

COVID-19 Scientific and Public Health Policy Update – (14 April 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 <u>not intended to serve as recommendations</u> 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 case series study of 2,135 paediatric patients with COVID-19, reports that children of all ages are susceptible, without significant sex differences, but that even though cases were generally less severe than adult cases (i.e., 90% of patients had asymptomatic, mild or moderate cases), infants in particular were more vulnerable to infection.
- At least four clinical trials for COVID-19 treatments have been registered to be conducted in Africa: (1) chloroquine in South Africa, (2) aspirin, losartan and simvastatin in Nigeria, (3) natural honey treatment in Egypt and (4) SOLIDARITY trials for remdesivir, chloroquine / hydroxychloroquine, lopinavir / ritonavir and interferon-beta in South Africa.
- An open-label program by Gilead Sciences for a cohort of 53 patients hospitalised for severe COVID-19 reports were clinical improvement when treated with compassionate-use remdesivir.
- The WHO recommends the use of point-of-care (POC) immunodiagnostic tests only in research settings until there is evidence supporting use for clinical decision making. Similarly, WHO does not currently recommend the use of antigen-detecting rapid diagnostic tests and antibody-detecting rapid diagnostic tests for patient care.
- WHO does not recommend BCG vaccination for the prevention of COVID-19 given the absence of evidence and diversion of local supplies may result in neonates not being vaccinated leading to increase of disease and deaths from tuberculosis.
- In response to the increased demand for ventilators to manage severe COVID-19 cases, a South African company EPCM Holdings will start producing first low-cost ventilator units (<\$2,000 per machine) for delivery to several African countries.
- As the pandemic evolves a number of Member States have started enforcing general wearing of masks in public areas (e.g., Kenya, South Africa, Cameroon) and extended their lockdowns and curfew (e.g., South Africa, Egypt, Nigeria)
- Meanwhile, countries have continued to scale up their testing capacities using Cobas 6800 and GeneXpert machines (e.g., Kenya) and rolling out mass testing (e.g., Gabon)



B. New guidelines and resources

- Since 07 April 2020, Africa CDC has published new and updated guidance on: <u>COVID-19 Contact Tracing Protocol for African Union Staff</u>, <u>Protocol for Enhanced Severe</u> Acute Respiratory Illness and Influenza-Like Illness Surveillance for COVID-19 in Africa, <u>Guidance on Contact Tracing for COVID-19 Pandemic</u>, <u>Advice on the use of</u> point-of-care immunodiagnostic tests for COVID-19
- WHO has published new and updated guidance on: <u>Advice on the use of masks in the context of COVID-19</u>, <u>user guide</u> and the <u>assessment tool for laboratories implementing</u> <u>COVID-19 virus testing</u>, <u>Bacille Calmette-Guérin (BCG) vaccination and COVID-19</u>, <u>Advice on the use of point-of-care immunodiagnostic tests for COVID-19</u>, <u>Practical considerations and recommendations for religious leaders and faith-based communities in the context of COVID-19</u>
- US CDC has released new or updated guidance on: <u>Strategies for Optimizing the Supply of N95 Respirators</u>, <u>Businesses and Employers</u>, <u>Decontamination and Reuse of Filtering Facepiece of Respirators</u>, <u>Outpatient and Ambulatory Care Settings</u>, <u>Dental Settings</u> and <u>People with Disabilities</u>
- ECDC has issued new guidance and resources on: <u>Using face masks in the community -</u> <u>Reducing COVID-19 transmission from potentially asymptomatic or pre-symptomatic</u> <u>people through the use of face masks</u>, <u>Guidance for discharge and ending isolation in the</u> <u>context of widespread community transmission of COVID-19 – first update</u>, <u>Contact</u> <u>tracing: Public health management of persons, including healthcare workers, having had</u> <u>contact with COVID-19 cases in the European Union - second update</u>, <u>Strategies for the</u> <u>surveillance of COVID-19</u>
- 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 mathematical modelling paper of infection kinetics comparing COVID-19 case data from China, SARS case data from China and Hong Kong and MERS case data from Saudi Arabia <u>suggests that growth rate of SARS-CoV-2 virus is about twice that of the</u> <u>SARS and MERS viruses</u>. COVID-19 doubling cycle is two to three days, suggesting that the number of patients would double in two to three days without human intervention.
- An ex vivo study on the comparative replication capacity and immune activation profile of SARS-CoV-2 and SARS-CoV infection in human lung tissues indicate that <u>SARS-CoV-2</u> <u>infected and replicated in human lung tissues more efficiently than SARS-CoV.</u> Although SARS-CoV-2 had a lower immune activation profile, SARS-CoV-2 generated 3.20 folds more infectious virus particles than that of SARS-CoV within the 48-hour interval.



