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UPDATE ON COVID-19 IN THE REGION OF THE AMERICAS

Introduction

1. This document provides an update on the COVID-19 pandemic in the Region of the Americas and on the progress and challenges in implementing Resolution CD58.R9, adopted by the 58th Directing Council of the Pan American Health Organization (PAHO) in September 2020 *(1)*, and Resolution CDSS1.R1, adopted by the Special Session of the Directing Council in December 2020 *(2)*, in the period up to 31 July 2021, unless otherwise specified.

2. As of 24 August 2021, the Region of the Americas had reported 39% and 47% of the global COVID-19 cases and deaths, respectively. Four countries of the Americas, Argentina, Brazil, Colombia, and the United States of America, ranked in the top 10 countries reporting the highest numbers of cumulative cases globally. Five countries—Brazil, Colombia, Mexico, Peru, and the United States of America—ranked in the top 10 for cumulative deaths globally.

3. The course of the COVID-19 pandemic in the Americas remains highly uncertain. The surge in cases throughout South and Central America in the first half of 2021 is unsettling. It comes against the backdrop of a gradual vaccination rollout prioritizing high-risk groups, such as frontline health personnel and older people. COVID-19 vaccine availability is limited worldwide, and many countries, including those in Latin America and the Caribbean, face inequities in access. Vaccine hesitancy may further slow uptake by the population or prevent full achievement of vaccination potential.

4. At the same time, countries and territories in the Region continue to report persistent disruptions of varying degrees in the provision of essential health services. These disruptions highlight the difficulties in ensuring continuity of services and the need to strengthen resolution capacity, especially at the first level of care.

5. A possible scenario is that, well into 2022, countries in the Americas will still face localized COVID-19 outbreaks, primarily in institutions (e.g., nursing homes, prisons),

densely populated peri-urban areas, and rural settings. While vaccination coverage may reach high levels overall and may be homogenous across subnational entities, significant heterogeneity in coverage may persist among the different age and population groups. This will depend on vaccine supply availability, vaccine uptake, and access and demand among specific population groups.

6. This situation indicates that suppression of the COVID-19 pandemic in the Region will continue to require a comprehensive response with sustained health services network capacities, sustained public health and social measures, targeted vaccination operations, and outbreak control actions, including early detection, investigation and isolation of cases, and tracing and quarantine of contacts.

Epidemiological Situation

7. Between the detection of the first case in the Americas in January 2020 up to 31 July 2021, a cumulative total of 77,223,340 confirmed cases of COVID-19, including 2,010,269 deaths, were reported in the Region. Just over half of these cases (54%) and deaths (54%) were reported between 1 January 2021 and 31 July 2021. The highest numbers of monthly cases and deaths were reported in January 2021. The North America and South America subregions account for the highest proportion of cumulative cases (50% and 46%, respectively) and deaths (44% and 54%, respectively) as of 31 July.

8. Several countries in the Region are reporting an increased number of COVID-19 cases in the younger population, with an associated surge in ICU (intensive care unit) and non-ICU hospitalization. This might be related to greater exposure and limited vaccination in this group. During the first semester of 2021, 74% of reported cases in the Region were between 20 and 59 years of age, but 62% of the deaths were in patients 60 years and older. The male/female ratio is 0.96 for cases and 1.53 for deaths.

9. As of 31 July 2021, 50 countries and territories in the Region had reported the detection of at least one of the four SARS-CoV-2 variants of concern (VOC). Of the total, 48 countries and territories detected the Alpha VOC, 33 detected Gamma, 26 detected Delta and 23 detected Beta. All four VOCs were detected in at least 13 countries and territories. Countries like Canada, Mexico, and the United States of America – where there is greater capacity for genetic sequencing – reported a rapid increase in the proportion of Delta variants on a week-to-week basis. The Delta variant is now the dominant strain in all these countries.

10. The most up-to-date epidemiological information on the pandemic can be found in the COVID-19 Information System for the Region of the Americas on the Pan-American Health Organization website.[1]

[1] Available at: https://paho-covid19-response-who.hub.arcgis.com/.

Health Services Continuity

11. Countries and territories in the Region have been challenged to maintain provision of essential health services throughout the pandemic. The World Health Organization (WHO) carried out a pulse survey on continuity of essential health services during the pandemic, with two rounds in 2020 and 2021.[2] As of 16 April 2021, 28 of the 29 countries and territories in the Americas that responded to the survey reported continuing disruptions in the provision of essential health services.[3] Among those responding, 60% reported disruptions to mental health, neurological, and substance use disorder services; 55% to immunization services; 49% to communicable diseases services; 47% to neglected tropical diseases programs; 41% to noncommunicable diseases services; 41% to reproductive, maternal, neonatal, child and adolescent health, and nutrition services; 40% to physical rehabilitation services and palliative and long-term care; and 36% to elective surgical interventions. These disruptions have serious implications, particularly for the most vulnerable populations, such as the elderly and people living with chronic diseases and disabilities.

12. The most reported reasons for disruption on the supply side of health services are insufficient staff availability due to deployment to provide COVID-19 relief or other services (72% of countries); cancellation of elective care (56%); changes in treatment policies (54%); financial difficulties (48%); and disruption of supply chain systems (32%). The most common demand-side reasons include fear/mistrust in the community (60%); travel restrictions that hinder access to health facilities (56%); and declining outpatient volume because patients do not present (54%).

13. Health workers are on the frontlines of the COVID-19 response and are indispensable to the effort to ensure health services continuity. The dramatic expansion of health services capacities, including for critical care to manage the surge of COVID-19 patients and maintain other essential services, has put enormous pressures on health workers. Task shifting and work in high-risk departments, with long shifts and long exposure to large numbers of COVID-19 patients, has negatively impacted their health, particularly their mental health. As of 21 July 2021, data from 37 countries and territories in the Americas shows that almost 1.8 million health workers have become infected with COVID-19 since the start of the pandemic, with over 10,000 deaths *(3)*. COVID-19 has disproportionally affected women health care workers, who constitute 70% of the global health workforce *(4)* and 89% of nurses in the Region of the Americas *(5)*. Health providers who participated in the COVID-19 Health Care Workers (HEROES) Study reported feeling stigmatized and/or discriminated against because of their work with COVID-19 patients.

[2] WHO. Tracking Continuity of Essential Health Services during the COVID-19 Pandemic. An interactive dashboard (accessed 5 May 2021) is available at: https://www.who.int/teams/integrated-health-services/monitoring-health-services/national-pulse-survey-on-continuity-of-essential-health-services-during-the-covid-19-pandemic/dashboard.

[3] The 28 responding countries and territories were Argentina, Bahamas, Belize, Bermuda, Bolivia, Brazil, British Virgin Islands, Cayman Islands, Chile, Costa Rica, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Vincent and the Grenadines, Saint Lucia, Suriname, and Uruguay.

In some countries, half of the participants have experienced some form of violence, and most participants, particularly women, reported being concerned about infecting their relatives and other persons close to them. Women also most often reported having people in their care (children, people with disabilities, and older adults) but receiving little assistance in balancing these responsibilities with their workplace duties. Unpublished preliminary data indicates the presence of mild to moderate depressive symptoms, with increased risk of depression in specific groups, such as primary care doctors and nurses, and indication of suicidal ideation in the last two weeks ranging between 10% to 17% in some countries.[4]

Analysis of Progress Achieved

14. This section of the document provides a summary of activities by the Pan American Sanitary Bureau (PASB or the Bureau) since January 2020 in response to the COVID-19 pandemic. Specifically, it focuses on the progress achieved and challenges faced in implementing the following lines of action presented in COVID-19 Pandemic in the Region of the Americas (Document CD58/6) *(6)* and Update on the COVID-19 Pandemic in the Region of the Americas, COVAX Preparedness, and Equitable Access to COVID-19 Vaccines (Document CDSS1/2) *(7)*, as per Resolutions CD58.R9 and CDSS1.R1, since September 2020:

a) Strengthen leadership, stewardship, and governance

b) Strengthen epidemic intelligence

c) Strengthen health systems and service delivery networks

d) Strengthen emergency operations response and supply chain

e) Support introduction of and access to COVID-19 vaccines

15. The full range of PASB activities on COVID-19 implemented up to 30 June 2021 can be found in two reports available on the PAHO website: Pan American Health Organization Response to COVID-19 in the Americas: January-December 2020[5] and Pan American Health Organization Response to COVID-19 in the Americas: January-July 2021.[6]

16. As of 20 August 2021, PASB has received over US$ 327 million[7] in financial contributions from a wide range of partners to support its response to the COVID-19 pandemic in the Americas. They include the governments of Belize, Canada, Colombia, Japan, Republic of Korea, New Zealand, Spain, Sweden, Switzerland, United Kingdom,

[4] The HEROES study is an international collaboration between researchers from 30 countries, led by Columbia University and the University of Chile, with support from PAHO in the Region of the Americas. Since May 2020, the HEROES study has evaluated 20,328 health workers from Argentina, Bolivia, Brazil, Chile, Colombia, Guatemala, Mexico, Peru, Puerto Rico, Uruguay, and Venezuela.

