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**REPORT OF THE END-OF-BIENNIUM ASSESSMENT
OF THE PAHO PROGRAM BUDGET 2020-2021 /
FIRST INTERIM REPORT ON THE IMPLEMENTATION
OF THE PAHO STRATEGIC PLAN 2020-2025**

Results Report 2020-2021

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I. Foreword by the Director

The circumstances confronting the Pan American Health Organization (PAHO) during 2020-2021 were more difficult than any in our 120-year history. In this first biennium of the PAHO Strategic Plan 2020-2025, the COVID-19 pandemic caused unprecedented death, sickness, and social and economic upheaval throughout the Americas. At the same time, PAHO faced a financial crisis that challenged our capacity to carry out core functions. Still, the Organization found opportunity in crisis by adapting swiftly to new realities and moving forward with resolve, collaboration, and solidarity.

Together, the Pan American Sanitary Bureau (PASB), Member States, and partners confronted these dual crises, demonstrating extraordinary resilience. Collectively, we employed agile planning, resource mobilization, and budget implementation that allowed PAHO to successfully lead the fight against the pandemic and deliver on other vital responsibilities.

Through its response to the pandemic, PAHO saved lives while continuing to advance the regional public health agenda. The Organization procured US\$ 2.8 billion in COVID-19 vaccines and other medical supplies while providing instrumental support for all facets of the pandemic response: public health measures, testing and treatment, surveillance, and vaccination. PAHO's technical teams collaborated with Member States to achieve other key health gains, including elimination of communicable diseases, introduction of sweeping tobacco control legislation, and increased health care coverage.

These successes underscore the significance of this year's 120th anniversary of the founding of PAHO. Throughout its history, PAHO has played a catalyzing and pioneering role in health development. The recent achievements also demonstrate that through the combined will and commitment of PASB and Member States, we can improve health and well-being and reduce health inequities, even under the pressure of a historic pandemic.

The following report on the first biennium of the Strategic Plan 2020-2025 documents our work during these critical two years. It also identifies lessons and recommendations that will help us accelerate the Region's recovery and stay the course toward our goals. We must determine how and where to focus our attention in order to meet the targets of the Strategic Plan by 2025 and the Sustainable Development Goals by 2030.

As we move forward to *protect, recover, and build stronger* in 2022-2023, we must continue facing the pandemic with ingenuity and determination while strengthening the Region's health systems. We must redouble our efforts to build resilient, equitable, and well-financed health systems based on primary health care. Most importantly, we must look for new avenues to reach the individuals and communities left behind.

The pandemic has given us a unique opportunity to keep health high on the political agenda and at the center of sustainable development, and we must seize it.

II. Introduction

1. Resolution CD57.R2, adopted by the 57th Directing Council of the Pan American Health Organization (PAHO) in 2019, requested the Director of the Pan American Sanitary Bureau (PASB or the Bureau) to report on the implementation of the Strategic Plan of the Pan American Health Organization 2020-2025 (*Official Document 359*),¹ including its Program Budgets, through biennial performance assessment reports. This section presents an overview of the report on the end-of-biennium assessment of the Program Budget of the Pan American Health Organization 2020-2021 (*Official Document 358*),² which also serves as the first interim report on the Strategic Plan 2020-2025 (SP20-25).

2. The end-of-biennium assessment is a critical instrument of programmatic accountability and transparency for the Organization. Given the unprecedented toll of the COVID-19 pandemic, the financial crisis the Organization faced in 2020-2021, and the evolving socioeconomic and political context in the Americas, this assessment offers an opportunity to collectively take stock of health gains and remaining gaps and analyze the challenges, lessons learned, and opportunities. In line with the country focus approach adopted by PAHO, success stories are highlighted to showcase achievements in countries and the contributions of PASB through its technical cooperation. The report also presents an analysis of programmatic and budgetary performance by PAHO and discusses risk management. The lessons learned and recommendations will be important for guiding interventions during the 2022-2023 biennium and beyond as the Organization works toward the goals of its Strategic Plan 2020-2025, the Sustainable Health Agenda for the Americas 2018-2030 (SHAA2030),³ and the Sustainable Development Goals (SDGs).

3. A key element of the end-of-biennium assessment is a review of the progress toward achievement of the results that were defined in the SP20-25 and the Program Budget 2020-2021 (PB20-21). This report updates Member States on the status of the impact indicators and presents the final results of the joint assessment with Member States of outcome and output indicators.