Epidemiology

- A case series study of 2,135 paediatric patients with COVID-19, reports that children of all ages are susceptible, without significant sex differences, but that even though cases were generally less severe than adult cases (i.e., 90% of patients had asymptomatic, mild or moderate cases), infants in particular were more vulnerable to infection.
- A study estimating several basic epidemiologic parameters using 2 distinct approaches found that the growth rate of the early outbreak in Wuhan to be 0.21–0.30 per day (a doubling time of 2.3–3.3 days), and a R₀ likely to be 5.7 <u>suggesting a much faster rate of spread than initially measured.</u> (Early release article)

Diagnostics

- Roche conducted a manufacturer-independent evaluation of the fully automated sampleto-result two-target test Cobas 6800 SARS-CoV-2 compared to standardised RT-PCR. Results indicate that Cobas and the comparator showed overall agreement of 98.1% on 217 retrospective samples. The results showed that <u>Cobas is a reliable assay for</u> <u>qualitative detection of SARS-CoV-2</u> in nasopharyngeal swab samples.
- An analysis of the performance of SARS-CoV-2 detection assays using seven different primers and one assay kit suggests that the <u>most sensitive assays were those that used</u> <u>the E-gene primer/probe set and the N2 set developed by the US CDC</u>. All assays tested were found to be highly specific for SARS-CoV-2, with no cross-reactivity with other respiratory viruses observed in our analyses regardless of the primer/probe set or kit used.
- A study suggests that the positive testing rate of <u>throat washing was much higher than</u> <u>that of nasopharyngeal swabs for SARS-COV-2</u>, implying that throat washing could be a promising candidate for 2019-nCoV screening due to its non-invasive and reliability. However, further studies should be conducted to fully validate this.
- On the other hand, another study suggests that nasal swabs are more sensitive than throat swabs. The <u>probability of a positive test decreases with the number of days past</u> <u>symptom onset</u>. For a nasal swab, the percentage chance of a positive test declines from 94% on day 0 to 67% by day 10. (Not peer-reviewed)
- Scientists from the Chinese University of Hong Kong, have developed a <u>highly specific</u> and <u>sensitive SARS-CoV-2-specific real-time RT-PCR assay</u>. The newly developed assay, COVID-19-nsp2 used the application of genome subtraction to deduce a previously untargeted region of the viral genome encoding nsp2 and subsequent adoption in a diagnostic assay.
- A prospective study on 236 patients at COVID-19 collection clinics in Australia compared self-collect (SC) nasal and throat swabs prior to health worker collection (HC). Results indicate <u>self-collection of throat and nasal swabs was highly concordant with HC for all</u> <u>viruses including SARS-CoV-2</u>, thus self-collection could offer a reliable alternative to health worker collection. (Not peer-reviewed)
- A study measuring neutralizing antibodies (NAbs) to the SARS-COV-2 in 175 recovered COVID-19 mild patients reports that elderly and middle-age patients had significantly higher Nabs, implying potential development of natural immunity to the virus. However <u>about 30% of recovered patients (under the age of 40) exhibited low NAb titers including</u>