[5] Available at: https://iris.paho.org/handle/10665.2/54013.

[6] Available at: https://www.paho.org/en/documents/pan-american-health-organization-response-covid-19-january-june-2021.

[7] Unless otherwise indicated, all monetary figures in this report are expressed in United States dollars.

the United States of America, and the European Union. The World Health Organization and its donors also made significant contributions. Other contributors include the Alma Jean Henry Charitable Trust, Caribbean Development Bank, Caribbean Confederation of Credit Unions, Central American Bank for Economic Integration, Corporación Andina de Fomento/Banco de Desarrollo de América Latina, Foundation for Innovative New Diagnostics, Fundación Yamuni Tabush, Global Fund to Fight AIDS, Tuberculosis and Malaria, International Organization for Migration, Inter-American Development Bank, Rockefeller Foundation, United Nations (UN) Central Emergency Response Fund, UNICEF, UN Multi-Partner Trust Fund Office, UN Office for South-South Cooperation, World Bank Group, World Food Programme, and the World Health Organization Foundation, as well as individual donors to the PAHO COVID-19 Response Fund. The Organization's pandemic response also benefited from in-kind donations from Direct Relief, Facebook, Mary Kay Cosmetics, and Twitter, as well as the strategic partnerships with Salomón Beda, Sony Music Latin, and Global Citizen. Details on these donations can be found on the PAHO website.[8]

Strategic Line of Action 1: Strengthen leadership, stewardship, and governance

17. Most PAHO Member States have in place diverse packages of community-wide non-pharmaceutical measures to fight the pandemic. However, their introduction, adjustment, and discontinuation are not always anchored in evidence or based on granular and multi-source data. These measures, including use of masks, lack a robust set of indicators that would facilitate more predictable risk communication efforts and, possibly, increase adherence.[9] Document CD58/6, COVID-19 Pandemic in the Region of the Americas, calls for maintaining a whole-of-government and whole-of-society approach. This call to action carries complex challenges that decision makers are and will be facing in the foreseeable future as they respond to the COVID-19 pandemic. This can help alleviate societal, economic, and fiscal strains, especially on the most vulnerable groups, and overcome tensions between the branches of national state government, across sectors (including the private sector), and across the national political spectrum and administrative levels.

18. Since April 2020, PASB has been convening ministers of health of the Americas for periodic briefings related to the COVID-19 pandemic. In national responses to the pandemic, health policy has moved beyond the health ministries, with leadership exerted by heads of state and heads of government. In general, effective national responses have been both holistic and agile, featuring centralized leadership, coordination across sectors and administrative levels, clear decision making based on scientific advice, efforts to build trust of the population, and, most importantly, the ability to change the course of action to

[8] Available at: https://www.paho.org/en/topics/coronavirus-infections/coronavirus-disease-covid-19-pandemic/paho-covid-19-response-fund.

[9] The regional dashboard Public Health and Social Measures Analysis is available on the PAHO website at: https://ais.paho.org/phip/viz/COVID-19_PHSM.asp.

confront the rapidly unfolding pandemic. It is imperative to take stock of these experiences while reshaping the global health architecture.

19. PASB has supported action reviews in some Brazilian states and is in the process of adapting the methodology and tools prepared by the WHO Secretariat for Intra-Action Reviews.[10] As the epidemiological situation becomes more conducive, PASB will work with relevant WHO Collaborating Centers[11] to support other countries and territories in this process, according to their interests and requests. The COVID-19 pandemic has highlighted aspects of the national response to public health emergencies that had not been highly visible before. It is important to critically assess and learn from the response to COVID-19 for building back better *(8)*.

20. Among non-pharmaceutical measures deployed in the Region, measures related to international travel are currently more heterogenous than community-wide measures. Nonetheless, throughout the COVID-19 pandemic, in compliance with Resolution CD58.R9, essential international traffic generally has been maintained across the Americas through the promulgation of ad hoc legal provisions.

21. Since mid-2020, a sound public health approach to resuming non-essential international traffic has been the object of intense debate, at national and international levels. Non-essential travel is particularly critical for countries and territories whose economies are highly dependent on tourism. Accordingly, since July 2020, PASB has been publishing risk-based guidance to inform the decision-making process for resuming non-essential international travel.[12,13] PASB also contributed to the WHO document Considerations for Implementing a Risk-Based Approach to International Travel in the Context of COVID-19.[14]

22. According to the WHO document Interim Position Paper: Considerations Regarding Proof of COVID-19 Vaccination for International Travellers *(9)*, as well as the temporary recommendations issued by the Director-General of WHO pursuant to the International Health Regulations (IHR) *(10)*, States Parties shall not require proof of vaccination against COVID-19 as a condition of entry. Nonetheless, with the rollout of COVID-19 vaccines, there have been calls for the use of proof of vaccination for international travel purposes. Accordingly, following establishment of the WHO-convened

[10] Guidance for conducting a country COVID-19 Intra-Action Review is available on the WHO website at: https://www.who.int/publications/i/item/WHO-2019-nCoV-Country_IAR-2020.1.

[11] CHI-23, Universidad del Desarrollo, Chile, WHO Collaborating Centre for the International Health Regulations (IHR); USA-359, Centers for Disease Control and Prevention (CDC), United States of America, WHO Collaborating Center for Implementation of IHR Core Capacities; USA-453, Johns Hopkins University, United States of America, WHO Collaborating Center for Global Health Security.

[12] Available at: https://www.paho.org/en/documents/considerations-resuming-non-essential-international-traffic-caribbean-context-covid-19.

[13] Available at: https://www.paho.org/en/documents/resuming-non-essential-international-travel-context-covid-19-pandemic-advice-use-covid-19.

[14] Available at: https://www.who.int/publications/i/item/WHO-2019-nCoV-Risk-based-international-travel-2020.1.

Smart Vaccination Certificate Working Group,[15] the WHO Secretariat, including PASB, published Call for Public Comments: An Interim Guidance for Developing a Smart Vaccination Certificate – Release Candidate 1.[16]

23. Since attempts to resume non-essential international traffic began in mid-2020, there have been multiple and rapid changes to travel-related measures. At the same time, the Region has seen the introduction and spread of SARS-CoV-2 variants of concern. Within that context, the range of international travel-related measures implemented by the 35 PAHO Member States has been extremely broad and rapidly changing, relying at times on a complex set of measures. International travel-related measures adopted by Member States include selective[17] or general entry ban for conveyances or individuals; online registration of prospective travelers prior to departure; selective or subsidiary[18] quarantine of incoming travelers; the presentation of proof of negative test results for the SARS-CoV-2 virus; testing incoming travelers for SARS-CoV-2 virus upon or after arrival; waiving of entry requirements for incoming travelers based on proof of previous SARS-CoV-2 virus infection, and proof of vaccination against COVID-19. As of 13 August 2021, three Member States required proof of vaccination against COVID-19 as condition for entry, thus breaching IHR provisions.

