



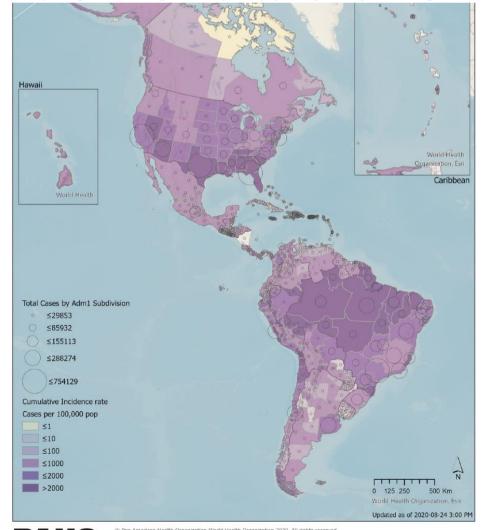
PAHO/WHO Response. 24 August 2020. Report ° 22

CONTEXT

Following an outbreak of a novel Coronavirus (COVID-19) in Wuhan City, Hubei Province of China, rapid community, regional and international spread has occurred with exponential growth in cases and deaths. On 30 January 2020, the Director-General (DG) of the WHO declared the COVID-19 outbreak a public health emergency of international concern (PHEIC) under the International Health Regulations (IHR) (2005). The first case in the Americas was confirmed in the USA on 20 January 2020, followed by Brazil on 26 February 2020. Since then, COVID-19 has spread to all 54 countries and territories in the Americas.

PAHO/WHO activated regional and country incident management system teams to provide direct emergency response to Ministries of Health and other national authorities for surveillance, laboratory capacity, support health care services, infection prevention control, clinical management and risk communication; all aligning with priority lines of action. The Organization has developed, published, and disseminated evidence-based technical documents to help guide countries' strategies and policies to manage this pandemic.

Map 1. Reported number of cumulative COVID-19 cases in the Region of the Americas and corresponding incidence rate (per 100,000 persons) by country/territory. As of 24 August 2020



PAHO

Pan American
Realth
Results
Organization
Organization

© Pan American Health Organization-World Health Organization 2020. All rights reserved.

The designations employed and the presentation of the material in these maps do not imply the expression of any opinion whatsoever on the part of the Secretariat of the Pan American Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

SITUATION IN NUMBERS IN THE AMERICAS

as of 24 August (15:00)

12,519,981

Confirmed cases*

444,362

Deaths³

54

Countries / areas / territories counted for epidemiological purposes

*Total includes both **confirmed** and **probable** for Ecuador (deaths), Puerto Rico (deaths) and the US (probable deaths in NYC)

RESPONSE PILLARS



Coordination, Planning, and Monitoring



Risk Communication and Community Engagement



Surveillance, Rapid Response Teams, and Case Investigation



Points of Entry



National Laboratories



Infection Prevention and Control



Case Management



Operational Support and Logistics



Maintaining Essential Health Services during the Pandemic

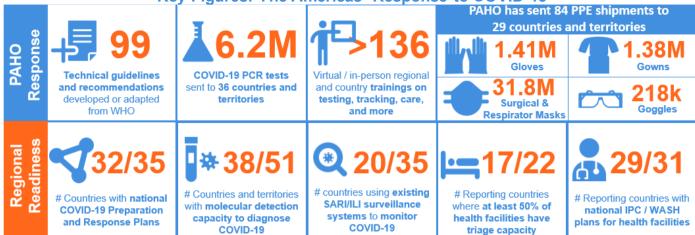








Key Figures: The Americas' Response to COVID-19



PAHO/WHO Response (18 to 24 August 2020)

On 17 January 2020, the Pan American Sanitary Bureau activated an organization-wide Incident Management Support Team (IMST) to provide its countries and territories with technical cooperation to address and mitigate the impact of the COVID-19 pandemic. The Organization's work to date falls under the nine pillars of the global Strategic Preparedness and Response Plan for COVID-19.