¹ Pan American Health Organization. Strategic Plan of the Pan American Health Organization 2020-2025. 57th Directing Council of PAHO, 71st Session of the Regional Committee of WHO for the Americas. Washington, DC: PAHO, 2019 (*Official Document 359*). Available at: <https://iris.paho.org/handle/10665.2/51599>.

² Pan American Health Organization. Program Budget of the Pan American Health Organization 2020-2021. 57th Directing Council, 71st Session of the Regional Committee of WHO for the Americas. Washington, DC: PAHO, 2019 (*Official Document 358*). Available at: https://www3.paho.org/hq/index.php?option=com_docman&view=download&alias=50372-cd57-od358-e-program-budget-paho&category_slug=cd57-en&Itemid=270&lang=en

³ Pan American Health Organization. Sustainable Health Agenda for the Americas 2018-2030: A call to action for health and well-being in the Region. 29th Pan American Sanitary Conference, 69th Session of the Regional Committee of WHO for the Americas. Washington, DC: PAHO, 2017 (*Document CSP29/6, Rev. 3*). Available at: https://www3.paho.org/hq/index.php?option=com_docman&view=download&category_slug=29-en-9249&alias=41946-csp29-6-e-946&Itemid=270&lang=en

III. Delivering on Results

Overview

4. The SP20-25 established a set of 28 impact indicators with 35 targets.⁴ The SP20-25 also sets out 28 outcomes, which are measured through 105 outcome indicators.⁵ The PB20-21 established 102 outputs that contribute to the achievement of the outcomes and that are measured and monitored through 148 output indicators.⁶ Impact, outcome, and output results are all defined in the PAHO SP20-25 Results Chain as requiring the joint intervention of PASB and Member States, together with partners. To contribute to the achievement of these results, the Bureau delivers products and services that are defined in Biennial Work Plans (BWPs) corresponding to the Program Budget period. Through the implementation of BWPs across all entities, PASB contributed during the biennium to the achievement of the higher-level results.

5. Section II presents an analysis of the public health status of the Region and of progress made toward achievement of the results set out in the SP20-25 and PB20-21. It examines the effects of the COVID-19 pandemic and of the socioeconomic and political situation in the Region on the performance of the indicators. The second part of the section outlines the main achievements, challenges, and country success stories from the 2020-2021 biennium, grouped by clusters of outcomes. Finally, there is a brief overview of the Bureau's efforts on accountability for results and financial resources.

Progress toward the Strategic Plan 2020-2025 and Program Budget 2020-2021 Results

Impact Indicators

6. In the context of an evolving health situation, where countries continue to face COVID-19 and other challenges, the objective of the review of SP20-25 impact indicators is to take stock of the Region's progress and identify actions to accelerate progress. It is too early to determine what the trajectory will be, given the need for more updated data. However, at the regional level, the setbacks observed in this report indicate that progress toward the SP20-25 impact targets, as well as the associated SHAA2030 and SDG targets, is at risk.

7. As shown in Figure 1 and Table 1 that follow, nine of 35 impact indicator targets were estimated to be on track to be achieved by the end of 2025. Nine indicators were rated at risk, meaning that obstacles are impeding progress at the rate needed to achieve the

⁴ Impacts are sustainable changes in the health of populations, such as improved health and well-being and reduced morbidity, mortality, and equity gaps.

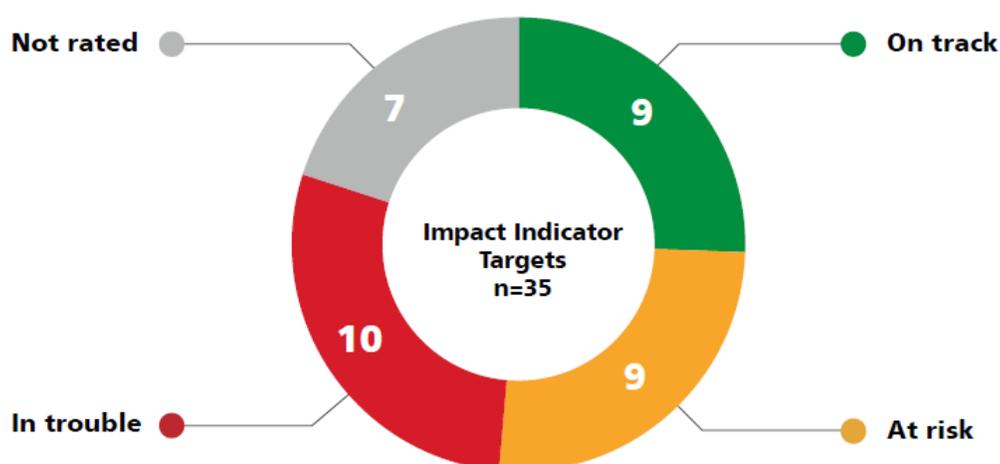
⁵ Outcomes are collective or individual changes in factors that affect population health, such as increased service coverage or access to services, increased capacity of health systems, and reduced health-related risks.