24. PASB is collaborating closely with the Regional Office for Education for Latin America and the Caribbean of the United Nations Educational, Scientific and Cultural Organization (UNESCO) and with the Latin America and the Caribbean Regional Office of the United Nations Children's Fund (UNICEF) to further develop guidance on resuming in-person educational activities. This is one of the most challenging decisions confronting national authorities, and one with important repercussions in both the immediate and longer terms. PASB has already provided guidance *(11)*, in line with the United Nations *(12)*, emphasizing that "the single most significant step that countries can take to hasten the reopening of schools and education institutions is to suppress transmission of the virus to control national or local outbreaks."

25. Pursuant to World Health Assembly Resolution WHA73.1 *(13)*, the international community's response to the COVID-19 pandemic was the object of intense scrutiny by the Independent Oversight and Advisory Committee for the WHO Health Emergencies Programme (IOAC),[19] by the Review Committee on the Functioning of the International

[15] Information about the Smart Vaccination Certificate Working Group is available at: https://www.who.int/groups/smart-vaccination-certificate-working-group.

[16] Available at: https://www.who.int/news-room/articles-detail/call-for-public-comments-interim-guidance-for-developing-a-smart-vaccination-certificate-release-candidate-1.

[17] "Selective" means based on the geographic origin of the journey of the incoming conveyance or traveler.

[18] "Subsidiary" means the requirement is applied only if other entry requirements are not met by the incoming traveler.

[19] Information about the Independent Oversight and Advisory Committee for the WHO Health Emergencies Programme is available at: https://www.who.int/groups/independent-oversight-and-advisory-committee.

Health Regulations (2005) during the COVID-19 Response (COVID-19 IHR RC),[20] and by the Independent Panel for Pandemic Preparedness and Response (IPPPR).[21] As reported in Document CE168/INF/3, Implementation of the International Health Regulations *(14)*, the findings and recommendations presented by the three bodies to the 74th World Health Assembly *(15, 16)* aim to build a more robust global health governance architecture for responding to future events with international public health implications. A subset of the recommendations provided by both IOAC (11 recommendations) and IPPPR (six recommendations) explicitly address the response to the current COVID-19 pandemic by the WHO Secretariat and WHO Member States. At the time of this writing, those recommendations are still being considered by Member States, as per the adopted resolution presented to the 74th World Health Assembly, Strengthening WHO's Global Health Emergency Preparedness and Response.[22] In general the call is for stronger governance mechanisms as support for multilateralism.

Strategic Line of Action 2: Strengthen epidemic intelligence

26. An essential part of the Bureau's response has been to work with countries to strengthen their surveillance systems. PASB continued to conduct Event-Based Surveillance (EBS) while also supporting countries to boost their Indicator-Based Surveillance (IBS). This joint approach improved the capacity of surveillance systems to detect COVID-19 cases. It also facilitated the detection of specific risk factors and vulnerabilities among indigenous and Afro-descendant peoples in the context of the COVID-19 pandemic.[23]

27. The importance of continued surveillance of influenza viruses is well recognized, given their epidemic and pandemic potential. Accordingly, PASB has supported strengthening of capacity to detect influenza and other respiratory viruses and to characterize them genetically, clinically, and epidemiologically in primary care and hospital-based sentinel surveillance for influenza-like illness (ILI) and severe acute respiratory infection (SARI).[24] These systems are also critical for enhanced detection and monitoring of COVID-19 transmission in the community. To date, 23 countries have integrated COVID-19 surveillance into their SARI/ILI surveillance systems.

28. PASB supported the expansion of the Epidemic Intelligence from Open Sources (EIOS) platform to four countries in the Region[25] to enhance their capacity for Event-Based Surveillance of COVID-19 and other emerging infectious diseases. The EIOS platform

[20] Information about the Review Committee on the Functioning of the International Health Regulations (2005) during the COVID-19 Response is available in at: https://www.who.int/teams/ihr/ihr-review-committees/covid-19.

[21] Information about the Independent Panel for Pandemic Preparedness and Response is available in at: https://theindependentpanel.org/.

[22] Available on the WHO website at: https://apps.who.int/gb/ebwha/pdf_files/WHA74/A74_R7-en.pdf.

[23] Two epidemiological updates were developed to address COVID-19 among indigenous people. Available at: https://www.paho.org/en/epidemiological-alerts-and-updates).

[24] The reports are available at: https://www.paho.org/en/influenza-situation-report.

[25] Argentina, Brazil, Dominica, Saint Lucia.

enables multiple communities of users to collaboratively assess and share information about outbreak events in real time, which enhances the capacity to conduct ongoing risk assessment at the regional, national, and subnational levels.

29. PASB has developed a Geo-Hub[26] for the Region to provide public health modeling and mapping tools for surveillance and monitoring of pandemics. The regional Geo-Hub includes a series of dashboards and epidemiological data updated daily. It also comprises four subregional and 56 country/territory geo-hubs for the Americas. In addition, the public can consult PAHO's interactive dashboard showing the cumulative numbers of cases and deaths, cumulative incidence rates for cases and deaths, and several other epidemiological indicators reported by countries and territories. This real-time information has been crucial in supporting countries with their preparedness and response and in promoting international coordination and awareness of the situation in the Region.

30. Tracking, analyzing, and forecasting epidemiological trends is key to an effective response. PASB produced its first epidemiological alert on the novel coronavirus on 16 January 2020. Between that date and 31 July 2021, the Organization has disseminated 35 epidemiologic updates and alerts on the regional and subregional epidemiological situation. Weekly reports are published with surveillance indicators for SARS-CoV-2 as well as influenza and other respiratory viruses. As of 31 July 2021, 38 of the 56 countries, territories, and areas in the Americas have reported this data. Meanwhile, PASB continues to analyze trends in the Region, particularly through the collection of COVID-19 nominal case data. During the last reporting week in July 2021, approximately 72% of cases and 58% of deaths were captured for analysis.

31. Seroprevalence studies have provided valuable data on how the virus has spread since the onset of the pandemic. PASB launched (November 2020) a new dashboard[27] with seroprevalence studies in Latin America and the Caribbean, giving details on the study design, sampling method, sample sizes, and other relevant information about individual studies.

32. In collaboration with GOARN, the Global Outbreak Alert and Response Network, PASB trained 35 countries and territories to use the Go.Data app during the last 12 months. The app, developed by WHO and partners, supports investigation and management of cases, follow-up of contacts, and real-time visualization of chains of transmission. Twenty-four countries and territories[28] have downloaded and installed the system, but only 17 are currently using it actively.

33. Laboratory-based surveillance, necessary to monitor COVID-19 disease trends, relies on data produced in clinical and/or public health laboratories. To strengthen

[26] Available at: https://paho-covid19-response-who.hub.arcgis.com/.

[27] Available at: https://ais.paho.org/phip/viz/COVID-19Seroprevalence.asp.

[28] Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bermuda, Brazil, Canada, Chile, Colombia, Dominican Republic, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Paraguay, Saint Lucia, Sint Eustatius, Sint Maarten, Suriname, Trinidad and Tobago, United States of America.

laboratory diagnostics capacity, PASB has supported countries and territories with data review, virtual trainings, troubleshooting sessions, and support to ensure the availability of validated tests and SARS-CoV-2 reference molecular assays. The Americas was the first WHO region to provide its Member States with laboratory diagnostic kits, and by the first quarter of 2020 all 35 Member States had the capacity for molecular diagnostic testing for SARS-CoV-2. Early in the pandemic, PASB also activated the public health laboratory network in the Region, including specialized referral laboratories with demonstrated expertise in the molecular detection of respiratory viruses. As of 31 July 2021, PASB has provided approximately 590,000 swabs and sampling kits, along with other critical material and laboratory supplies (such as primers, probes, plastic materials, and reagents), for over 10.29 million reactions/tests to more than 35 countries and territories. Additionally, PASB has provided more than 1,840,000 antigen-detecting rapid diagnostic tests (Ag-RDT) as part of the strategy to increase diagnostic capacity, including in remote areas. Member States have also procured almost 7 million reactions/tests through the PAHO Regional Revolving Fund for Strategic Public Health Supplies (the PAHO Strategic Fund).