Country-level Coordination, Planning, and Monitoring

PAHO continued to collaborate with its partners within the Region and across the globe to deliver technical cooperation, evidence-based guidance, and recommendations, and to advocate for the Americas on the global stage. PAHO's regional IMST also provided support and strategic guidance to countries' IMSTs as they coordinate and monitor their national response activities.

Regulatory frameworks and requirements

Health technology assessments (HTAs) are invaluable in guiding health authorities in the use of technologies relevant to the COVID-19 pandemic. The Regional Database of HTA Reports of the Americas (BRISA) now has 213 reports available in its COVID-19 section.

PAHO convened the 12th regulatory update with the national regulatory authorities (NRAs) of the Americas to facilitate the sharing of experiences and challenges from the COVID-19 pandemic (60 participants from Argentina, Bahamas, Brazil, British Virgin Islands, Canada, Colombia, Cuba, Chile, Ecuador, Honduras, Guyana, Mexico, and the USA.

PAHO continued to work with its Member States to provide guidance on the use of in vitro diagnostics (IVDs) and other regulatory aspects, considering authorizations from WHO's Emergency Use Listing (EUL) procedure and recommendations from eight NRAs from around the globe. PAHO maintains a list of 67 prioritized IVDs for proprietary and open platforms.

The Organization collaborated with NRAs from across the Americas to



Figure 1: PAHO conducted an evaluation mission to a health site in Nippes department, Haiti. **Source**: PAHO, August 2020

share recommendations, considerations, and evaluations on products that would be used to manage COVID-





19 during the pandemic. Additionally, PAHO maintained a repository of websites and relevant information, including regulatory response on COVID-19, at the Regional Platform on Access and Innovation for Health Technologies (PRAIS).

Country

PAHO supported **Cuba** to undertake the fifth revision of its National Action Protocol for COVID-19 considering the epidemiological situation and updated PAHO and WHO recommendations. In **Peru**, PAHO worked with country counterparts to provide recommendations and share best practices in support of the country's situation room and its operations to monitor mortality from COVID-19. PAHO supported state health authorities from the state of Chiapas in **Mexico** to conduct strategic planning for ensuring that the health sector and the wider country can mitigate the impact from COVID-19.

Meanwhile, PAHO coordinated closely with department-level authorities in the Ancash department in **Peru** as part of the Organization's ongoing efforts to build local capacities to combat the pandemic and ensure that health facilities implement measures to reduce the risk of infection. In coordination with other United Nations (UN) agencies, PAHO conducted an epidemiological and demographic assessment of the Loreto region that borders **Brazil**, **Colombia**, and **Peru**. This is the first step towards building a tri-country effort to stemming the spread of COVID-19 in this area.

In **Bolivia**, PAHO supported the country to establish and manage a situation room to monitor the emerging situation and the state of health services in the department of Beni.

As a first step towards building a comprehensive response plan for **Guatemala**, PAHO coordinated with other UN agencies to conduct a socioeconomic analysis on the impact of COVID-19.

PAHO has prioritized actions that protect the health of the Americas' indigenous populations. In the Ngäbe Buglé shire of **Panama**, PAHO collaborated with the Ministry of Health to conduct risk communication activities on COVID-19 as part of the commemoration of the International Day of Indigenous Peoples (9 August). In **Belize**, PAHO convened a technical consultation with the Belize National Indigenous Council (BENIC) to share critical information on reducing the risk of infection.

In **Bolivia**, PAHO coordinated with national health authorities to deliver humanitarian support, including facilitating medical brigades and medicines to indigenous populations. This is part of PAHO's wider efforts to target the Guaraní region and to reach Yuki indigenous groups.

In collaboration with the Universidad de las Americas in **Chile** and the Llug Kym Hue Huarria Association of the Mapuche indigenous population, PAHO participated in a **webinar** to discuss barriers to health and how COVID-19 has presented new challenges for this population.