⁶ Outputs outline the specific results to be delivered in the biennium, such as policies, strategies, plans, laws, programs, services, norms, standards, and guidelines.

results, but those obstacles could be overcome. Of concern, 10 indicators were considered in trouble, meaning that major obstacles exist and the targets are unlikely to be achieved. Seven indicators could not be rated at this time due to lack of data or other factors.

8. For indicators rated at risk or in trouble, PAHO must take urgent corrective actions to accelerate progress in the coming years. An understanding of the various factors at the programmatic level that affect the impact indicators will reveal opportunities to improve their performance. It is also necessary to examine key health interventions to determine which ones are most cost-effective and have the greatest potential to change the trends in a given country. In addition, indicators that appear to be on track still require close monitoring of inequities between and within countries.

Figure 1. Status of Impact Indicator Targets in 2022



9. Achieving the targets now requires sustained implementation of proven interventions in countries that address the underlying challenges. To contribute to health impacts, PASB works together with countries and partners toward the achievement of outcome- and output-level results. Addressing the determinants of health remains one of the most effective means to achieve higher-level impacts and is a priority for action. However, being outside the scope of work of ministries of health, this continues to be a challenge for the Organization. An Organization-wide approach that takes into consideration the determinants, persistent health inequalities, and other barriers to access to health services is required.

10. In order to accelerate progress toward the targets, data and evidence must also drive action at the country, subregional, and regional levels. Crucial measures include expanding information systems for health and strengthening countries' vital and health statistics to improve data quality in terms of completeness, accuracy, consistency, and accessibility. Information on the methodology for indicator assessment is presented in the Annex.

Table 1. Status of Impact Indicator Targets in 2022

Rating	Indicator	Baseline 2019*	Target 2025	Status 2022*
●	1. Reduction of within-country health inequalities	N/A	17	4 countries
●	2. Health-adjusted life expectancy (HALE)	65.76 years (2019)**	66.42 years***	65.89 years
●	3. Neonatal mortality rate	7.9 deaths per 1,000 live births (2017)	6.9 deaths per 1,000 live births ⁷	7.0 deaths per 1,000 live births
●	4. Under-5 mortality rate	14.3 deaths per 1,000 live births (2017)**	11.8 deaths per 1,000 live births***	12.3 deaths per 1,000 live births
●	5. Proportion of children under 5 who are developmentally on track in health, learning, and psychosocial well-being	84.5% (surveys in 15 countries from 2010-2016)	90%	Not rated due to data limitations
●	6. Maternal mortality ratio (MMR) (deaths per 100,000 live births)	59.4 deaths per 100,000 live births (2015)**	35 deaths per 100,000 live births	53.7 deaths per 100,000 live births
●	7. Rate of mortality amenable to health care (MAHR) (deaths per 100,000 population)	137 deaths per 100,000 population (2018)**	117.2 deaths per 100,000 population***	125.8 deaths per 100,000 population
●	8. Proportion of adults 65+ who are care-dependent	~8.0% (2010)	6.5%	Not rated (mapping sources)
●	9. Unconditional probability of dying between ages 30 and 70 years from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases	14.62% (2017)**	11.70%***	13.73%
●	10. Mortality rate due to cervical cancer	6.79 deaths per 100,000 female population (2018)**	4.60 deaths per 100,000 female population***	6.36 deaths per 100,000 female population
●	11. Mortality rate due to homicide among youths 15-24 years of age	33.98 deaths per 100,000 youths 15-24 years of age (2015)**	31.96 deaths per 100,000 youths 15-24 years of age***	34.07 deaths per 100,000 youths 15-24 years of age

⁷ This target was established based on an Average Annual Percent Change of -2.1%, taking as a baseline the 2017 estimates from the United Nations Inter-agency Group for Child Mortality Estimation (UN IGME).

