measures implemented by African countries.

Rest of World

- As COVID-19 cases outside China accelerate rapidly, heavily affected countries have continued to **impose public health policies to contain the outbreak**
 - The [European Union \(EU\)](#) will impose an entry ban on travelers from outside the bloc for 30 days, only nationals of EFTA countries and Britain are exempt.
 - [Italy](#) has ordered all non-essential businesses to close until April 3. [The army was deployed to enforce lockdown](#) in the country's worst-hit region. In addition, [the country will rush 10,000 student doctors into service](#), scrapping their final exams.
 - [Multiple states in the US](#) have ordered closures of schools / education institutions and non-essential businesses. The [US military will make available up to 5 million respirator masks and protective equipment](#)
 - [Germany](#) has expanded entry restrictions to include flights from Italy, Spain, Austria, France, Luxembourg, Denmark and Switzerland
 - [UK](#) has announced a strict lockdown in the country, restricting public movement to essential activities.
 - [Canada](#)'s most populous province Ontario has ordered the closure of bars and restaurants and banned gatherings of more than 50 people.

- As cases across multiple countries across all continent grow, countries have increasingly [imposed restrictive travel and public health policies](#) (not exhaustive)
 - **Full border closures:** Chile, Colombia, Ecuador, Malaysia, Lithuania, Honduras
 - **Suspension of all international flights:** Belgium, UAE, Pakistan, Vietnam, etc.
 - **Entry restrictions** to travelers from specific countries or all foreigners: Australia, Russia, Uzbekistan Singapore, Jamaica, Cuba
 - **Suspension of travel to and from high risk areas** e.g., Argentina, Bangladesh, Netherlands, Turkey, Jordan
 - **Community quarantine / lockdown:** El Salvador, Bolivia, Ecuador, Venezuela, Peru, Philippines, Iraq
 - **Shutdown of educational institutions, religious institutions, and other public areas:** Afghanistan, Australia, India, Qatar, UAE, Armenia, Thailand, Kazakhstan, Italy, Poland etc.
 - **Banning of mass / public gatherings:** Oman, Lebanon, Qatar and etc.
- While domestic cases in China have waned, imported cases have risen. As a result, the country has tightened quarantine measures for travelers arriving into the country, requiring [all travelers arriving in Beijing and Hong Kong are required to go into centralized quarantine locations for 14 days.](#)

E. Summary of travel restrictions implemented by Member States

Contents of this section include only publicly announced public health policies. Sources of this section include official government communique and press search.

Last updated	Country	Mandatory self-quarantine	Mandatory facility quarantine for all travelers	Entry restrictions (incl. visa limitations)	Flight / travel suspensions to specific countries	Air traffic closure	Full border closure
18-Mar	Algeria						y
21-Mar	Angola						y
17-Mar	Benin	y		y			
17-Mar	Botswana			y			
21-Mar	Burkina Faso						y
24-Mar	Burundi						y
18-Mar	Cabo Verde				y		y
18-Mar	Cameroon						y
18-Mar	Central African Republic						
18-Mar	Chad	y				y	y
17-Mar	Comoros	y					
21-Mar	Congo Republic						y
18-Mar	Côte d'Ivoire	y		y			
18-Mar	Djibouti					y	
18-Mar	DR Congo				y		
17-Mar	Egypt					y	
18-Mar	Equatorial Guinea						y
17-Mar	Eritrea	y					
18-Mar	Eswatini	y		y			
23-Mar	Ethiopia		y		y		
20-Mar	Gabon			y			y
23-Mar	Gambia						y
22-Mar	Ghana						y
17-Mar	Guinea	y					
18-Mar	Guinea-Bissau						y
22-Mar	Kenya		y			y	
17-Mar	Lesotho	y					
17-Mar	Liberia	y					
18-Mar	Libya						y
18-Mar	Madagascar					y	
17-Mar	Malawi	y					
18-Mar	Mali				y		
21-Mar	Mauritania					y	
18-Mar	Mauritius	y					y
17-Mar	Morocco					y	
17-Mar	Mozambique			y			
18-Mar	Namibia	y			y		
21-Mar	Niger						y
21-Mar	Nigeria						y
21-Mar	Rwanda						y
19-Mar	Sahrawi Republic				y		
18-Mar	Sao Tome and Principe			y			