COVID-19 Courses Available on PAHO's Virtual Campus for Public Health (SPA-POR)

Emerging respiratory viruses, including COVID-19: detection methods, prevention, response, and control (SPA, POR)

COVID-19 operational planning guidelines: for UNCT systems and other partners (SPA)

Standard precautions: Hand hygiene (COVID-19) (SPA)

Infection prevention and control (IPC) caused by COVID-19 (SPA, POR)

ePROTECT Respiratory Infections: Health and occupational health (SPA)

Course on the clinical management of Severe Acute Respiratory Infections (SARI) (SPA)

Severe Acute Respiratory Infection (SARI) Treatment Facility Design (POR)







Risk Communication and Community Engagement

Regional

As the communication needs of the Region evolve during the pandemic, PAHO continued to disseminate key messages across multiple platforms, and to respond to media enquiries. The **infographics** cover a range of issues related to COVID-19, including tips for older adults to keep active and health during COVID-19.

During the weekly press briefing, the Director of PAHO **urged Member States** to remain vigilant and to implement measures to keep transmission under control. She further indicated that COVID-19 is exacerbating the silent epidemic of mental health illness that had affected the Americas since prior to the pandemic. Combined with rising signs of domestic violence, countries were encouraged to expand and invest in mental health services, act with innovation, and work to destignatize mental health.

Country

Building on the experience of Colombia, PAHO collaborated with UNICEF to launch a virtual course for young communicators in **Guatemala** to reach the wider population by radio. In coordination with UNESCO and UNDP, PAHO conducted a virtual meeting with Guatemalan journalists to foster a stronger understanding of COVID-19 and its impact.



In **Peru**, PAHO supported national authorities to release a series of radio spots to educate the population in Ancash department on prevention measures. Technical guidance was also provided to establish a call center line. Additionally, PAHO produced risk communication materials (including infographics, booklets, and videos) on social media and on billboards. Guidance for caregivers of older adults and guidance on avoiding the consumption of chlorine dioxide has reached over 2 million persons in the country.

PAHO produced over 500,000 risk communication materials on preventing infection for distribution to **Bolivia's** workforce.

In collaboration with other UN agencies, PAHO worked with health authorities in **Costa Rica** and **Mexico** to reach broader audiences with life-saving information on COVID-19. Special focus was given to the proper use of masks in Mexico City.

PAHO collaborated with a multi-stakeholder group in **Suriname** to launch a campaign aimed at the country's youth. With support from the country's Medical Mission, the Anton de Kom University, and a neighborhood coalition, this group launched two videos and are expected to guide young people to integrate COVID-19 prevention measures into their daily lives while becoming activists in their communities.



Surveillance, Rapid Response Teams, and Case Investigation

Regional

PAHO has developed a **Geo-Hub** for the Region which includes a series of dashboards and epidemiological data updated daily. It has four sub-regional and 54 country and territory geo-hubs for the Americas. In addition, the public can consult PAHO's **interactive dashboard** showing cumulative cases, deaths, cumulative incidence rate, new cases and deaths, as well as several other epidemiological indicators reported by countries and territories.





PAHO continued its **Event-Based Surveillance** (EBS) while also supporting countries to boost their **Indicator-Based Surveillance** (IBS). Efforts continued to ensure that all countries in the Region **integrate COVID-19** into their routine severe acute respiratory illness / influenza-like illness (**SARI/ILI**) **surveillance systems**. To date, **20 countries** have integrated COVID-19 surveillance into their SARI/ILI systems. PAHO also published weekly reports detailing trends in influenza and other respiratory viruses, as well as SARS-CoV-2 surveillance indicators (**available here**).

PAHO managed data of the line list of nominal cases reported by Member States. To date, 38 of the 54 countries and territories in the Americas have reported this data. This now represents 56.39% of all reported cases and 42.27% of reported deaths in the Americas.

Argentina and **Guyana** received PAHO guidance and training to use the CovidSIM tool to project how the virus would spread, considering implemented public health measures and the existing health system.



In collaboration with GOARN, PAHO has trained 31 countries and territories in the **Go.Data** app, and 20 of those are already implementing it. The Go.Data app is a tool that supports suspect case investigation and management, display of transmission chains, and contact tracing. This past week, PAHO provided advanced training in Go.Data to **Costa Rica** and **Paraguay** for use at the national and subnational levels.