Rating	Indicator	Baseline 2019*	Target 2025	Status 2022*
●	12. Proportion of ever-partnered women and girls aged 15-49 years subjected to physical and/or sexual violence by a current or former intimate partner in the previous 12 months	7% (2018)**	7% (no increase)	Not rated due to lack of data
●	13. Number of deaths due to road traffic injuries ⁸	154,000 deaths; 15.5 deaths per 100,000 population (2016)**	123,000 deaths; 10.85 deaths per 100,000 population***	142,000 deaths; 14.31 deaths per 100,000 population
●	14. Mortality rate due to suicide	8.21 deaths per 100,000 population (2014)**	7.54 deaths per 100,000 population***	9.15 deaths per 100,000 population
●	15. Incidence rate of measles	16.69 cases per 1,000,000 population (2018)**	0 cases per 1,000,000 population	2.05 cases per 1,000,000 population
●	16. Incidence rate of HIV infections	0.16 cases per 1,000 population (2017)**	0.08 cases per 1,000 population***	0.15 cases per 1,000 population
●	17. Rate of mother-to-child transmission of HIV	13.6% of births to women living with HIV (2017)**	2.0% of births to women living with HIV	11.1% of births to women living with HIV
●	18. Incidence rate of congenital syphilis (including stillbirths)	2.1 cases per 1,000 live births (2017)**	0.5 cases per 1,000 live births	3.3 cases per 1,000 live births
●	19. Mortality rate due to chronic viral hepatitis	9.73 deaths per 100,000 population (2017)**	5.35 deaths per 100,000 population***	10.32 deaths per 100,000 population
●	20. Incidence rate of tuberculosis	27.5 cases per 100,000 population (2015)**	13.75 cases per 100,000 population***	27.9 cases per 100,000 population
●	21. Incidence rate of malaria	0.78 cases per 1,000 population (2015)**	0.19 cases per 1,000 population***	1.01 cases per 1,000 population
●	22. Number of endemic countries in 2015 that maintain or achieve elimination of malaria	3 of 21 countries and territories that were endemic in 2015 (2018)	6 of 21 countries and territories that were endemic in 2015	4 of 21 countries and territories that were endemic in 2015

⁸ The indicator is expected to be reformulated due to changed methodology; therefore, a new baseline and target are being proposed.

Rating	Indicator	Baseline 2019*	Target 2025	Status 2022*
●	23. Case-fatality rate due to dengue	0.056% (2012-2018)	0.050%	0.045%
-	24. Elimination of neglected infectious diseases in countries and territories	-	-	-
●	a. Trachoma	1 of 5 (2019)	3 of 5	1 at risk
●	b. Chagas disease	17 of 21 (2019)	21 of 21	4 at risk
●	c. Dog-mediated human rabies	32 of 35 (2019)	35 of 35	On track
●	d. Leprosy	17 of 23 (2019)	23 of 23	6 at risk
●	e. Human taeniasis/cysticercosis	0 of 16 (2019)	3 of 16	3 on track
●	f. Lymphatic filariasis	3 of 7 (2019)	5 of 7	2 on track
●	g. Onchocerciasis	4 of 6 (2019)	6 of 6	2 at risk
●	h. Schistosomiasis	3 of 10 (2019)	5 of 10	2 at risk
●	25. Number of bloodstream infections per 1,000 patients per year caused by carbapenem-resistant organisms	1.185 infections per 1,000 patients (2019)**	1.067 infections per 1,000 patients (2019)***	Not rated
●	26. Mortality rate attributed to household and ambient air pollution	32.2 deaths per 100,000 population (2016)**	30.6 deaths per 100,000 population***	Not rated
●	27. Mortality rate attributed to unsafe water, unsafe sanitation, and lack of hygiene	1.15 deaths per 100,000 population ⁹ (2016)**	0.92 deaths per 100,000 population***	Not rated
●	28. Mortality rate due to disasters per 100,000 population	TBD	At least a 10% reduction	Not rated

* Or other year as indicated; 2022 status column includes projections.

** Baseline updated with the latest information.

*** Considering the updated baseline information and the nature of the original SP20-25 target, PASB proposes to update the target.

⁹ This rate is calculated using data from 29 countries.

11. Since the approval of the SP20-25 in 2019, updated data has come to light for some indicators. As indicated above, the baseline figures were updated for 20 indicators. This resulted in a commensurate change in the 2025 targets for 15 indicators. In other cases, new methodologies for measuring the indicators have emerged. In addition, considering that some indicators were already not on track before the COVID-19 pandemic and that additional information is needed to fully assess its impact, a comprehensive review of the 2025 targets should be conducted as such information becomes available. Some of these indicators are highlighted in the Annex.