Last updated	Country	Mandatory self-quarantine	Mandatory facility quarantine for all travelers	Entry restrictions (incl. visa limitations)	Flight / travel suspensions to specific countries	Air traffic closure	Full border closure
18-Mar	Senegal				y		
18-Mar	Seychelles			y			
23-Mar	Sierra Leone					y	
18-Mar	Somalia					y	
17-Mar	South Africa			y	y		
21-Mar	South Sudan		y		y		
17-Mar	Sudan					y	y
23-Mar	Tanzania		y				
24-Mar	Togo						y
18-Mar	Tunisia					y	y
22-Mar	Uganda						y
18-Mar	Zambia	y					
24-Mar	Zimbabwe						y

F. Summary of social distancing measures implemented by Member States

Contents of this section include only publicly announced public health policies. Sources of this section include official government communique and press search.

Last updated	Country	Closure of educational institutions	Banning of mass gatherings, closure of public spaces	Measures for special populations e.g., prison, elder homes	Lockdown (e.g., curfew, stay at home)
12-Mar	Algeria	y	y		
19-Mar	Angola	y			
18-Mar	Benin		y		
19-Mar	Botswana	y			
20-Mar	Burkina Faso	y	y		y
19-Mar	Burundi				
18-Mar	Cabo Verde		y		
17-Mar	Cameroon	y	y		
19-Mar	Central African Republic				
20-Mar	Chad	y			
19-Mar	Comoros				
19-Mar	Congo Republic				
23-Mar	Côte d'Ivoire	y	y		y
20-Mar	Djibouti	y			
23-Mar	DR Congo	y	y		y
16-Mar	Egypt	y	y		
19-Mar	Equatorial Guinea				
23-Mar	Eritrea		y		
17-Mar	Eswatini	y	y	y	
16-Mar	Ethiopia	y	y		
21-Mar	Gabon	y	y	y	y
17-Mar	Gambia	y	y		
16-Mar	Ghana	y	y		
19-Mar	Guinea				
19-Mar	Guinea-Bissau				
15-Mar	Kenya	y	y		
19-Mar	Lesotho	y			
18-Mar	Liberia	y	y		
13-Mar	Libya	y			y

Last updated	Country	Closure of educational institutions	Banning of mass gatherings, closure of public spaces	Measures for special populations e.g., prison, elder homes	Lockdown (e.g., curfew, stay at home)
23-Mar	Madagascar				y
29-Mar	Malawi	y	y		
18-Mar	Mali	y	y		
14-Mar	Mauritania	y	y		y
18-Mar	Mauritius	y			
14-Mar	Morocco	y	y		
19-Mar	Mozambique	y	y		
17-Mar	Namibia	y	y		
19-Mar	Niger	y	y		
21-Mar	Nigeria	y			
21-Mar	Rwanda				y
19-Mar	Sahrawi Republic				
19-Mar	Sao Tome and Principe				
24-Mar	Senegal	y	y		y
19-Mar	Seychelles				
18-Mar	Sierra Leone		y		
19-Mar	Somalia				
23-Mar	South Africa				y
19-Mar	South Sudan		y		
14-Mar	Sudan	y	y		
17-Mar	Tanzania	y	y		
19-Mar	Togo				
20-Mar	Tunisia	y	y		y
18-Mar	Uganda	y	y		
17-Mar	Zambia	y	y		
23-Mar	Zimbabwe	y	y	y	

G. Guidance and resources (Full list)

WHO guidelines and resources

Organization	Date published	Guidance or resource name
Country readiness		
WHO	9-Jan-2020	National capacities review tool for a novel coronavirus
WHO	19-Mar-2020	Critical preparedness, readiness and response actions for COVID-19
WHO	4-Mar-2020	Operational Planning Guidelines and COVID-19 Partners Platform to support country preparedness and response
Surveillance and case definitions		
WHO	27-Feb-2020	Global Surveillance for human infection with coronavirus disease (COVID-19)
WHO	27-Feb-2020	Revised case reporting form for COVID-19 for confirmed cases and their outcome
WHO	n/a	Emerging respiratory viruses, including 2019-nCoV: methods for detection, prevention, response and control
WHO	n/a	Global COVID-19 Clinical Characterization Case Record Form and new data platform for anonymized COVID-19 clinical data