PAHO delivered a webinar to health authorities from **Bolivia**, **Paraguay**, and **Peru** on the increased risk of severe COVID-19 because of underlying conditions

Country

PAHO partnered with UNFPA and UNICEF in **Haiti** to strengthen department-level surveillance for COVID-19 with a focus on boosting the number and reach of outbreak investigation teams and improving data management and information sharing.

In early August, PAHO teams were deployed to the Sud, Sud-Est, Nippes, and Ouest departments to assess early detection capacities in 74 health facilities not specifically designated for managing COVID-19 cases. This built upon prior efforts to train community health workers. PAHO shared recommendations and delivered equipment (thermometers and oximeters) to establish a space for triage and safe case management. During follow up visits, PAHO provided three health centers with early detection kits (PPE) and water and sanitation (WASH) kits. To date, PAHO has provided technical support to establish early detection capacities in 143 sites and has conducted 192 follow-up visits to health facilities.

In **Suriname**, PAHO provided GIS software and other equipment to the country's epidemiological surveillance team to strengthen national capacities for data gathering, analysis, reporting, contact tracing and case investigation.



National Laboratory

Regional

Since the beginning of PAHO's response up to the date of this report, the Organization has provided primers, probes and/or PCR kits for approximately **6.2 million** reactions/tests. PAHO also provided approximately 310,000 swabs, 154 sampling kits, enzymes for around 990,000 reactions, among other critical material.

During the week, PAHO provided troubleshooting sessions and follow up calls regarding diagnostic implementation to **Dominica**, **Grenada**, **Honduras**, **Paraguay**, **Peru**, and **Turks and Caicos**.





PAHO delivered a webinar on virologic and serological assays: use and limitation for the COVID-19 diagnosis to approximately 300 laboratory staff and health care workers in **Bolivia**.

In the **Dominican Republic,** PAHO provided recommendations and considerations as the country assesses how to restructure its national laboratory system to respond to the pandemic more effectively.

Guyana received remote training on theoretical aspects of laboratory-based surveillance and PCR methods. This training was delivered to 51 medical technologists from the country's national public health laboratory, hospitals, animal health, and certain public and private laboratories.

Figure 4: PAHO visited a laboratory in

Figure 4: PAHO visited a laboratory in Paraguay to support the country to expand its testing capacity. **Source**: PAHO, August 2020

Country

In **Paraguay**, PAHO assessed the laboratory information network run by the Universidad Nacional del Este as a first step to allow it to contribute to the country's effort to improve COVID-19 detection.

PAHO delivered additional primers and probes to **Jamaica**'s National Public Health Laboratory, allowing the country to test more possible COVID-19 cases.

The Ministry of Health of **Belize** received technical guidance from PAHO to review its COVID-19 algorithm for the Charité assay to confirm positive cases using the E-gene only.



Infection Prevention and Control (IPC)

Regional

PAHO conducted training in IPC for **Guyana** (second of six planned sessions, with 100 participants), the **Bahamas** (session three of ten, with 23 participants), **Anguilla** (127 trained), **Paraguay** (IPC for decision makers, with 12 participants), and a larger training on IPC for health workers (200 participants from the Region).

Country

In **Haiti**, PAHO worked alongside the Ministry of Health to train 30 personnel from the education sector on recommendations for mitigating the risk of infection as schools reopened on 10 August. This training focused on preventive measures against COVID-19 to limit transmission in schools and to promote top-down awareness among school principals, teachers, school staff, and parents in Haiti's ten departments.

PAHO donated 2,400 medical masks to a maternal health facility in the state of Guerrero in **Mexico** to reduce the risk of infection in pregnant women.

Belize's Ministry of Health received PAHO recommendations on specifications for preparing kits for community health workers dispatched across the country.

PAHO partnered with **Costa Rica**'s Ministry of Housing and Human Settlements (MIVAH) to identify challenges to reducing transmission in informal settlements.

In **Mexico**, PAHO prioritized the need to provide targeted support to national authorities to protect its most vulnerable populations. The Organization worked with national and state-level health authorities in the states of Chiapas and Tabasco to strengthen their community prevention and care strategy for COVID-19 cases.