34. PASB continues to work closely with laboratories in the Region to prioritize samples for genomic sequencing. To date, 24 countries are participating in the PAHO COVID-19 Genomic Surveillance Regional Network,[29] with reference sequencing laboratories in Brazil, Chile, Mexico, Panama, Trinidad and Tobago, and the United States of America. This mechanism will be critical to tracking the spread or appearance of new variants of concern.

Strategic Line of Action 3: Strengthen health systems and service delivery networks

35. Response to the COVID-19 pandemic requires health services to deliver patient care that is coordinated and integrated across the different levels of complexity, with availability of an uninterrupted supply of medicines and devices at all health care facilities, including those in remote areas. Many countries and territories in the Region have been challenged to deliver health services in this manner, even though all have implemented measures to expand the capacities of health services networks for effective management of COVID-19 patients and for the continuity of essential health services. Measures have included expansion, redeployment, and training of human resources, procurement of essential commodities, budgetary allocations, and innovations in service delivery modalities. PASB has provided various types of ongoing support to countries and territories to implement these measures, including deployment of personnel and/or supplies to 40 countries and territories in the Region. The Bureau has provided technical guidance, training, and sharing of experiences to all countries and territories as needed for the reorganization of health services and the expansion/strengthening of capacities to respond to the COVID-19 pandemic. From the start of the pandemic through 31 July 2021, the Virtual Campus for Public Health has offered 23 courses related to COVID-19; these have been used by 35 countries and territories in the Americas, enrolling 904,502 new

[29] Available at: https://www.paho.org/en/topics/influenza/covid-19-genomic-surveillance-regional-network.

participants. PASB has also trained more than 70,000 health workers in various areas related to case management and therapeutics.

36. The first level of care plays a critical role in identification of COVID-19 cases, containment of expansion of cases, timely management of ambulatory cases in the community, and continuity of essential health services. Twenty-eight of the 29 countries and territories responding to the above-mentioned WHO pulse survey have implemented different strategies to overcome disruptions in the provision of essential health services.[30] These include triaging to identify priorities (88% of countries); provision of home care (80%); use of community communications and provision of services via telemedicine (76%); and redirection of patient care to alternative sites (72%). PASB provided guidance, facilitated the sharing of experiences, and monitored the continuity of essential health services through implementation of the WHO pulse survey.

37. The pandemic has had a negative impact on the mental health of the population, yet in the first quarter of 2021, 60% of responding countries and territories reported disruptions to mental health services. This was the health service for which the most countries and territories reported disruptions. Since 2020, PASB has provided ongoing technical cooperation to countries and territories in key areas related to mental health and psychosocial support (MHPSS), including support to 24 countries and territories[31] in advancing their MHPSS coordination mechanisms; to 20 countries and territories[32] in delivering remote MHPSS interventions; and to 13 countries and territories[33] in the development of mhGAP implementation plans. PASB also developed a suite of technical and communications material to address MHPSS during COVID-19 for the general population and for vulnerable groups, including frontline and health workers, and facilitated training and capacity building on MHPSS through virtual courses and more than 60 webinars.

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[30] WHO. Tracking Continuity of Essential Health Services during the COVID-19 Pandemic. An interactive dashboard (accessed 5 May 2021) is available at: https://www.who.int/teams/integrated-health-services/monitoring-health-services/national-pulse-survey-on-continuity-of-essential-health-services-during-the-covid-19-pandemic/dashboard. The 28 responding countries and territories were Argentina, Bahamas, Belize, Bermuda, Bolivia, Brazil, British Virgin Islands, Cayman Islands, Chile, Costa Rica, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Vincent and the Grenadines, Suriname, and Uruguay.

[31] Antigua and Barbuda, Aruba, Bahamas, Belize, Bolivia, Brazil, British Virgin Islands, Costa Rica, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Venezuela.

[32] Anguilla, Antigua and Barbuda, Argentina, Bolivia, Brazil, British Virgin Islands, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Panama, Peru, Trinidad and Tobago, Turks and Caicos, Venezuela.

[33] Bolivia, Cayman Islands, Costa Rica, Guatemala, Guyana, Haiti, Honduras, Mexico, Panama, Peru, Saint Lucia, Trinidad and Tobago, Venezuela.

38. Between March 2020 and 31July 2021, 16 countries and territories[34] in the Region had a total increase of 63,222 ICU beds, with many exceeding 12 ICU beds per 100,000 population, the average among countries of the Organisation for Economic Co-operation and Development (OECD). This increase represents a 103% growth in critical care capacity. Unfortunately, ICU occupancy rates have at times exceeded 85% (by 31 July 2021, 8 countries exceeded 85%). Additionally, notwithstanding the significant increase in intensive care capacity, the capacity is not necessarily sustainable, nor does the care always meet standards for quality and patient safety. Staff burnout and insufficient access to therapeutics (including oxygen) are among the challenges. PASB provided guidance for the expansion of hospital services and critical care capacity, including estimates of hospital capacity requirements, planning of resources needed, management of critical beds, and coordination of care, to respond to the surge of COVID-19 patients. Virtual missions were also conducted to support countries and territories whose hospitals found themselves at a breaking point amid the COVID-19 surge. In those countries and territories, a key mitigation strategy has been the mobilization of Emergency Medical Teams and/or technical guidance within the Emergency Medical Teams (EMTs) and Alternative Medical Care Sites (AMCS) strategy.

39. The role of Emergency Medical Teams and Alternative Medical Care Sites is recognized as key to the expansion of capacity to meet needs created by the exponential increase in patients due to COVID-19. PASB has therefore provided guidance, training, and recommendations *(17)* to support countries and territories in establishing comprehensive medical surge capacity response within their national health services networks. As of 6 August 2021, 24 countries[35] reported 193 national EMTs currently deployed as well as 204 AMCS made operational, providing a total of 13,236 inpatient beds and 1,228 critical care beds. In addition, regional EMTs have been supporting clinical care in border and remote areas, providing access to migrants and indigenous populations. EMTs and AMCS also played important roles in major concurrent emergencies, such as Hurricanes Eta and Iota, which impacted Colombia and some Central American countries during the pandemic. PASB works with its partners and the regional network of EMT focal points to coordinate local responses and compliance with COVID-19 recommendations.

40. PASB created an Oxygen Technical Group (OTG) to evaluate limitations experienced by countries and territories that have seen an increase in the number of patients requiring oxygen support therapy during the pandemic. The OTG is providing 13 countries and territories[36] with comprehensive technical support, including locally adapted recommendations, covering clinical approach, organization of health services (optimizing

[34] Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Panama, Paraguay, Peru, Uruguay, Venezuela.

[35] Argentina, Bahamas, Barbados, Bolivia, Brazil, British Virgin Islands, Canada, Cayman Islands, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guyana, Haiti, Honduras, Jamaica, Mexico, Panama, Peru, Puerto Rico, Trinidad and Tobago, United States of America, Venezuela.

[36] Antigua and Barbuda, Argentina, Bolivia, Colombia, Dominica, Ecuador, Guyana, Haiti, Panama, Paraguay, Peru, Turks and Caicos, Suriname.

existing infrastructure, strengthening technical capacities, and working in integrated networks), capacity building, and assessment of local capacities.

41. PASB has developed Workforce Planning Surge Capacity tools for COVID-19. The Organization has also supported countries to initiate policy dialogue about task-sharing plans and the management and regulation of health professionals to better confront COVID-19, and to build capacity in medical and nursing faculties to expand the roles of doctors and nurses in primary care. Many countries have promulgated legal and normative tools for the management of human resources for health. The availability and safety of health care workers has been a critical factor in expanding services to respond to the pandemic and in making adaptations to ensure the continuity of essential services.