Organization	Date published	Guidance or resource name
WHO	n/a	Case Reporting Form for COVID-19
Laboratory guidance		
WHO	2-Mar-2020	Laboratory testing for 2019 novel coronavirus (2019-nCoV) in suspected human cases
WHO	1-Mar-2020	Guidance for laboratories shipping specimens to WHO reference laboratories that provide confirmatory testing for COVID-19 virus
Patient management		
WHO	13-Mar-2020	Clinical management of severe acute respiratory infection when novel coronavirus (nCoV) infection is suspected
WHO	17-Mar-2020	Home care for patients with suspected novel coronavirus (nCoV) infection presenting with mild symptoms and management of contacts
WHO	n/a	WHO Critical Care Severe Acute Respiratory Infection Training Short Course
WHO	19-Mar-2020	The Rights, Roles and Responsibilities Of Health Workers, Including Key Considerations For Occupational Safety And Health
WHO	19-Mar-2020	Mental health and psychosocial considerations during the COVID-19 outbreak
Infection prevention and control		
WHO	19-Mar -2020	Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected
WHO	19-Mar-2020	Advice on the use of masks in the community, during home care and in health care settings in the context of the novel coronavirus (2019-nCoV) outbreak
WHO	10-Feb-2020	Q&A on infection prevention and control for health care workers caring for patients with suspected or confirmed 2019-nCoV
WHO	11-Feb-2020	Key considerations for repatriation and quarantine of travellers in relation to the outbreak of novel coronavirus 2019-nCoV
WHO	16-Feb-2020	Management of ill travellers at Points of Entry – international airports, seaports and ground crossings – in the context of COVID-19 outbreak
WHO	18-Feb-2020	Surface sampling of coronavirus disease (COVID-19): A practical “how to” protocol for health care and public health professionals
WHO	14-Feb-2020	Key planning recommendations for Mass Gatherings in the context of the current COVID-19 outbreak
WHO	n/a	Online course for public health preparedness for mass gathering events
WHO	n/a	Infection Prevention and Control (IPC) for Novel Coronavirus (COVID-19)
WHO	27-Feb-2020	Rational use of personal protective equipment

Organization	Date published	Guidance or resource name
		for coronavirus disease 2019 (COVID-19)
WHO	1-Mar-2016	Handbook for the Management of Public Health Events in Air Transport
WHO	1-Jan-2016	Handbook for management of public health events on board ships
WHO	24-Jan-2011	Handbook for inspection of ships and issuance of ship sanitation certificates
Early investigations		
WHO	25-Jan-2020	Protocol for assessment of potential risk factors for 2019-novel coronavirus (2019-nCoV) infection among health care workers in a health care setting
WHO	25-Jan-2020	Household transmission investigation protocol for 2019-novel coronavirus (2019-nCoV) infection
WHO	29-Jan-2020	The First Few X (FFX) Cases and contact investigation protocol for 2019-novel coronavirus (2019-nCoV) infection
WHO	25-Jan-2020	Global 2019-nCoV Clinical Characterization Case Record Form
WHO	16-Feb-2020	Coronavirus disease (COVID-19) technical guidance: Early investigations
WHO	13-Mar-2020	Considerations in the investigation of cases and clusters of COVID-19
WHO	17-Mar-2020	Population-based age-stratified seroepidemiological investigation protocol for COVID-19 virus infection
Risk communication & community engagement		
WHO	16-Mar-2020	Risk Communication and Community Engagement (RCCE) Action Plan Guidance COVID-19 Preparedness and Response
WHO	5-Mar-2020	The COVID-19 Risk Communication Package For Healthcare Facilities
WHO	10-Mar-2020	Risk Communication guidance - COVID-19, older adults and people with underlying medical conditions
WHO	10-Mar-2020	Guidance to protect children and support safe school operations
Disease commodity package		
WHO	10-Jan-2020	Disease commodity package - Novel Coronavirus (nCoV)
Reduction of transmission of animals to humans		
WHO	n/a	WHO recommendations to reduce risk of transmission of emerging pathogens from animals to humans in live animal markets
Travel advice		
WHO	29-Feb-2020	Updated WHO recommendations for international traffic in relation to COVID-19 outbreak
Others		