<u>10 patients with NAb titers were below the detectable level of the assay</u>. Further studies should be done to explore whether patients were at high risk of rebound or reinfection. (Not peer-reviewed)

- The US FDA has approved the <u>use of a COVID-19 saliva test</u>. Rutgers University researchers received a clearance for the first saliva test for COVID-19 diagnosis.
- The <u>WHO issued a scientific brief on the use of point-of-care (POC) immunodiagnostic</u> <u>tests for COVID-19</u> and recommends the use of such tests only in research settings until evidence supporting use for clinical decision making is available. Similarly, WHO does not currently recommend the use of antigen-detecting rapid diagnostic tests and antibody-detecting rapid diagnostic tests for patient care, although research into their performance and potential diagnostic utility is highly encouraged.

Care and Treatment

- At least four clinical trials for COVID-19 treatments have been registered to be conducted in Africa: (1) <u>chloroquine for healthcare workers in South Africa</u>, (2) <u>aspirin, losartan and</u> <u>simvastatin in Nigeria</u>, (3) <u>natural honey treatment in Egypt</u> and (4) <u>SOLIDARITY trials for</u> <u>remdesivir, chloroquine or hydroxychloroquine, lopinavir / ritonavir and interferon-beta in</u> <u>South Africa</u>.
- An open-label program by Gilead Sciences for a cohort of 53 patients hospitalised for severe COVID-19 were treated with <u>compassionate-use remdesivir and clinical</u> <u>improvement was observed in 36 of 53 patients (68%)</u>. The study is limited by the small size of the cohort, the relatively short duration of follow-up. Thus, further randomised, placebo-controlled trials of remdesivir therapy are required to measure its efficacy.
- Genetech (Roche) announced the <u>launch of a trial on tocilizumab for COVID-19</u> <u>treatment</u>. The first 6 patients in trial sites in the US and Spain have enrolled in a major late-stage clinical trial testing the arthritis drug Actemra. The study will ultimately enroll 330 people globally and produce initial results in early summer.
- A study of 20 severe or critical patients of COVID-19 in two hospitals in China using tocilizumab in addition to routine therapy, suggests that <u>anti-IL-6 receptor drug</u> tocilizumab could have been effective in treating in severe patients of COVID-19.
- Researchers at University of California, San Francisco (UCSF) developed a patient portal-based COVID-19 self-triage and self-scheduling tool for all primary care patients. The <u>self-triage and self-scheduling tool</u> was used by 950 patients and demonstrated 87.5% sensitivity for detecting emergency-level care, and decreased triage time for patients with less severe illness.
- <u>Six critically ill coronavirus patients in Israel were treated with Pluristem's placenta-based</u> <u>cell-therapy product and survived</u>. Pluristem's PLX cells are allogeneic mesenchymal-like cells that have immunomodulatory properties. Pluristem plans to apply for initiation of a multinational clinical trial for the treatment of complications associated with the coronavirus.
- In response to the increased demand for ventilators to manage severe COVID-19 cases, a <u>South African company EPCM Holdings will start producing first low-cost ventilator</u> <u>units (<\$2,000 per machine) for delivery to several African countries</u>.



• WHO states there is no evidence that Bacille Calmette-Guerin vaccine (BCG) protects people against COVID-19. Two clinical trials addressing this question are underway and WHO will evaluate the evidence when it is available.