42. Reinforcing compliance with hand hygiene practices, use of personal protective equipment (PPE), and cleaning and disinfection of medical devices has been a priority for countries and territories and for PASB from the onset of the pandemic. As of 7 May 2021, 33 countries and territories[37] continued to report having a national infection prevention and control (IPC) program along with water, sanitation, and hygiene (WASH) standards in health care facilities. Additionally, there was a 42% increase in the number of countries and territories that evaluated their health infrastructure for the control of aerosol-transmitted infections (from 18 May 2020 to 31 May 2021). The pandemic may also contribute to increases in the number of healthcare-associated infections with multidrug-resistant microorganisms, due to noncompliance with standard and transmission-based precautions, breaches in environmental cleaning, and inadequate use of PPE. PASB issued guidelines on management of health care workers exposed to COVID-19 in health facilities and provided in-person and virtual training to ministries of health and health workers. As of 31 July 2021, PASB has provided multi-week IPC training sessions to more than 20,000 people, including health care workers, logisticians, hospitality workers, and others at higher risk of exposure to COVID-19.[38]

43. In response to the rapidly evolving nature of the COVID-19 pandemic and the accumulating scientific research, PASB has implemented an agile and adaptive knowledge translation mechanism to identify, synthetize, and disseminate the best available evidence for rapid decision making and to provide guidance on clinical management. PASB has supported the strengthening of national rapid evidence-informed mechanisms and has provided guidance to address the use, outside of research settings, of pharmaceutical interventions not proven safe and efficacious for COVID-19. These interventions, which may not be beneficial and may even harm patients, raise ethical concerns. Currently, there

[37] Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guyana, Haiti, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, United States of America, Uruguay, Venezuela.

[38] Targeted countries and territories included Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, British Virgin Islands, Cayman Islands, Dominica, Grenada, Guyana, Jamaica, Monserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Sint Maarten, Suriname, Trinidad and Tobago, and Turks and Caicos.

are available pharmaceutical therapeutic interventions (steroids and some immunomodulators) that have proven effective in decreasing mortality and other severe outcomes in COVID-19 patients. Most countries and territories have developed and are implementing guidelines for the clinical management of patients according to the severity of their disease. However, balancing evidence and ethics amid uncertainty and ensuring that there is no emergency use of unproven interventions outside of research continues to be a significant challenge for the Region.

44. To address the evidence gap and strengthen decision making, PASB has continually updated and compiled the best available evidence on the efficacy and safety of therapeutics, has issued guidelines for managing patients with COVID-19, and has provided support to improve uptake at all levels of care. Countries and territories are also funding and promoting research in a variety of disciplines to address the pandemic and have established strategies and procedures to streamline ethics review *(18)*.[39] However, due to the volume of emerging evidence, some Member States are grappling with the oversight of ongoing COVID-19 research.

45. Public domestic resources are expected to continue bearing most of the burden for the health sector response to COVID-19 in the Region. Notwithstanding an estimated contraction of 7.7% of gross domestic product (GDP), which contributed to a decline in tax revenues of 0.5 percentage point of GDP in 2020, Latin America reached the highest level of central government spending since 1950, at 24.7% of GDP *(19)*.[40] Additionally, to complement domestic resources, several international financial institutions and other donors have been providing funding opportunities to countries in the Region. Examples include *a)* the World Bank's COVID-19 Fast Track Facility ($242.5 million approved for 12 countries)[41] and dedicated funding for COVID-19 vaccination ($220 million approved for three countries);[42] *b)* the Inter-American Development Bank's operational response to COVID-19 (immediate public health response funds $802.7 million approved for 10 countries);[43] *c)* the Global Fund's COVID-19 response mechanism ($61 million base

[39] The following countries and territories have registered clinical trials or observational studies in the WHO International Clinical Trials Registry Platform: Argentina (13), Bahamas, Barbados, Belize, Bolivia (2), Brazil (41), Canada (64), Chile (8), Colombia (13), Costa Rica (2), Cuba (13), Curaçao, Dominica, Dominican Republic, Ecuador (5), El Salvador, Grenada, Guatemala, Haiti, Honduras (3), Jamaica, Mexico (25), Montserrat, Paraguay, Peru (9), Saint Kitts and Nevis, Saint Lucia, Trinidad and Tobago, United States of America (395), Uruguay, and Venezuela.

[40] The statistic refers to 16 countries of Latin America, as shown in Figure I.1 of the source.

[41] Argentina, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Nicaragua, Panama, Paraguay, Trinidad and Tobago, Uruguay.

[42] Ecuador, El Salvador, Honduras.

[43] Argentina, Bahamas, Belize, Dominican Republic, Ecuador, El Salvador, Guyana, Haiti, Honduras, Nicaragua.

allocation to 19 countries[44] and six multi-country projects); and *d)* Gavi/COVAX Facility vaccine delivery support ($775 million globally, beyond vaccine procurement).[45]

46. The pandemic has drastically affected the Region's national immunization programs (NIPs), especially the delivery of and demand for immunization services in communities and health centers. Globally, it has affected the timely availability and freight costs of many vaccines. The PAHO Revolving Fund for Access to Vaccines (the Revolving Fund) has played a critical role in ensuring sustainability of immunization supply chains (for vaccines, safe injection devices, and cold chain equipment) during the pandemic. PASB also continues to work closely with NIPs in preemptive planning for fluctuations in national vaccine demand, triaging supply allocations and monitoring national vaccine inventories. Additionally, PASB is working with vaccine manufacturers and international partners to carefully monitor disruptions in logistics and other risks that suppliers may be confronting. Accurate demand planning has become more important than ever to minimize the risks of interrupted access to life-saving vaccines. In 2020, the total value of procurement by the Revolving Fund reached $750 million, and the Revolving Fund Capital Fund provided critical bridge-funding support to requesting Member States.

Strategic Line of Action 4: Strengthen emergency operations response and supply chain

47. Countries continue to face a complex market for procuring supplies and medicines related to COVID-19. Quality considerations are paramount, as the market is flooded with products of dubious quality. Additionally, the pandemic created severe disruptions to regular supply chains for medical supplies and equipment, as well as to the commercial flights that PASB has relied upon in the past to deploy its experts and ship essential health technologies. Accordingly, to support countries and territories in the Region, PASB has been working tirelessly with other UN agencies, partners, international NGOs, and donors, including through the COVID-19 Supply Chain Inter-Agency Coordination Cell, to secure the supplies that countries need to prevent COVID-19 cases and deaths and deliver other essential health services.

48. In 2020, PASB instituted numerous initiatives in coordination with its partners, in response to the global shortage of essential COVID-19 supplies and medicines, including through the WHO global procurement network. These included expansion of eligible commercial suppliers, establishment of long-term agreements with new and existing commercial partners, and implementation of an internal inter-programmatic mechanism to evaluate and classify the quality of medical products. These initiatives helped ensure targeted delivery of items in the shortest possible time and with the highest quality and performance standards. They also enhanced the capacity of PASB to manage logistics, warehousing, and transportation of large and sensitive volumes of medical commodities.

[44] Belize, Bolivia, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, Suriname, Venezuela.

[45] WHO Vaccine Deployment Coordination Group. Update 12 May 2021 [unpublished internal document].

For example, biomedical equipment and diagnostics (including Ag-RDTs) are currently delivered within two to five weeks after a purchase order has been issued.

49. In 2021, some countries in the Region with the capacity to produce, regulate, and export medical commodities have closed international commercial routes to prioritize internal availability of urgently needed resources amid surges in COVID-19 cases. Additionally, there has been an overall shift in the market toward the production of COVID-19-related items that generate higher and faster turnover. This has had a direct impact on the prices of some essential items and on their availability to many countries in the Region. Alongside the decrease in availability of essential health supplies and medicines necessary for the COVID-19 response, such as anesthetics and ICU medicines, the availability of some other health commodities (e.g., PPE, laboratory supplies, sanitation supplies, and biomedical equipment) has increased in response to higher demand. These unstable market conditions present a critical challenge to efforts to ensure timely access to diagnostics, medical devices, new vaccines, and therapeutics for all countries and territories.

50. PASB has begun working with the Economic Commission for Latin America and the Caribbean (ECLAC) to analyze production capacity for medicines and other health technologies in the Region. Ministries of health, science and technology, and industry, as well as the manufacturing sector, have already been convened with a view to increasing regional capacities to improve access to medicines and other health technologies within the context of health emergencies.