Organization	Date published	Guidance or resource name
WHO	3-Feb-2020	2019-nCoV Strategic Preparedness and Response Plan
IATA (in partnership with WHO)	n/a	Emergency Response Plan and Action Checklist (for air carriers)
IATA (in partnership with WHO)	n/a	Air Transport & Communicable Diseases Guidelines
WHO	12-Feb-2020	2019 Novel Coronavirus: Global Research and Innovation Forum: Towards a Research Roadmap/report
WHO	11-Feb-2020	2019 Novel Coronavirus: Global Research and Innovation Forum: Towards a Research Roadmap/report - presentation
WHO	18-Feb-2020	COVID-19 Phase IIb/III Vaccine Trial Synopsis
WHO	19-Feb-2020	Emerging respiratory viruses, including nCoV: methods for detection, prevention, response and control
WHO	19-Feb-2020	ePROTECT Respiratory Infections (EN)
WHO	24-Feb-2020	Operational considerations for managing COVID-19 cases/outbreak on board ships
WHO	6-Mar-2020	Q&A on COVID-19 vs. Influenza

Other public health institutions guidance and resources

Organization	Date published	Guidance or resource name
Country readiness		
ECDC	17-Mar-2020	Guidance for health system contingency planning during widespread transmission of SARS-CoV-2 with high impact on healthcare services
Surveillance and case definitions		
US CDC	2-Feb-2020	Interim Guidance for Healthcare Professionals
US CDC	2-Feb-2020	Flowchart to Identify and Assess 2019 Novel Coronavirus
US CDC	n/a	Check and Record Everyday Booklet – China
US CDC	21-Mar-2020	Information for Health Departments on Reporting Cases of COVID-19
US CDC	22-Mar-2020	Interim US Guidance for Risk Assessment and Public Health Management of Persons with Potential Coronavirus Disease 2019 (COVID-19) Exposures: Geographic Risk and Contacts of Laboratory-confirmed Cases
ECDC	n/a	Case definition and European surveillance for human infection with novel coronavirus (2019-nCoV)
Laboratory guidance		

Organization	Date published	Guidance or resource name
US CDC	28-Jan-2020	US CDC panel primer and probes– U.S. CDC, USAV – U.S. CDC, USA
US CDC	n/a	Information for Laboratories 2019-nCoV Requests for Diagnostic Panels and Virus
US CDC	n/a	Real-Time RT-PCR Panel for Detection 2019-Novel Coronavirus
US CDC	n/a	2019-Novel Coronavirus (2019-nCoV) Real-time rRT-PCR Panel Primers and Probes
US CDC	17-Feb-2020	Interim Laboratory Biosafety Guidelines for Handling and Processing Specimens Associated with Coronavirus Disease 2019 (COVID-19)
US CDC	21-Mar-2020	Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens from Persons for Coronavirus Disease 2019 (COVID-19)
US CDC	21-Mar-2020	Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens from Persons Under Investigation (PUIs) for Coronavirus Disease 2019 (COVID-19)
US CDC	19-Feb-2020	Interim Guidance for Collection and Submission of Postmortem Specimens from Deceased Persons Under Investigation (PUI) for COVID-19, February 2020
ECDC	13-Jan-2020	Diagnostic detection of Wuhan coronavirus 2019 by real-time RTPCR
China CDC	24-Jan-2020	China CDC Primers and probes for detection 2019-nCoV
Patient management		
US CDC	n/a	Healthcare Professional Preparedness Checklist For Transport and Arrival of Patients Potentially Infected with 2019-nCoV
US CDC	n/a	Hospital Preparedness Checklist for Suspected or Confirmed 2019-nCoV Patients
US CDC	7-Mar-2020	Interim Clinical Guidance for Management of Patients with Confirmed Coronavirus Disease (COVID-19)
US CDC	31-Jan-2020	Interim Guidance for Implementing Home Care of People Not Requiring Hospitalization for 2019 Novel Coronavirus (2019-nCoV)
US CDC	12-Feb-2020	Interim Guidance for Implementing Home Care of People Not Requiring Hospitalization for 2019 Novel Coronavirus (2019-nCoV)
US CDC	n/a	Interim Guidance on Breastfeeding for a Mother Confirmed or Under Investigation For COVID-19
US CDC	n/a	Frequently Asked Questions and Answers: Coronavirus Disease-2019 (COVID-19) and Children
US CDC	n/a	Frequently Asked Questions and Answers: Coronavirus Disease 2019 (COVID-19) and Pregnancy