Infection Prevention and Control

- A study on the aerosol and surface distribution of SARS-CoV-2 in hospital wards suggests that SARS-CoV-2 was widely distributed in the air and on object surfaces in both the ICU and GW, implying a potentially high infection risk for medical staff and other close contacts. Additionally, the <u>environmental contamination was greater in the ICU than</u> <u>in the GW</u>; thus, stricter protective measures should be taken by medical staff working in the ICU. Finally, the SARS-CoV-2 aerosol distribution characteristics in the GW indicate that the transmission distance of SARS-CoV-2 might be 4 meters. The study, however, has 2 limitations. First, the results of the nucleic acid test do not indicate the amount of viable virus. Second, for the unknown minimal infectious dose, the aerosol transmission distance cannot be strictly determined. (EID early release)
- Results of a rapid systematic review of 31 studies assessed the current evidence on respiratory illnesses and the use of face masks in community settings. The review suggests that there may be benefits for the use of facemasks for short periods of time by particularly vulnerable individuals when in transient higher risk situations. (Not peerreviewed). In addition, another rapid review of 21 studies suggests the <u>available scientific</u> evidence is inconclusive to recommend or discourage the use of surgical masks at the population level.
- However, a controlled comparison in 4 patients of the effectiveness of surgical and cotton
 masks in blocking SARS-CoV-2 showed that <u>neither masks effectively filtered SARS-</u>
 <u>CoV-2 during coughs by infected patients</u>. Further study is needed to recommend
 whether face masks decrease transmission of virus from asymptomatic individuals or
 those with suspected COVID-19 who are not coughing.
- The US FDA has issued an Emergency Use Authorization to <u>decontaminate N95</u> <u>Respirators or N95-equivalent respirators</u> in the US for reuse by healthcare workers.

Non-pharmaceutical interventions: social distancing, contact tracing

- A rapid review of 29 studies reports that quarantine is important in reducing the number of people infected and the number of deaths and <u>that quarantine was most effective, and cost the least when it was started earlier</u>. Combining quarantine with other prevention and control measures had a greater effect than quarantine alone.
- Results from a modelling impact assessment of the transmissibility and severity of COVID-19 during the first wave in mainland Chinese locations outside Hubei, <u>indicates</u> <u>that first wave of COVID-19 was abated because of aggressive non-pharmaceutical</u> <u>interventions.</u> However, given the substantial risk of viral reintroduction, particularly from overseas importation, close monitoring is needed to inform strategies against a potential second wave.
- A cohort study of 32 583 patients with laboratory-confirmed COVID-19 in Wuhan, reports nonpharmaceutical public health interventions including cordons sanitaire, traffic restriction, social distancing, home quarantine, centralized quarantine, and universal symptom survey were temporally associated with improved control of the COVID-19.



 A study using Google Trends (GT) to investigate the surge in individuals searching for information related to smell loss during the COVID-19 epidemic in the Italy, Spain, UK, USA, Germany, France, Iran and Netherlands, <u>reports a strong correlation between the</u> <u>frequency of searches for smell-related information</u> and the onset of COVID-19 infection the countries.

D. Related Public Health Policy

Contents of this section include only <u>publicly announced</u> public health policies. The source of information varies from official government communique, embassy reports and press search.

Africa

- Over the past week, as cases in the continent continue to rise, Member States have continued to impose public health measures and travel restrictions:
 - National lockdown: Liberia, Seychelles, Sierra Leone,
 - Partial lockdown: Gabon, Ghana, Sudan
 - Air traffic closure: Seychelles
 - Mandatory wearing of masks in public: <u>Benin</u>, Cameroon, Kenya, <u>Morocco</u>, South Africa
 - State of emergency: <u>Ethiopia</u> has declared 5 month of state of emergency, banning gatherings more than four peoples and restricting social activities
- Some Member States have **extended their lockdowns and curfews** including <u>South</u> <u>Africa, Egypt, Nigeria</u> and started to **enforce additional measures to limit transmission**:
 - <u>DRC</u> and <u>Nigeria</u> have both released over 1,200 and 2,600 prisoners, respectively
 - Rwanda's courts have started to conduct trials through video
 - <u>Tunisia</u> has announced strict penalties, infected persons who do not self-isolate, leading to cross-contamination resulting in death, could be prosecuted for manslaughter
- Meanwhile, countries have continued to scale up their testing capacities e.g., Kenya will use the Cobas 6800 or the 8800 HIV viral load machines and GeneXpert machines to ramp up testing, Gabon is implementing mass testing prioritizing the elderly and immunocompromised, South Africa has screened 430K+ persons to date
- Fundraising for national COVID-19 responses continue e.g.,
 - <u>DRC</u> has launched national Anti-COVID-19 Solidarity Fund
 - Rwandan top officials have donated their salaries to the fight against COVID-19
 - <u>South Africa's</u> President and members of his cabinet have agreed to donate one-third of their salaries to support the country's coronavirus fund
 - <u>The Intergovernmental Authority on Development (IGAD)</u> has donated \$700,000 for Member States. Each country will receive \$100,000.