51. PASB has been actively participating in *a)* the Access to COVID-19 Tools Accelerator (ACT-A), to promote and accelerate the development, production, and equitable distribution of COVID-19 vaccines, diagnostics, and therapeutics; and *b)* the COVAX Facility, to ensure access to safe and efficacious vaccines for all countries regardless of income level. In parallel, the Organization has developed a list of priority medical devices for use in the context of COVID-19 and has conducted related training with 350 participants from 17 countries and territories.[46] PASB continues to maintain a list of 76 prioritized in vitro diagnostic products (IVDs) on proprietary and open platforms. The Organization also supports the Regional Base of Health Technology Assessment Reports in the Americas (BRISA), which currently has 323 reports available in its COVID-19 section. Health technology assessments provide invaluable guidance for health authorities in the use of technologies relevant to the COVID-19 pandemic.

52. As of 31 July 2021, PASB has fulfilled 2,213 purchase orders for COVID-19 supplies worth $343 million through 927 suppliers.[47] Of this total, $266 million corresponds to purchases made directly by Member States through the PAHO Strategic

[46] Argentina, Belize, Bahamas, Barbados, Dominican Republic, Haiti, Jamaica, Guatemala, Guyana, Mexico, Nicaragua, Panama, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Venezuela.

[47] Includes diagnostic kits (PCR, detection, and extraction kits), COVID-19 rapid tests, consumables, PPE, and other supplies (not including vaccines).

Fund and reimbursable procurement. PASB has successfully mobilized more than 871 tons of health commodities to 34 countries and territories. Essential health commodities mobilized include 49 tons of biomedical equipment (including fingertip pulse oximeters, handheld pulse oximeters, and oxygen concentrators), 210 tons of PPEs (including gloves, surgical masks, respirators, clinical gowns, goggles, and face shields), 39 tons of diagnostic supplies (including diagnostic kits, laboratory consumable supplies, and over 17 million rapid COVID-19 antigen tests), as well as medicines for ICU patients (including purchase orders for over $70 million for just six countries). More than 50% of funds implemented by PASB for the response as of 31 July 2021 has gone directly to procuring PPE, laboratory tests, and other essential goods.

53. PASB has made quality assurance a critical component of its technical support for the procurement of goods, supplies, and equipment. This has entailed working with countries and territories to *a)* review specifications; *b)* define and provide quality assurance technical recommendations and guidance on commodities such as masks and respirators (e.g., KN95 masks for Venezuela, respirators for Bolivia and Trinidad and Tobago), PPE (e.g., Action Plan for Costa Rica), and oxygen concentrators; *c)* facilitate freight shipping and logistics; and *d)* support countries with quality assurance issues and post-market surveillance[48] (e.g., Bolivia, Guyana, Suriname, and Venezuela for in vitro diagnostics). The Organization collaborates with national regulatory authorities across the Americas to share recommendations, considerations, evaluations, and post-marketing surveillance on products that could be used to manage COVID-19. Additionally, PASB maintains a repository of websites and relevant information, including regulatory responses on COVID-19, at the Regional Platform on Access and Innovation for Health Technologies (PRAIS). The Bureau has also pre-qualified multiple vendors following technical evaluations related to quality, safety, and efficacy of their products.

54. Reinforcement of the supply chain capacities of countries and territories to efficiently deploy incoming technologies while ensuring appropriate access to all other essential health technologies has been an important focus of PASB since the start of the pandemic. Following surveys with suppliers, the Organization engaged with national authorities to monitor, guide, and troubleshoot measures to address the impact of the accelerated demand for medical items on production, logistics, customs, and inventory, with a view to mitigating the risks of shortages and delays. These measures included, among others, mobilization of PASB's regional strategic stocks[49], review of alternate transportation routes, identification of therapeutic alternatives, expedited fractional

[48] Between January and June 2021, PASB conducted 83 technical evaluations and consultations on COVID-19, medical devices and 76 technical evaluations on intensive care unit medicines; monitored alerts and recalls from 12 national regulatory agencies for post-market surveillance of COVID-19 related medical devices; disseminated 76 alerts and recalls (16 IVDs, 33 PPEs, 18 ventilators, 9 other biomedical equipment) to the Regional Working Group on Medical Devices

[49] Two hundred and ninety-eight tons of relief supplies in more than 134 shipments dispatched to 31 countries and territories from the PAHO Strategic Reserves. This rapid deployment of essential supplies, medicines, and equipment was critical to bridge the gap between countries assessed needs and the vendors' lead times.

deliveries using various transportation options, and facilitation of donations and loans between countries.

Strategic Line of Action 5: Support introduction of and access to COVID-19 vaccines

55. To enhance the Bureau's organizational support for the introduction of COVID-19 vaccines in the Americas, the Director of PAHO established the Task Force for COVID-19 Vaccination in the Americas in September 2020. This Task Force, which complements other organizational resources, provides strategic guidance for the successful planning and rollout of COVID-19 vaccination in the Americas. The PAHO Revolving Fund,[50] another key component of the Organization's response, is an important platform through which Member States can access the vaccines through the global COVAX Facility. During the inception and design phase of the COVAX Facility, PASB took an active role in advocating for the needs of Member States while ensuring equity and affordability, leveraging the PAHO RF as the main procurement mechanism for COVID-19 vaccines in the Americas.

56. Between September and October 2020, the Bureau worked closely with international partners, including Gavi, the Vaccine Alliance, as well as the Inter-American Development Bank, World Bank, Caribbean Public Health Agency, and European Union, among others, to facilitate participation of interested Member States and territories in the COVAX Facility. As a result, 28 Member States and territories with the status of self-financing participants (SFP)[51] signed Commitment Agreements with Gavi, representing approximately 33% of the projected global procurement volume for the self-financing group. Despite ongoing national budgetary and fiscal challenges during the pandemic, the self-financing Member States and territories have met the COVAX Facility's financial requirements, which represents an allocation of more than $1.1 billion as down-payments and financial guarantees. Another 10 Member States[52] are eligible for the Advance Market Commitment (AMC) through COVAX.

57. On 12 November 2020, PASB and UNICEF issued a joint international tender for COVID-19 vaccines on behalf of the COVAX Facility. The 36 COVAX participating countries and territories in Latin America and the Caribbean (LAC) have commitments to receive approximately 202 million vaccine doses from the Facility. However, since March 2021, the COVAX Facility has been facing considerable supply shortages compared to contractual projections of Gavi advance purchase agreements. Main factors contributing to the shortages include *a)* problems in export licensing, scaling up production, and release

[50] For more than 40 years, the PAHO Revolving Fund has been supporting Member States and territories to capture forecasted demand for vaccines, syringes, and related immunization supplies across the Region and leverage economies of scale to ensure access to high-quality vaccines at the lowest prices.

[51] Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bermuda, Brazil, British Virgin Islands, Canada, Cayman Islands, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Jamaica, Mexico, Montserrat, Panama, Paraguay, Peru, St. Kitts and Nevis, Suriname, Trinidad and Tobago, Turks and Caicos, Uruguay, Venezuela.

[52] Bolivia, Dominica, El Salvador, Grenada, Guyana, Haiti, Honduras, Nicaragua, St. Lucia, St. Vincent and the Grenadines.

of batches; *b)* bilateral deals locking in future doses (especially availability during 2021) with a risk portfolio approach that goes beyond national needs; *c)* over-optimistic forecasts by suppliers regarding their projected production capacities, which are not materializing in 2021. The supply delays have impacted planned deliveries, and reduced confidence in the COVAX Facility.

58. As of 31 July 2021, 34 million doses have been delivered from COVAX Facility and suppliers to 32 participants (including Haiti). This corresponds to approximately 2.5% population coverage on average.[53] Based on the latest simulations covering dose availability until the end of September 2021 (with medium expectations), PASB estimates that approximately 8 to 9 million additional doses could be allocated to LAC. This would bring the projected average coverage level to 4% to 5.5% of the total population. The fourth allocation algorithm run for the COVAX Facility was completed by the third week of June and covered the doses expected to be distributed during the period between July and September 2021. Approximately 70% of doses committed by the COVAX Facility are projected to be mobilized in the fourth quarter of 2021 and beyond. COVAX participants in LAC are expected to receive doses to vaccinate around 20% of their high-risk population (or less, if their participation ratio is less) by the end of 2021. This amounts to around 100 million people in the Region. However, higher vaccination coverage rates are needed to control the pandemic.