Organization	Date published	Guidance or resource name
US CDC	n/a	What Healthcare Personnel Should Know about Caring for Patients with Confirmed or Possible COVID-19 Infection
US CDC	n/a	Interim Guidance for Public Health Professionals Managing People With COVID-19 in Home Care and Isolation Who Have Pets or Other Animals
US CDC	n/a	Interim Guidance for Healthcare Facilities: Preparing for Community Transmission of COVID-19 in the United States
US CDC	n/a	Preparing for COVID-19: Long-term Care Facilities, Nursing Homes
US CDC	n/a	Steps Healthcare Facilities Can Take Now to Prepare for Coronavirus Disease 2019 (COVID-19)
US CDC	n/a	Criteria for Return to Work for Healthcare Personnel with Confirmed or Suspected COVID-19 (Interim Guidance)
ECDC	30-Jan-2020	Advice to healthcare workers: management of patients with 2019-nCoV infection
ECDC	10-Feb-2020	Guidelines for the use of non-pharmaceutical measures to delay and mitigate the impact of 2019-nCoV
ECDC	10-Mar-2020	Novel coronavirus (SARS-CoV-2) - Discharge criteria for confirmed COVID-19 cases
PHE	5-Mar-2020	Infographic on COVID-19 primary care in the UK
Infection prevention and control		
US CDC	21-Feb-2020	Interim Infection Prevention and Control Recommendations for Patients with Confirmed Coronavirus Disease 2019 (COVID-19) or Persons Under Investigation for COVID-19 in Healthcare Settings
US CDC	n/a	Healthcare Supply of Personal Protective Equipment
US CDC	22-Mar-2020	Interim US Guidance for Risk Assessment and Public Health Management of Persons with Potential Coronavirus Disease 2019 (COVID-19) Exposures: Geographic Risk and Contacts of Laboratory-confirmed Cases
US CDC	n/a	Interim Considerations for Infection Prevention and Control of Coronavirus Disease 2019 (COVID-19) in Inpatient Obstetric Healthcare Settings
US CDC	11-Feb-2020	Interim Guidance for Discontinuation of In-Home Isolation for Patients with COVID-19
US CDC	11-Feb-2020	Interim Guidance for Discontinuation of Transmission-Based Precautions and Disposition of Hospitalized Patients with COVID-19
US CDC	25-Feb-2020	Interim Guidance for Preventing the Spread of Coronavirus Disease 2019 (COVID-19) in Homes and Residential Communities
US CDC	n/a	Interim U.S. Guidance for Risk Assessment and Public Health Management of Healthcare Personnel with Potential

Organization	Date published	Guidance or resource name
		Exposure in a Healthcare Setting to Patients with 2019 Novel Coronavirus (2019-nCoV)
US CDC	n/a	Interim Guidance for Public Health Personnel Evaluating Persons Under Investigation (PUIs) and Asymptomatic Close Contacts of Confirmed Cases at Their Home or Non-Home Residential Setting
US CDC	n/a	Healthcare Infection Prevention and Control FAQs for COVID-19
US CDC	n/a	Strategies for Optimizing the Supply of N95 Respirators
US CDC	28-Feb-2020	Checklist for Healthcare Facilities: Strategies for Optimizing the Supply of N95 Respirators during the COVID-19 Response
US CDC	28-Feb-2020	Release of Stockpiled N95 Filtering Facepiece Respirators Beyond the Manufacturer-Designated Shelf Life: Considerations for the COVID-19 Response
US CDC	n/a	Interim Additional Guidance for Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed COVID-19 in Outpatient Hemodialysis Facilities
ECDC	29-Jan-2020	Public health management of persons having had contact with novel coronavirus cases in the European Union
ECDC	12-Mar-2020	Infection prevention and control for COVID-19 in healthcare settings
ECDC	7-Feb-2020	Personal protective equipment (PPE) needs in healthcare settings for the care of patients with suspected or confirmed novel coronavirus (2019-nCoV)
ECDC	18-Feb-2020	Interim guidance for environmental cleaning in non-healthcare facilities exposed to SARS-CoV-2
ECDC	2-Mar-2020	Resource estimation for contact tracing, quarantine and monitoring activities for COVID-19 cases in the EU/EEA
ECDC	28-Feb-2020	Guidance for wearing and removing personal protective equipment in healthcare settings for the care of patients with suspected or confirmed COVID-19
ECDC	25-Feb-2020	Public health management of persons, including health care workers, having had contact with COVID-19 cases in the European Union
ECDC	26-Feb-2020	Checklist for hospitals preparing for the reception and care of coronavirus 2019 (COVID-19) patients
ECDC	23-Mar-2020	Considerations related to the safe handling of bodies of deceased persons with suspected or confirmed COVID-19
Early investigations		
US CDC	28-Feb-2020	Recommendations for Reporting, Testing, and Specimen Collection
US CDC	3-Feb-2020	Patient Under Investigation form
US CDC	4-Mar-2020	Evaluating and Reporting Patients Under Investigation (PUI)