• Refer to Section E and F for the full summary of travel restrictions and social distancing measures implemented by African countries.

Rest of World

- Similar to African countries, countries globally <u>are extending their public health</u> <u>measures</u> (not exhaustive)
 - Community quarantine / lockdown: Argentina, Bangladesh, France, Hungary, Ireland, Kuwait, Lebanon, Malaysia, Saudi Arabia
 - Shutdown of educational and religious institutions & other public areas: Dubai
 - Suspension of all international flights: Malaysia, Thailand
- Countries have continued to impose measures to ensure sufficient domestic personal protective equipment (PPE) and medical supply
 - <u>USA</u> will seize exports of protective medical gear until it determines whether the equipment should be kept in the country. The country's military will <u>spend \$133M to</u> <u>increase domestic N95 mask production</u> by over 39 million over the next 90 days.
 - <u>China</u> has tightened restrictions on exports of masks and PPE materials, requiring for mandatory customs inspection before shipment.
- In addition, countries are leveraging advanced technology to manage the outbreak
 - <u>Apple and Google</u> have unveiled a technology to their smartphone platforms that will alert users if they have come into contact with a person with COVID-19.
 - <u>South Korea</u> has announced that it will strap electronic wristbands on people who defy self-quarantine orders.
 - <u>Turkey</u> will introduce a smartphone application named the "Pandemic Isolation Tracking Project", to track coronavirus patients and those they have been in contact with to ensure they remain at home in self-isolation.
- Meanwhile, countries continue to expand their COVID-19 testing capacities
 - <u>The UK government has launched a massive diagnostic network</u>, mass coronavirustesting facilities in 3 locations across the country. The government hopes to be able to analyse 100,000 coronavirus tests daily by the end of April.
 - <u>India</u> has ordered private medical laboratories across the country not to charge patients for testing for COVID-19.

E. Summary of travel restrictions implemented by Member States (as of 13 Apr 2020)

Contents of this section include only <u>publicly announced</u> public health policies. Sources of this section include official government communique, embassy alerts and press search.





- 1 Some countries still allow cargo, freight and emergency transport into and out of the country; Some MSs will still allow citizens and residents to enter but all borders are essentially closed
- Banning entry or exit of citizens or suspending visa issuance to specific countries

For further detailed information for each country, refer to the full table here.

F. Summary of social distancing measures implemented by Member States (as of 13 Apr 2020)

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



*Source of information based on official reports, embassy alerts and press scanning

For further detailed information for each country, refer to the full table here.



G.Guidance and resources (Full list)

Africa CDC guidelines and resources

Organization	Date published	Guidance or resource name
Africa CDC	9-Feb-2020	2019 Novel Coronavirus poster
Africa CDC	9-Feb-2020	What you should know about the 2019 novel Coronavirus Disease factsheet
Africa CDC	9-Feb-2020	2019 Novel Coronavirus Disease Outbreak: What Health Care Workers Should Know factsheet
Africa CDC	5-Mar-2020	Guidance for Assessment, Monitoring, and Movement Restrictions of People at Risk for COVID-19 in Africa
Africa CDC	5-Mar-2020	Africa Joint Continental Strategy for COVID-19 Outbreak
Africa CDC	12-Mar-2020	Policy Recommendation for African Union Meetings and Travel During COVID-19 Outbreak
Africa CDC	17-Mar-2020	Guidance on Community Social Distancing During COVID-19 Outbreak
Africa CDC	27-Mar-2020	Hand hygiene can save your life factsheet
Africa CDC	27-Mar-2020	Recommendations for Stepwise response to COVID-19
Africa CDC	27-Mar-2020	Know Your Epidemic through COVID-19 Testing
Africa CDC	27-Mar-2020	COVID-19 Emergency Numbers
Africa CDC	09-Apr-2020	COVID-19 Contact Tracing Protocol for African Union Staff
Africa CDC	09-Apr-2020	Protocol for Enhanced Severe Acute Respiratory Illness and Influenza-Like Illness Surveillance for COVID-19 in Africa
Africa CDC	09-Apr-2020	Guidance on Contact Tracing for COVID-19 Pandemic