59. Vaccines obtained through COVAX are quality-assured either by WHO—through inclusion on the WHO Emergency Use Listing (EUL) or through the prequalification process—or, under exceptional circumstances, by one of the recognized "stringent regulatory authorities." As of 31 July 2021, six COVID-19 vaccines[54] have obtained WHO-EUL status, and all have been included in the COVAX portfolio. The first doses provided through COVAX in the Americas were delivered on 1 March 2021 to Colombia. From that date through 17 August 2021, 31 LAC countries and territories received COVAX doses,[55] with approximately 35.5 million doses delivered.[56]

60. There has also been extraordinary interest across countries and country groupings in locking down early deals for COVID-19 vaccines. According to an unofficial PASB analysis based on media reports and on information shared by Member States on an ad hoc basis, while some Member States have locked in bilateral deals to cover 100% or more of their populations, several others (especially the ones with very limited financial resources and small countries in the Caribbean) are only projected to cover 20% to 50% of their populations, mainly relying on the COVAX Facility and possible donations. Country

[53] For some small island countries, deliveries in the first two quarters of the year may correspond up to 20% coverage due to minimum shipment sizes required by suppliers.

[54] Pfizer-BioNTech (Comirnaty); AstraZeneca (AZ)/SK Bio (ChAdOx1-S), Serum Institute of India (ChAdOx1-S, Covishield), AZ EY approved sites (ChAdOx1-S): SK-Catalent, Wuxi, and Chemo Spain; Janssen (Ad26.COV2.S); Moderna (mRNA-1273); Sinopharm/BIBP (BBIBP-CorV); and Sinovac (CoronaVac).

[55] Pfizer-BioNTech, AstraZeneca/SK Bio, AstraZeneca/Serum Institute of India, AstraZeneca/Catalent.

[56] Data on COVID-19 vaccine arrivals in the Americas through COVAX is available at: https://www.paho.org/en/covax-americas.

bilateral agreements with suppliers (especially by high-income countries) are having a significant impact on overall global supply availability and global access equity, which is a challenge to be addressed by the international community.

61. As of 31 July 2021, all 51 countries and territories[57] launched COVID-19 vaccination programs, using vaccines received through bilateral agreements with manufacturers, from the COVAX Facility, and from donations. More than 825 million doses have been administered in the Americas, and 335 million people have completed their vaccination schedule. Of this total, 44% were administered in the United States of America and 50% in LAC countries. The Member States that have vaccinated the highest number of people with a full series per 100 population are Canada, Chile, Dominican Republic, United States of America, and Uruguay.[58]

62. At least 12 vaccines are being used in the Americas, across three different platforms (adenoviral vector, mRNA, and inactivated). The use of multiple products in every country poses programmatic challenges. These new vaccines, not all of which have WHO-EUL approval, require countries to enhance surveillance efforts for all COVID-19 vaccines to monitor safety and impact.

63. During the second part of 2020, PASB supported national authorities to apply the WHO Vaccine Introduction Readiness Assessment Tool (VIRAT) as part of their preparations for COVID-19 vaccination. All 33 Member States in LAC used the VIRAT to self-evaluate their preparedness and shared their progress with PASB. This information has been used to monitor regional readiness and to identify and provide targeted technical cooperation across several areas, including but not limited to *a)* immunization program planning and budgeting; *b)* harmonization of national regulatory processes; *c)* supply chain and cold chain strengthening; *d)* strengthening Adverse Events Following Immunization (AEFI) surveillance;[59] *e)* adapting existing monitoring and information systems; *f)* leveraging existing systems for assessing the effectiveness of COVID-19 vaccines; and *g)* laying the groundwork for community engagement to generate demand for COVID-19 vaccination.

64. PASB provided guidance and comprehensive in-country support to national stakeholders to develop their National Deployment Vaccination Plans (NDVPs) adapted to local context. Twenty-three countries and territories in the Region have since uploaded their NDVPs to the COVID-19 Partners Platform (10 AMC and 13 SFP). Unfortunately, several countries under-budgeted delivery costs for rollout by excluding costs for outreach activities or recruitment of new personnel. Accordingly, PASB is currently supporting

[57] Cuba is using Cuban manufactured vaccines: BioCubaFarma – Abdala, Soberana 02, and Soberana Plus.

[58] PAHO COVID-19 vaccination dashboard is available at: https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp.

[59] PASB also established a regional AEFI surveillance system to facilitate the identification of safety signals. PASB produces and shares a weekly report with consolidated regional and global information on safety of COVID-19 vaccines, and it is available in English and Spanish at: https://covid-19pharmacovigilance.paho.org/resources/updates-on-aefi.

four countries[60] in using the COVID-19 vaccine introduction and deployment costing tool (CVIC tool) to produce accurate estimates of expected costs of vaccine delivery, beyond the procurement of vaccine products. Other countries are expected to introduce the tool in the coming months, as a new multilingual version was made available in the latter part of the first semester of 2021.

65. To expedite processes for vaccine deployment, PASB provided guidance to Member States on regulatory authorization processes, import permits, and lot release procedures. PASB also mapped existing regulatory routes for authorization, importation, and post-deployment monitoring of the COVID-19 vaccine in 21 countries.[61] PASB held several workshops with national regulatory authorities (NRAs) in the Americas to facilitate the use of WHO-EUL vaccines. Additionally, PASB facilitated efficiencies in decision-making- processes by granting access to WHO-EUL product dossiers to NRAs[62] that have signed confidentiality agreements.

66. The regional Technical Advisory Group (TAG) on Vaccine-Preventable Diseases was convened twice in 2020 (in August[63] and November[64]) and once in July 2021 to provide guidance on regional adaptation of the recommendations issued by the WHO Strategic Advisory Group of Experts on Immunization (SAGE) (e.g., redefine some priority groups for COVID-19 vaccination, address programmatic questions, and maintain and strengthen national immunization programs amid the ongoing pandemic). PASB also convened several meetings with NIP managers to share best practices and issue recommendations as the scale of needs for vaccine rollout became clearer. Additionally, PASB is working with countries to ensure the equitable distribution of vaccines across their own populations with a focus on hard-to-reach groups, including migrants. For example, in Ecuador, PASB worked alongside national authorities to develop a care plan in areas of difficult geographic access, such as the Amazon, with an approach based on cultural relevance and community participation. Also, PAHO/WHO Representative Offices in Bolivia, Colombia, and Peru collaborated on a project to strengthen vaccination in indigenous populations, with an emphasis on border zones.

67. The "infodemic" of misinformation about COVID-19 vaccines has required the strengthening of risk communication and community engagement approaches. In October 2020, PASB held workshops for communicators and journalists covering issues related to COVID-19 vaccines to ensure that these opinion influencers are equipped with the tools

[60] Bolivia, Costa Rica, Ecuador, Guatemala.

[61] Argentina, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Mexico, Panama, Paraguay, Peru, Uruguay, Venezuela.

[62] Bahamas, Belize, Bolivia, Chile, Costa Rica, Dominican Republic, Ecuador, El Salvador, Grenada, Guyana, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Lucia, Trinidad and Tobago, Uruguay, and the Caribbean Regulatory System (CRS).

[63] Available at: https://www.paho.org/en/documents/fifth-ad-hoc-meeting-technical-advisory-group-tag-vaccine-preventable-diseases-4-august.

[64] Available at: https://www.paho.org/en/documents/sixth-ad-hoc-meeting-pahos-technical-advisory-group-tag-vaccine-preventable-diseases-usa.

and knowledge to report on this topic responsibly and accurately. PASB also organized Twitter and Facebook Live sessions with experts to talk to the public about COVID-19 vaccines and respond to their questions and doubts. Additionally, PASB developed a website specifically on COVID-19 vaccination that is continuously updated with information and resources for different audiences. PASB has also been updating NRAs and national immunization programs about emerging AEFI and vaccine safety concerns through two dashboards, one on COVID-19 vaccine doses administered in the Region and the other on efficacy and safety of COVID-19 vaccines.[65]

Action Necessary to Improve the Situation

68. The following short-term and medium-term interventions are recommended for Member States and PASB.

Member States

69. According to a joint PAHO and ECLAC report *(20)*, economies in Latin America and the Caribbean will be reactivated only if the COVID-19 contagion curve is flattened. A three-phase approach is proposed: *a)* control, including the adoption of health, economic, social, and productive policies to control and mitigate the effects of the pandemic; *b)* economic reactivation with social protection; and *c)* rebuilding societies in a sustainable, equitable, and inclusive way.