12. Detailed explanations on proposed changes are presented in the Annex. These changes aim to ensure that the reporting on impact indicators remains consistent with the latest available information and methods, as well as with the ambition of the Strategic Plan to set realistic and measurable impact targets. In this way PAHO and its Member States can make better-informed decisions and put in place interventions to accelerate progress toward the targets, following the good practices of results-based management.

Outcome Ratings

13. This section summarizes the internal assessment of outcomes by PASB, with input from the joint assessment conducted with Member States. As shown in Figure 2, 17 of the 28 outcomes (60%) were assessed as having met expectations for the 2020-2021 biennium. The other 11 outcomes (40%) partially met expectations. Among the outcomes that met expectations, five were rated as high priority by Member States: Outcome 1 (Access to comprehensive and quality health services); Outcome 12 (Risk factors for communicable diseases); Outcome 14 (Malnutrition); Outcome 24 (Epidemic and pandemic prevention and control); and Outcome 25 (Health emergencies detection and response).

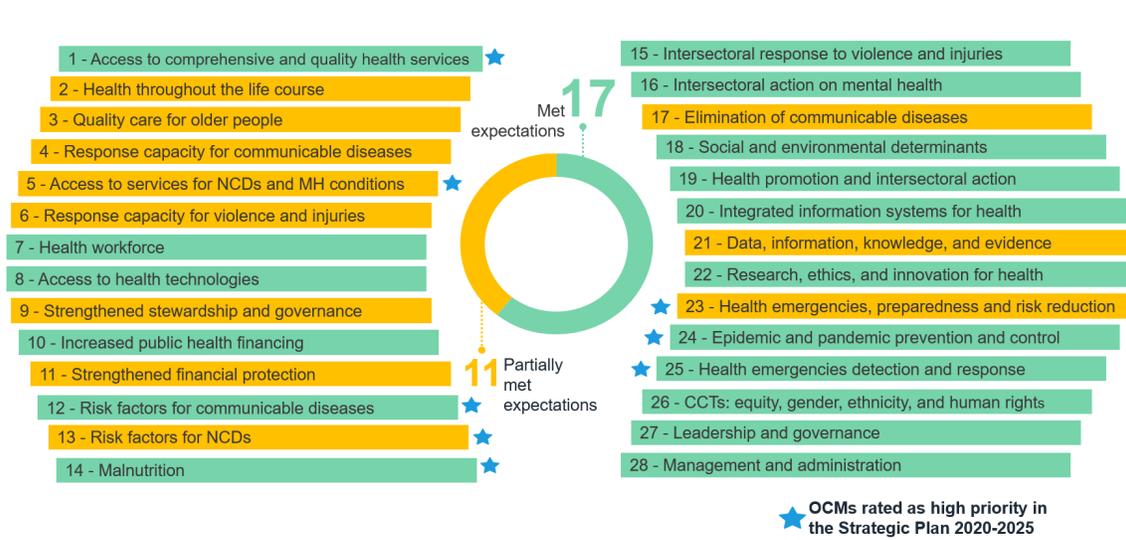
14. Despite the unprecedented challenges during 2020-2021, the Region was able to maintain and achieve significant public health gains and produced transformative action in key areas, as evidenced in the outcomes that met expectations. The COVID-19 pandemic provided an impetus to improve the essential public health functions, particularly those related to response to health emergencies. It also provided a unique opportunity to shine a light on the importance of health, strengthen the stewardship role of the health authorities, improve intersectoral coordination, and take further actions to address the needs of vulnerable communities that were most affected by the pandemic. Recognizing the linkages between health and the economy, countries deployed additional resources to increase and improve public investment in health. At the same time, the pandemic also highlighted the fragmentation and weaknesses of health systems and the importance of sustained efforts toward resilience and universal health.

15. The sudden shift in public health priorities to focus on pandemic response meant that some areas did not receive the necessary attention or resources during the biennium, which further exacerbated challenges that existed before the pandemic. In some countries, the response to the emergency took place in a context already marred by fragmented planning and weak or inexistent legal infrastructure for preparedness and implementation

of actions. The pandemic then consumed an outsized share of attention and resources, hindering access to health systems and services.

16. Other factors leading to lack of progress included low levels of political commitment to addressing priority areas; absence of, or insufficient, intersectoral action; weaknesses in information systems; insufficient progress on addressing inequities in health; limited institutional capacity; and shortage of human and financial resources, due in part to competing priorities on regional and national agendas. Significant political commitment, collaboration, and strategic allocation of resources will be required to strengthen areas that are lagging. Further reasons for less satisfactory results and suggestions as to how PASB can turn the tide during the next biennium are detailed below.