WHO guidelines and resources

Organization	Date published	Guidance or resource name
Country readi	ness	
WHO	9-Jan-2020	National capacities review tool for a novel coronavirus
WHO	22-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	20-Mar-2020	Global Surveillance for human infection with coronavirus disease (COVID-19)

Organization	Date published	Guidance or resource name
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
WHO	n/a	Case Reporting Form for COVID-19
WHO	2-Apr-2020	Considerations in the investigation of cases and clusters of COVID-19
Laboratory gu	lidance	
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
WHO	22-Mar-2020	Laboratory testing strategy recommendations for COVID-19
WHO	31-Mar-2020	Guidance for laboratories shipping specimens to WHO reference laboratories that provide confirmatory testing for COVID-19 virus interim guidance (updated)
WHO	08-Apr-2020	User guide for the assessment tool for laboratories implementing COVID-19 virus testing
WHO	08-Apr-2020	Assessment tool for laboratories implementing COVID-19 virus testing
WHO	08-Apr-2020	Advice on the use of point-of-care immunodiagnostic tests for COVID-19
Patient manag	gement	
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
WHO	20-Mar-2020	Maintaining a safe and adequate blood supply during the pandemic outbreak of coronavirus disease (COVID-19)



Organization	Date published	Guidance or resource name
WHO	19-Mar-2020	Operational considerations for case management of
		COVID-19 in health facility and community
WHO	31-Mar-2020	Off-label use of medicines for COVID-19
WHO	4-Apr-2020	Information Note on Tuberculosis and COVID-19
WHO	12-Apr-2020	Bacille Calmette-Guérin (BCG) vaccination and COVID-19
Infection prev	ention and co	ntrol
WHO	24-Mar-2020	Infection Prevention and Control for the safe management of a dead body in the context of COVID-19
WHO	21-Mar-2020	Infection Prevention and Control guidance for Long-Term Care Facilities in the context of COVID-19
WHO	19-Mar-2020	Considerations for quarantine of individuals in the context of containment for coronavirus disease (COVID-19)
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	19-Mar-2020	Rational use of personal protective equipment 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

Organization	Date published	Guidance or resource name	
WHO	24-Jan-2011	Handbook for inspection of ships and issuance of ship sanitation certificates	
WHO	19-Mar-2020	Risk assessment and management of exposure of health care workers in the context of COVID-19: interim guidance (Checklist)	
WHO	19-Mar-2020	Coronavirus disease (COVID-19) outbreak: rights, roles and responsibilities of health workers, including key considerations for occupational safety and health: interim guidance	
WHO	20-Mar-2020	How to use WHO risk assessment and mitigation checklist for Mass Gatherings in the context of COVID-19: interim guidance	
WHO	29-Mar-2020	Modes of transmission of virus causing COVID-19:implications for IPC precaution recommendations	
WHO	1-Apr-2020	Recommendations to Member States to improve hand hygiene practices to help prevent the transmission of the COVID-19 virus Interim guidance	
WHO	6-Apr-2020	Advice on the use of masks in the context of COVID-19	
Early investig	ations		
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	02-Apr-2020	Considerations in the investigation of cases and clusters of COVID-19 (update)	
WHO	17-Mar-2020	Population-based age-stratified seroepidemiological investigation protocol for COVID-19 virus infection	
Risk commun	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	