Organization	Date published	Guidance or resource name
US CDC	2-Feb-2020	Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens from Patients Under Investigation (PUIs) for 2019 Novel Coronavirus (2019-nCoV)
US CDC	n/a	Information for Health Departments on Reporting a Patient Under Investigation (PUI) for 2019-nCoV
US CDC	n/a	Case Report Form for 2019 Novel Coronavirus
ECDC	30-Jan-2020	Algorithm for management of contacts of probable or confirmed 2019-nCoV cases
Risk communication & community engagement		
US CDC	24-Feb-2020	CDC in Action: Preparing Communities for Potential Spread of COVID-19
US CDC	n/a	Interim Guidance: Get Your Household Ready for Coronavirus Disease 2019 (COVID-19)
US CDC	n/a	Interim Guidance for Administrators of US Childcare Programs and K-12 Schools to Plan, Prepare, and Respond to Coronavirus Disease 2019 (COVID-19)
US CDC	8-Mar-2020	Resources for Institutes of Higher Education
US CDC	8-Mar-2020	COVID-19 and Cruise Ship Travel
US CDC	8-Mar-2020	Environmental Cleaning and Disinfection Recommendations
US CDC	8-Mar-2020	People at Risk for Serious Illness from COVID-19
US CDC	8-Mar-2020	What law enforcement personnel need to know about coronavirus disease 2019 (COVID-19)
US CDC	n/a	Resources for Community- and Faith-Based Leaders
US CDC	n/a	Resources for Homeless Shelters
US CDC	n/a	Protect Your Home
US CDC	17-Mar-2020	Protect Your Family
US CDC	n/a	How to Prepare for COVID-19
US CDC	18-Mar-2020	How to Protect Yourself
US CDC	21-Mar-2020	Older Adults
US CDC	17-Mar-2020	People with Asthma and COVID-19
US CDC	22-Mar-2020	Schools, Workplaces & Community Locations
ECDC	13-Feb-2020	Guidance on community engagement for public health events caused by communicable disease threats in the EU/EEA
ECDC	12-Mar-2020	Information on COVID-19 for specific groups: the elderly, patients with chronic diseases, people with immunocompromising condition and pregnant women
ECDC	11-Mar-2020	Considerations relating to social distancing measures in response to the COVID-19 epidemic
Disease commodity package		

Organization	Date published	Guidance or resource name
US CDC	2-Feb-2020	<u>Interim Laboratory Biosafety Guidelines for Handling and Processing Specimens Associated with 2019 Novel Coronavirus (2019-nCoV)</u>
Travel advice		
US CDC	n/a	<u>Travelers from China Arriving in the United States</u>
US CDC	n/a	<u>Communication Resources for Travelers</u>
US CDC	22-Mar-2020	<u>Coronavirus Disease 2019 Information for Travel</u>
ECDC	30-Jan-2020	<u>Advice for travellers: outbreak of a novel coronavirus 2019-nCoV</u>
Others		
US CDC	13-Feb-2020	<u>Interim Guidance for Airlines and Airline Crew: Coronavirus Disease 2019 (COVID-19)</u>
US CDC	4-Feb-2020	<u>2019 Novel Coronavirus: Interim Health Guidance from the Federal Aviation Administration and the Centers for Disease Control and Prevention for Air Carriers and Crews</u>
US CDC	n/a	<u>Preventing Spread of Disease on Commercial Aircraft: Guidance for Cabin Crew</u>
US CDC	n/a	<u>Interim Guidance for Businesses and Employers to Plan and Respond to 2019 Novel Coronavirus (2019-nCoV), February 2020</u>
US CDC	n/a	<u>Interim Guidance for Emergency Medical Services (EMS) Systems and 911 Public Safety Answering Points (PSAPs) for 2019-nCoV in the United States</u>
US CDC	18-Feb-2020	<u>Interim Guidance for Ships on Managing Suspected Coronavirus Disease 2019</u>
ECDC	23-Mar-2020	<u>Coronavirus disease 2019 (COVID-19) and supply of substances of human origin in the EU/EEA</u>
Social distancing		
ECDC	18-Mar-2020	<u>Video on COVID-19: Why social distancing is important</u>