Figure 2. Assessment of Outcomes



Assessment of Outcome and Output Indicators

17. By the end of 2021, the Region had made significant progress toward the achievement of the outcome and output indicators, as the results of the joint assessment indicate.¹⁰ As shown in Figure 3, 11 of 105 outcome indicators (10%) were achieved or exceeded, while 56 (53%) were assessed as having shown significant progress, 10 (10%) as limited progress, and 21 (20%) as no progress. Another 7 indicators (7%) could not be assessed due to unavailability of data. Figure 3 also indicates that 45 of 148 output indicators (30%) were achieved or exceeded, while 71 (48%) were assessed as having shown significant progress, 6 (4%) as limited progress, and 26 (18%) as no progress. Detailed indicator assessments are available in outcome cluster reports on the PAHO Program Budget Portal.¹¹

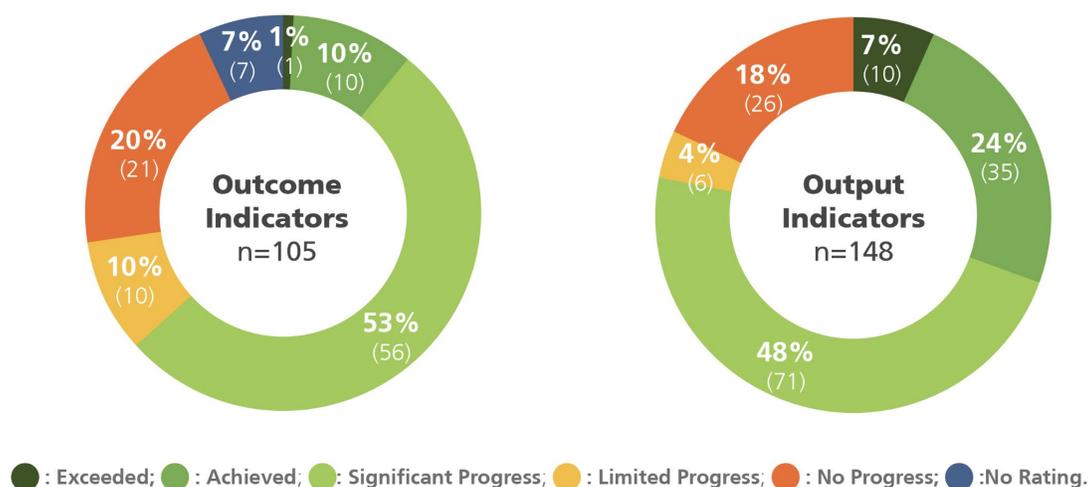
¹⁰ Resolution CD57.R2 (2019) requested the PASB Director to “utilize joint monitoring and assessment tools to report on the implementation of the Strategic Plan and its program budgets.”

¹¹ The Program Budget Portal is available at <https://open.paho.org/>.

18. The outcome and output indicators that were rated as exceeded included important milestones for the Region. For example:

- a) The regional average for prevalence of wasting in children under 5 years of age continues to decrease, from 0.8% in 2019 to 0.7% in 2021 (outcome indicator 14.b).
- b) The Bureau has developed and implemented the following tools for the generation, dissemination, preservation, and access to scientific and technical data, information, and evidence for health: *i*) Intranet COVID-19 Institutional Knowledge Repository; *ii*) Publishing Tracking System (PubTrack); *iii*) open access policy for all PAHO publications; *iv*) decision-making tool to support collaboration with the PAHO/WHO Collaborating Centers; and *v*) eLUNa system for computer-assisted translation to streamline language processes and serve as a multilingual repository (output indicator 21.2.b).
- c) The Bureau met at least 70% of the performance standards outlined in the Emergency Response Framework in all of the emergency responses to any hazard with public health consequences (output indicator 25.2.a)
- d) The regional median number of days between substantiated onset of a public health event and date information is first received or detected by PAHO was reduced from 47 to 21 days (output indicator 25.1.a).
- e) The Bureau met its performance standards in all countries with protracted emergencies (output indicator 25.3.a).

Figure 3. Overview of Outcome and Output Indicators Assessment



Key Achievements, Challenges, and Country Success Stories

19. This section presents the most notable achievements, challenges, and country success stories during 2020-2021. The section will cover the 28 outcomes of the Strategic Plan 2020-2025, grouped into clusters by thematic area.