Organization	Date published	Guidance or resource name
WHO	10-Mar-2020	Guidance to protect children and support safe school operations
Disease comn	nodity packag	le
WHO	10-Jan-2020	Disease commodity package - Novel Coronavirus (nCoV)
WHO	26-Mar-2020	Coronavirus disease (COVID-19) technical guidance: COVID- 19 Critical Items
Reduction of t	ransmission	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
Supply of criti	cal material	
WHO	Weekly update	IVD Emergency Use Listing (EUL): Weekly Update
WHO	n/a	Guide to Local Production: WHO-recommended Handrub Formulations
Others		
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
WHO	26-Mar-2020	Guiding principles for immunization activities during the COVID-19 pandemic

Organization	Date published	Guidance or resource name
WHO	25-Mar-2020	COVID-19: Operational guidance for maintaining essential health services during an outbreak
WHO	07-Apr-2020	Practical considerations and recommendations for religious leaders and faith-based communities in the context of COVID- 19

Other public health institutions guidance and resources

Organization	Date published	Guidance or resource name	
Country reading	ness		
ECDC	17-Mar-2020	Guidance for health system contingency planning during widespread transmission of SARS-CoV-2 with high impact on healthcare services	
Surveillance a	nd case defini	itions	
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)	
ECDC	09-Apr-2020	Contact tracing: Public health management of persons, including healthcare workers, having had contact with COVID-19 cases in the European Union - second update,	
ECDC	09-Apr-2020	Strategies for the surveillance of COVID-19	
Laboratory gu	Laboratory guidance		
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	



Organization	Date published	Guidance or resource name
US CDC	n/a	2019-Novel Coronavirus (2019-nCoV) Real-time rRT-PCR Panel Primers and Probes
US CDC	8-Apr-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	25-Mar-2020	Collection and Submission of Postmortem Specimens from Deceased Persons with Known or Suspected COVID-19, March 2020 (Interim Guidance)
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
FDA	26-Mar-2020	Updated FDA Recommendations for SARS-CoV-2 Diagnostic Testing
ECDC	13-Jan-2020	Diagnostic detection of Wuhan coronavirus 2019 by real-time RTPCR
ECDC	1-Apr-2020	An overview of the rapid test situation for COVID-19 diagnosis in the EU/EEA
China CDC	24-Jan-2020	China CDC Primers and probes for detection 2019-nCoV
Patient manag	jement	
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



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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	
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)	
US CDC	7-Apr-2020	Outpatient and Ambulatory Care Settings: Responding to Community Transmission of COVID-19 in the United States	
US DHHS	20-Mar-2020	Interim Guidance for COVID-19 and Persons with HIV	
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	
ECDC	08-Apr-2020	Guidance for discharge and ending isolation in the context of widespread community transmission of COVID-19 – first update	
PHE	5-Mar-2020	Infographic on COVID-19 primary care in the UK	
Stop TB partnership	24-Mar-2020	Information note: digital health technologies, virtual care and community-based monitoring solutions for TB programs during the covid-19 pandemic and beyond	
Infection preve	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	

Organization	Date published	Guidance or resource name
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 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	9-Apr-2020	Decontamination and Reuse of Filtering Facepiece 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
US CDC	9-Apr-2020	Use Personal Protective Equipment (PPE) When Caring for Patients with Confirmed or Suspected COVID-19
US CDC	28-Mar-2020	Cleaning And Disinfecting Your Home
US CDC	26-Mar-2020	Infection Control