70. Due to current uncertainties regarding the effectiveness of the COVID-19 vaccines in preventing SARS-CoV-2 virus transmission, as well as inequities in vaccine access, PASB joins with the IOAC and the IPPPR in recommending that Member States continue applying non-pharmaceutical measures systematically and rigorously. This should be done according to the epidemiological situation experienced in each country and, most importantly, in line with an evidence-based strategy agreed at the highest level of government.

71. Until the pandemic is over, health systems should be prepared to deal with surges in COVID-19 cases as well as with increases in demand for hospital beds and critical care for a range of other illnesses, related to the disruption of essential services. Therefore, health systems should strive for a comprehensive approach to managing the pandemic, with adaptations to a constantly evolving context. This approach should have the right balance of proven health interventions to prevent transmission and save lives, including public health measures, response capacity at the first level of care (primary care), and progressive expansion of hospital services and critical care, including EMTs and AMCS, when necessary, as well as vaccination. None of these interventions in isolation can achieve the desired results.

72. Sufficient and sustainable health financing mechanisms are essential to the pandemic response, and public domestic resources are expected to continue bearing the

[65] Available at: https://www.paho.org/en/covid-19-vaccines.

burden for the health sector response in the Region. To ensure best use of these scarce domestic public resources and available international funds, countries and territories should balance urgent implementation and scaling up of COVID-19 vaccination plans with the strengthening of routine health service provision and other COVID-19-specific response. It is especially necessary to increase investments in areas that have not been a priority, such as primary care and the management of health networks.

73. In order to protect budgets for other essential health services, extra expenditures related to COVID-19 should be planned in addition to regular budget items or programs, rather than replacing them, during the 2022 budget discussion cycles. Member States should ensure development of comprehensive cost estimates for the COVID-19 response, including costing for vaccination plans beyond the procurement of vaccine doses. Additionally, Member States should plan catch-up immunization interventions to minimize risk of possible outbreaks of other vaccine-preventable diseases and should adequately budget for such interventions.

74. It is critical that representatives from the ministries of health coordinate with their counterparts in ministries of finance and in planning offices on issues related to funding requests and strategic use of the significant amounts of international funding currently available. In managing the allocation of these new funding sources, it is important to tackle bottlenecks that can interfere with timely access of providers to these resources and to avoid creating parallel extrabudgetary mechanisms that may undermine current health financing mechanisms. Some rules that govern provider payment mechanisms should be revised in light of the need to recruit temporary workers and engage the private sector for specific activities.

75. According to PASB estimates of the COVID-19 vaccine deficit in Member States, given current and future vaccine market dynamics and the continuation of bilateral deals, the severe vaccine inequity problem in the Region may not be resolved without donations and dose sharing. Member States with available and projected excess doses are encouraged to immediately consider dose sharing.

76. To leverage existing mechanisms more effectively and benefit from pooling of demand, it is recommended that Member States commit to purchasing COVID-19 vaccine through the PAHO Revolving Fund. It is also important that Member States provide solid and executable commitments in their demand indications.

77. National immunization programs require targeted actions and additional resources (financial and human) for successful COVID-19 vaccine rollout and to ensure sustainability of routine immunization activities. These include actions aimed at reaching priority groups with targeted vaccine delivery strategies, strengthening information systems and cold chain, conducting AEFI surveillance, and monitoring and assessing vaccination progress and impact. Countries and territories should also consider strengthening their demand generation activities and communication approaches with a view to achieving high COVID-19 vaccination coverage. It is also critical that national

regulatory authorities and national immunization programs jointly coordinate vaccine safety surveillance strategies and actions to achieve an effective response.

78. In light of the increase in COVID-19 cases in younger populations in several countries in the Region, and their longer hospital length of stay compared to patients over 60 years old, Member States should plan how to deal with a sudden increase in the consumption of critical supplies (e.g., oxygen and intubation drugs) and equipment (infusion pumps).

79. Oxygen is an essential medicine that has a direct impact on the reduction of COVID-19 mortality and morbidity. The identification of oxygen requirements at an early stage of the disease and provision of oxygen therapy for severe and critical cases is key. Countries and territories should therefore organize health systems in a manner that permits rapid identification of gaps and opportunities for improvement in the production, storage, distribution, and use of oxygen.

80. Countries and territories should structure infection prevention and control programs with attention to governance and leadership, dedicated budget, clear roles and responsibilities, monitoring and evaluation strategies, and goals to be achieved to contain endemic or epidemic pathogens. In addition, they should consider investing in formal education and training for health workers in IPC. Finally, Member States should have policies for allocation of human resources and strategies to build an environment, materials, and equipment for IPC at the facility level.

81. A continuous effort to strengthen and integrate national health supply chains, warehousing, and logistics capacities and resources should be undertaken with close participation of public and private partnerships at regional, national, and subnational levels. Strengthening planning capacities and preparing procurement plans for the medium and long terms will help mitigate supply chain uncertainties in the near future. Emergency planning, strengthening of health logistics networks, and strategic positioning of reserve stocks will strengthen capacities for timely response to localized outbreaks and other emergencies.

82. Although community transmission of COVID-19 may wane in the medium term, localized outbreaks could still be frequent. Member States should therefore further strengthen and refine national and local capacities for surveillance, case detection and isolation, contact tracing, and quarantine.

83. The COVID-19 pandemic provided an opportunity to establish national capacities for SARS-CoV-2 virus sequencing, and this in turn established genomic epidemiology as an integral and enduring component of investigation and control for epidemic-prone diseases. It would be a missed opportunity if genomic sequencing were to remain an academic endeavor not fully integrated into public health surveillance and disease control efforts at national levels, considering its critical utility as evidenced during the pandemic.

84. Countries and territories should leverage existing surveillance systems for assessing the effectiveness of COVID-19 vaccines, with particular focus on the new variants of concern.

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85. PASB should continue to support Member States in identifying options for COVID-19 vaccine dose sharing (e.g., through the COVAX Facility or regional or bilateral donation mechanisms). Actions to facilitate dose sharing between Member States with a more equitable approach can bring improvements in COVID-19 vaccination coverage across the Region.

86. Steps are being taken to develop and launch a regional access strategy to secure additional COVID-19 vaccines and pool the demand and resources from Member States. While COVID-19 vaccine supply is expected to improve in 2022, this will not guarantee sufficient availability to meet all demand. Pooling of demand and resources and use of the existing Revolving Fund mechanism will be important.

87. The Bureau should continue providing technical cooperation to help countries and territories adopt a more holistic approach to the regional and national COVID-19 health response. In addition to the support for a successful vaccine rollout, PASB is providing support to strengthen critical areas of the response, such as diagnostics, case management, infection control, and continuity of essential health services. This includes adapting and increasing capacities of the health services networks (including primary care, critical care, EMTs, and AMCS) and addressing health systems bottlenecks (such as human resources and financing) and health logistics. This will help mitigate the risk of countries transitioning to a vaccine-centric response.

88. A tailored approach to each country's reality has demonstrated added value and should continue to be an important aspect of direct technical cooperation to countries and territories. Support brings together the extensive expertise within the Incident Management Support Team and at all levels of the Organization, with virtual missions to countries, including to remote areas, and in-person missions when possible. This is also useful to facilitate the sharing of experiences.

89. The Organization should maintain a strategic stock of critical supplies, pre-positioned to deliver life-saving responses in health emergencies. This helps mitigate lack of or delayed access to supplies that may result from the global dynamics of demand/supply, logistics constraints, transports delays, and production shortages.

Action by the Directing Council

90. The Directing Council is invited to take note of this report and provide any comments it deems pertinent.

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