Health Emergencies

Outcomes 23-25

**Health emergencies
preparedness and risk
reduction**

**Epidemic and pandemic
prevention and control**

**Health emergencies detection
and response**

Achievements

20. Member States have been continuously updated on the Region's epidemiological and operational situation through the 649 situation reports, 481 daily summaries, and 76 epidemiological alerts and updates that were developed and disseminated by PASB during the biennium. Weekly reports are published with SARS-CoV-2 surveillance indicators, as well as indicators related to influenza and other respiratory viruses. Daily situation data updates have been shared via the PAHO website since the onset of the pandemic. Information on COVID-19 trends was analyzed and disseminated in the Region on a weekly basis through the collection of COVID-19 line list data and semi-automated daily collection of cases and deaths from official websites. PASB established a database of over 76 million case-report forms for 38 countries, territories, and areas in the Americas thanks to support provided to set up and manage nominal COVID-19 surveillance.

21. The Bureau developed, updated, and disseminated over 197 technical guidance documents on surveillance, laboratory, health information management, risk assessment, clinical management, and infection prevention and control for COVID-19. These are also relevant for other epidemic-prone diseases and for efforts to strengthen overall health security in the Region and at country level. Many of these documents have been updated periodically to reflect emerging evidence as the global community has learned about the virus and assessed the effectiveness of public health interventions.

22. Molecular diagnosis of COVID-19 strengthened the regional laboratory network and enhanced capacity for timely detection of the SARS-CoV-2 virus and monitoring of the outbreak in 35 countries and territories. The Central Laboratory of Suriname's Bureau of Public Health was newly designated as a National Influenza Center.

23. The COVID-19 Genomic Surveillance Regional Network involving 15 countries across the Americas was established. It comprises six regional reference labs (in Brazil, Chile, Mexico, Panama, Trinidad and Tobago, and the United States of America) and 14 in-country sequencing labs (two in Brazil and one each in Argentina, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Mexico, Panama, Paraguay, Peru, Uruguay, and Venezuela [Bolivarian Republic of]). In addition to sustaining collaboration to support regular diagnosis and testing of COVID-19, implementation of screening protocols to detect variants of concern early has been particularly useful, and material for screening of the Omicron variant has been delivered to at least 20 countries. To date, over 30 countries and 12 territories have submitted sequences to GISAID, a global initiative that promotes the

rapid sharing of data from all influenza viruses and the coronavirus causing COVID-19. PAHO Member States have submitted over 261,000 sequences of SARS-CoV-2 to GISAID.

24. Thirty-eight laboratories reported 100% concordance in the SARS-CoV-2 External Quality Assessment, with the other two achieving between 90% and 95% concordance, thanks to PASB's ongoing support for implementation of molecular diagnosis in the Region. Four countries (Argentina, Ecuador, Mexico, and Peru), using a tool designed to assess all-cause excess mortality, established capacities to determine possible additional impacts of COVID-19 on mortality that were not being reported through the normal surveillance systems.

25. To ensure continuity in diagnostic and laboratory surveillance processes, critical reagents and supplies for molecular detection of arboviruses were distributed to 11 countries (Antigua and Barbuda, Barbados, Chile, Colombia, Costa Rica, Ecuador, Grenada, Peru, Saint Lucia, Saint Vincent and the Grenadines, Venezuela [Bolivarian Republic of]). Member States were given support in the laboratory surveillance of arboviruses and improvement of algorithms to include emerging viruses (including Mayaro, Oropouche, and equine encephalitis). Both molecular and serological diagnosis for arenaviruses and hantaviruses were successfully implemented in the Plurinational State of Bolivia.

26. Member States improved their capacities for case management, investigation of transmission chains, and contact tracing surveillance for COVID-19 and other potential emerging diseases. This was achieved through the use of, most notably, Epidemic Intelligence from Open Sources (EIOS), which has been expanded throughout the Region to support Member States in Event-Based Surveillance. Counterparts in six countries were trained in the use of this tool (Argentina, Brazil, Dominica, Guatemala, Haiti, Saint Lucia). In Brazil, use of EIOS was expanded to all jurisdictions of the country. In addition, the Early Warning, Alert and Response System (EWARS) was implemented in Dominica, Haiti (following the earthquake on 14 August 2021), and Saint Vincent and the Grenadines (following the eruption of La Soufrière volcano). PASB trained 35 countries in the use of Go.Data, an outbreak investigation tool developed by the World Health Organization (WHO), which is now used by 17 countries and territories to facilitate field data collection, contact tracing, and transmission chain visualization. These initiatives have expanded countries' capacities to operationalize and tailor contact tracing operations.