In collaboration with the International Labor Organization (ILO), PAHO worked with the government of **Chile** to foster the adoption of regulations and other measures to mitigate the risk of COVID-19 infection in the





workplace, with a focus on the informal economy.

PAHO collaborated with national authorities in **Paraguay** to identify evidence and integrate recommendations into the country's efforts to protect workers in the context of the COVID-19 pandemic.

In **Venezuela**, protecting health workers has been PAHO's priority. To date, PAHO has delivered PPE to 31 prioritized hospitals and health centers, as well as partners working on the ground across the country. PPE was delivered to the Indigenous Health Directorate for the country's Gran Sabana region.

PAHO also supported the Ministry of Health and the Venezuelan Society for Infectology to formulate a protocol on the use of PPE in the health sector with the aim to keep the country's health workers safe from COVID-19 infection.



Case Management

Regional

With the vast amounts of existing and emerging evidence on COVID-19 therapeutics, PAHO continues to conduct rapid reviews of this information to guide health authorities in deciding how to manage COVID-19 cases in their countries. PAHO has released an update to the Ongoing Living Update of Potential COVID-19 Therapeutics: summary of rapid systematic reviews (available here).

PAHO released guidance on regulatory aspects for the use of pulse oximeters for monitoring COVID-19 patients (available in English now).

PAHO convened a **webinar** on clinical management of severe cases in children and adolescents, with a focus on managing Multisystem Inflammatory Syndrome in Children.



Operational Support and Logistics

Regional and Country

The regional team continued to collaborate with regional, national, and international partners (including other UN agencies) on all matters related to procurement, shipping, freight, logistics and technical specifications.

Considering the multitude of suppliers and concerns about the quality of procured goods, PAHO has made quality assurance a critical component of its technical support to procuring goods, supplies, and equipment for the COVID-19 response.

In **Peru**, PAHO coordinated with the Ministry of Health to review considerations and



Figure 5: PAHO delivered supplies and equipment to Suriname to boost COVID-19 surveillance and protect more health workers. **Source**: PAHO, August 2020

mechanisms that should be in place to facilitate the eventual procurement of a vaccine for COVID-19.







Maintaining Essential Health Services during the Pandemic

Regional

The reorganization and expansion of services is critical to ensuring that health systems can adapt to needs arising from the COVID-19 pandemic while sustaining services critical for other health conditions. During the reporting week, PAHO worked with national authorities in **Suriname** and **Venezuela** to provide recommendations on taking measures to reduce negative impacts on these countries' health systems.

Emergency medical teams (EMTs) can be invaluable when a country's health system is stretched beyond its regular capacity. PAHO collaborated with International Medical Corps and the Barbados Defense Force to conduct a technical webinar through EMT Ignite on "Key aspects in the development and operations of Emergency Medical Teams at the local level" (135 participants).

PAHO shared a self-evaluation tool for EMTs with **Colombia**'s Ministry of Health and the EMT from the Fundación Barco San Raffaele as they seek to expand health services amidst the COVID-19 pandemic. PAHO worked with **Costa Rica**'s social security agency as it prepares to deploy an EMT to support the local-level COVID-19 response.

Country

PAHO collaborated with the **Guatemalan** Social Security Institute (IGSS) to jointly formulate solutions to improve health services, the management of information systems, and streamline mechanisms for procuring medicines, vaccines, and health technologies. This marks the first step towards collaborative efforts to support the country to better manage the COVID-19 pandemic.

In **Paraguay**, PAHO provided health authorities with technical recommendations and guidance on maintaining and strengthening essential health services during the ongoing pandemic, as part of the Incentives for Achieving Health Targets program. This program seeks to implement a new results-based approach to managing health teams and networks and implementation is ongoing in four municipalities that already have complete teams for providing first level of care.

PAHO facilitated training for emergency medical team (EMT) coordinators and health disaster coordinators from **Bermuda**, **Cayman Islands**, and **Jamaica**. This included a virtual simulation exercise to ensure national capacities are in place if EMTs must be deployed to help them manage its COVID-19 cases.