Organization	Date published	Guidance or resource name
US CDC	26-Mar-2020	Interim Infection Prevention and Control Guidance for Dental Settings During the COVID-19 Response
US CDC	25-Mar-2020	Alternate Care Sites and Isolation Sites
US CDC	9-Apr-2020	Strategies for Optimizing the Supply of N95 Respirators
US CDC	4-Apr-2020	Personal Protective Equipment When Caring for COVID-19 Patients Factsheet
US CDC	4-Apr-2020	Use of Cloth Face Coverings to Help Slow the Spread of COVID-19
US CDC	8-Apr-2020	IPC in Dental Settings
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
ECDC	26-Mar-2020	Cloth masks and mask sterilisation as options in case of shortage of surgical masks and respirators
ECDC	26-Mar-2020	Disinfection of environments in healthcare and non- healthcare settings potentially contaminated with SARS-CoV- 2
ECDC	31-Mar-2020	Infection prevention and control and preparedness for COVID-19 in healthcare settings - second update
ECDC	31-Mar-2020	Infection prevention and control in the household management of people with suspected or confirmed coronavirus disease (COVID-19)

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ECDC	08-Apr-2020	Using face masks in the community - Reducing COVID-19 transmission from potentially asymptomatic or pre- symptomatic people through the use of face masks				
PHE	2-Apr-2020	COVID-19 personal protective equipment (PPE)				
Early investiga	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)				
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 communi	cation & com	munity 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	9-Apr-2020	Interim Guidance for Businesses and Employers to Plan 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				



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US CDC	18-Mar-2020	How to Protect Yourself			
US CDC	21-Mar-2020	Older Adults			
US CDC	7-Apr-2020	People with Disabilities			
US CDC	17-Mar-2020	People with Asthma and COVID-19			
US CDC	22-Mar-2020	Schools, Workplaces & Community Locations			
US CDC	27-Mar-2020	Household Checklist			
US CDC	28-Mar-2020	Caring for Children			
US CDC	28-Mar-2020	Stress and Coping			
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					
US CDC	2-Feb-2020	Interim Laboratory Biosafety Guidelines for Handling and Processing Specimens Associated with 2019 Novel Coronavirus (2019-nCoV)			
Travel advice					
US CDC	n/a	Travelers from China Arriving in the United States			
US CDC	n/a	Communication Resources for Travelers			
US CDC	22-Mar-2020	Coronavirus Disease 2019 Information for Travel			
US CDC	27-Mar-2020	Travel			
ECDC	30-Jan-2020	Advice for travellers: outbreak of a novel coronavirus 2019- nCoV			
Supply of critical material					
FDA	n/a	Emergency Use Authorizations (Ventilators, Personal Protective Equipment, In Vitro Diagnostic)			
Stop TB partnership	27-Mar-2020	Announcement: Xpert Express SARS-CoV-2 Cartridge now available from Stop TB Partnership's Global Drug Facility			
Others					
US CDC	13-Feb-2020	Interim Guidance for Airlines and Airline Crew: Coronavirus Disease 2019 (COVID-19)			
US CDC	4-Feb-2020	2019 Novel Coronavirus: Interim Health Guidance from the Federal Aviation Administration and the Centers for Disease Control and Prevention for Air Carriers and Crews			



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US CDC	n/a	Preventing Spread of Disease on Commercial Aircraft: Guidance for Cabin Crew		
US CDC	n/a	Interim Guidance for Businesses and Employers to Plan and Respond to 2019 Novel Coronavirus (2019-nCoV), February 2020		
US CDC	n/a	Interim Guidance for Emergency Medical Services (EMS) Systems and 911 Public Safety Answering Points (PSAPs) for 2019-nCoV in the United States		
US CDC	18-Feb-2020	Interim Guidance for Ships on Managing Suspected Coronavirus Disease 2019		
ECDC	23-Mar-2020	Coronavirus disease 2019 (COVID-19) and supply of substances of human origin in the EU/EEA		
Harvard Health Publishing	n/a	COVID-19 Health literacy project: Fact Sheets in 35 languages		
Social distancing				
ECDC	18-Mar-2020	Video on COVID-19: Why social distancing is important		
ECDC	23-Mar-2020	Considerations relating to social distancing measures in response to COVID-19 – second update		