In **Mexico**, PAHO worked with national authorities to review medicines and vaccines that the country could procure through PAHO's Revolving Fund for Vaccine and its Strategic Fund for Medicines. This was complemented with ongoing discussions with the country's health authorities to strengthen the pharmacosurveillance of medicines used for COVID-19 cases.

At CARICOM's Forty-Eight Joint Meeting of the Executive and Education Committees of the Regional Nursing Body, PAHO's Caribbean Subregional Program shared key findings on the impact of COVID-19 on **health workers** in the **Caribbean subregion**. This session provided an overview of the subregion's response to the pandemic in reorganizing its health workers (particularly primary care staff), while deploying medical and nursing students, residents, and volunteers to bridge gaps. This was followed by a webinar on the **role of human resources for health** in the COVID-19 response (53 participants), which included an analysis on 12 countries from the subregion and presentations on experiences and lessons learned from the Bahamas, Jamaica, and the University of West Indies (UWI) COVID-19 Task Force.

With the objective of protecting vulnerable populations, PAHO supported the government of **Paraguay** to conduct three workshops to train 120 health personnel working in the country's 38 Family Health Units (USF) from the Misiones department. These trainings focused on identifying strengths in the health team, mapping relevant actors in the community, and prioritizing health problems as part of a comprehensive health situation analysis.





PAHO continued to encourage **breastfeeding** in the COVID-19 context. In **Guatemala**, PAHO conducted an virtual forum on this topic (775 enrolled and over 400,000 persons reached). Meanwhile, in late June PAHO engaged health authorities from Aruba, Bonaire, Curaçao, Sint Maarten, St. Eustatius, Saba, and Trinidad and Tobago in a live panel discussion on breastfeeding.

Mental health is a critical aspect to the Organization's response to COVID-19. PAHO facilitated **Bolivian** health workers with a training on integrated care model for victims of sexual violence as part of the Organization's efforts to combat sexual violence during the COVID-19 pandemic.

Meanwhile, PAHO presented its ongoing mental health efforts at CARICOM's First Special Meeting of Directors of National Drug Councils. This forum served to share key aspects of the joint PAHO-Caribbean Development Bank (CDB) project on **Stronger Together 2020**. The meeting's participants endorsed the need to integrate mental health and psychosocial support (MHPSS) into all COVID-19 responses, ensure a multi-sectorial approach, and contribute to disseminate communications materials while prioritizing the mental wellbeing and self-care of healthcare workers.



Research, Innovation, and Development

Regional

PAHO continued to review new and emerging information to build an evidence base to combat the virus. The public has access to PAHO's **COVID-19 Technical Database** for technical guidelines, scientific publication and ongoing research protocols from the region. This is the result of partnerships with WHO, Cochrane, McMaster University, Epistemonikos, and others. It has been visited over 360,000 times.

PAHO also continued to maintain an updated document on **potential COVID-19 therapeutics**, the product of a series of rapid systematic reviews. Considering the breadth of knowledge and evidence related to COVID-19, PAHO produced an **interactive infographic** to help external partners navigate PAHO and WHO's technical material and compilations of evidence from the Americas and around the globe.

With WHO, PAHO coordinated to support countries in the region to participate in the **SOLIDARITY trial**, which aims to assess the efficacy of possible therapeutics for COVID-19. PAHO also continued to collaborate with WHO on developing a serioepidemiologic study, **SOLIDARITY II**, to study the prevalence of the virus.

PAHO/WHO's COVID-19 response was made possible in part due to generous contributions and in-kind donations from the governments of Belize, Canada, Japan, New Zealand, Spain, Switzerland, the United Kingdom of Great Britain and Northern Ireland, the United States of America, as well as the Caribbean Development Bank, the Caribbean Confederation of Credit Unions, Corporacion Andina de Fomento – Banco de Desarrollo de América Latina, Direct Relief, the European Union, Fonds d'Assistance Economique et Sociale, Fundación Yamuni Tabush, the Inter-American Development Bank, the World Bank Group, World Food Program, the UN Central Emergency Response Fund, the UN Development Fund, the UN Multi-Partner Trust Fund, the UN Special Session on Children, the World Health Organization and its donors, other small contributions, and to the invaluable collaboration from our partners within the Americas and beyond.

CONTRIBUTE TO OUR RESPONSE

An estimated US\$200 million is needed to support pandemic preparedness and response in Latin America and the Caribbean through December 2020. As of 24 August 2020, PAHO has received US\$122 million in donor contributions and firm pledges.

You can donate to support PAHO's response to COVID-19 at this link.





NEW AND UPDATED PAHO/WHO Technical Materials on COVID-19



The control of the co

UPDATED: Ongoing Living Update of Potential COVID-19 Therapeutics: Summary of Rapid Systematic Reviews. Rapid Review (Link)

Published: 11 August 2020

The vast amount of data on potential therapeutics for COVID-19 presents important challenges and must be interpreted quickly so that the correct and most optimal treatment decisions can be made with the least harm to patients, and that manufacturers and supply chains can scale up production rapidly. This update factors in findings from recent studies.

Technical and Regulatory Aspects of the Use of Pulse Oximeters in Monitoring COVID-19 Patients (Link)

Published: 19 August 2020

Presents technical and regulatory considerations for the use of pulse oximeters as a tool in clinical monitoring of COVID-19 patients. It also summarizes available evidence on the efficacy, effectiveness, and safety of different types of pulse oximeters, their limitations, and recommendations for use. It is intended for health professionals, as well as health authorities and other decision makers responsible for health technologies for the care of COVID-19 patients.





GAPS CHALLENGES

- **Surveillance systems:** More capacity-building and equipment for analysis.
- Information systems: Data management systems are essential for case monitoring and contact tracing while protecting confidentiality.
- Strategic planning and response: Countries need enough resources to implement national COVID-19 Preparedness and Response Plan and Risk Communication Plans.
- Laboratory test kits and equipment: National laboratories need more extraction kits and other supplies to keep testing.
- IPC supplies: PPEs and supplies (including for WASH) are urgently needed for isolation and quarantine wards. Healthcare workers are hesitant to work without PPE.
- Health facility evaluations: Countries must undertake additional assessments to guide measures for infection prevention and control (including WASH).
- Resources for and access to populations in situations of vulnerability: PPE and other supplies are needed in these communities. Logistical challenges must be overcome to deliver these critical goods.
- **Risk communications**: Key messages must be tailored to each country's context to resonate with intended audiences.
- Subnational-level health workers: A surge in medical personnel is needed to ensure countries can serve their whole populations and obtain more epidemiological data as it becomes available.
- Intensive care units: More ICUs will be needed to manage anticipated severe cases.
- Migrant access to health services: Countries are assessing how to serve these populations and better manage outbreaks.
- **Private sector coordination:** This is essential to ensure national protocols are followed.

- Border closures: This has seriously hampered the deployment of experts, shipment of samples for testing, and procurement of supplies and equipment for testing, case management, and infection prevention and control. This has added additional pressure to countries undergoing complex political and socioeconomic transitions.
- Competitive marketplace: Countries and organizations are competing for limited supplies due to global shortages of PPE and other items.
- Managing infections in healthcare settings:
 Healthcare workers rely on PPE and other supplies
 to avoid infection. Global shortages are contributing
 to increasing cases and loss of life of frontline
 workers.
- Infected healthcare workers: Infected health workers who are sick or quarantined will strain health systems.
- Test availability: Epidemiological monitoring requires more testing. Counterfeit tests are creating risks in resources lost and incorrect analyses.
- **Health workforce limitations:** Insufficient human resources hamper countries' efforts to conduct contact tracing and manage patients in quarantine.
- **Risk Communication:** The risk perception is still low in some countries/territories.
- **Telephone referral systems:** Some countries are reporting overwhelming call volumes.
- Logistics systems: Many countries are still unprepared to manage the distribution of supplies and equipment.
- Continuity in other health services: The pandemic has diverted resources from other critical services for programs such as HIV, TB, and noncommunicable diseases (NCDs).
- Stigma: Countries must take steps to reduce stigma towards persons returning from abroad and others associated with higher likelihood of infection.