27. During the biennium, 348 international shipments totaling 747 tons of strategic stock maintained in PASB's logistics hub in Panama were delivered to 36 countries. The criticality of this mechanism has been reaffirmed during the COVID-19 pandemic and response to concurrent emergencies, where rapid delivery of high-demand, low-availability medicines and health supplies has been made possible by the efficiency of PASB's prepositioned strategic stock. The stock is maintained by PASB with support from voluntary contributions and partner donations. Additionally, reserve centers for the strategic prepositioning of emergency stock were established in the Dominican Republic

and Ecuador, and agreements on logistics were established or continued with strategic partners such as Direct Relief and DHL.

28. The Inter-American Health Humanitarian Assistance Network expanded with the newly established reserve centers in the Dominican Republic and Ecuador. The reserve center in the Dominican Republic has been supplied with strategic prepositioned stock donated by PAHO's standby partner Direct Relief, while goods in the temporary reserve center in Ecuador (since fully distributed) were drawn from PASB's own resources. The existence of a reserve in the Dominican Republic was a critical instrument for the rapid procurement and mobilization of life-saving health commodities in response to the Haiti earthquake in August 2021.

29. Forty-seven safer and greener ("smart") health facilities are now providing health care across seven countries in the Caribbean (Belize, Dominica, Grenada, Guyana, Jamaica, Saint Lucia, Saint Vincent and the Grenadines). Another six health facilities are currently being retrofitted, and the designs have been completed for an additional five facilities. Several retrofitted Smart Health facilities were used as respiratory clinics or sites for COVID-19 vaccination campaigns because of their strategic location, improved functionality, and ability to guarantee the cold chain to safely store vaccines (Grand Bay in Dominica, Princess Royal Hospital and Hillsborough Health Centre in Grenada, Diamond in Guyana, Vieux Fort in Saint Lucia, Port Elizabeth and Chateaubelair in Saint Vincent and the Grenadines). Many other project facilities were used to triage, isolate, and care for individuals with signs and symptoms of COVID-19, followed by referral to another health center or hospital for a higher level of care if necessary.

30. Increased medical surge capacities in 23 countries were achieved through the deployment of emergency medical teams (EMTs) and the selection and setup of alternative medical care sites (AMCS) for COVID-19 cases. In total, 100 national EMTs were deployed and 129 AMCS became operational, providing a total of 6,899 inpatient beds and 1,078 critical care beds. Many of these EMTs facilitated the setup of temporary COVID-19 vaccination sites using the existing structures.

31. All countries and territories in the Americas were impacted by the COVID-19 pandemic, yet all were able to provide an essential package of life-saving health services during 2020-2021. At least 15 countries and territories managed to deliver life-saving operations in response to other health emergencies that either began during this biennium or had been ongoing. These included emergencies arising from hurricanes, flooding, the Haiti earthquake, the Saint Vincent volcano eruption, and the crisis in the Bolivarian Republic of Venezuela, among others. Nine countries actively monitored migratory movements at entry points and ensured readiness for potential health emergencies caused by sudden mass migrations (Brazil, Chile, Colombia, El Salvador, Guatemala, Honduras, Mexico, Panama, Peru). The countries expanded their COVID-19 epidemiological surveillance, emergency mental health care, and psychosocial support capacities, as well as available surge health services.

32. The Bureau supported 19 countries and territories to conduct simulations to identify gaps in national capacities and systems needed for emergency preparedness and response. In addition, two simulation exercises focused specifically on epidemiological aspects were conducted in Brazil. Six after-action reviews (AAR) were supported in the Region: a multi-partner AAR of Hurricane Dorian in January 2020, an AAR of Hurricanes Eta and Iota in 2021, an AAR in Costa Rica for COVID-19 response in 2021, and three AARs in Brazil (arenavirus, arboviruses, and flooding).

33. The Bureau developed new emergency preparedness tools to strengthen the capacity of countries to respond to emergencies. These tools included the development and/or updating of Emergency Response Plans and implementation of the Preparedness Index for Health Emergencies and Disasters (IPED) and the Strategic Tool for Assessing Risks (STAR), all with the objective of determining and prioritizing risks and guiding emergency response planning in health. The Plurinational State of Bolivia, Chile, Ecuador, Nicaragua, Paraguay, and Peru adopted these tools during the 2020-2021 biennium.

34. No cholera case was confirmed in Hispaniola during the biennium, thus continuing the absence of transmission since February 2019. This has been the result of concerted efforts by Haiti and sustained technical cooperation from PASB and other partner agencies to address the root causes of cholera, working toward its elimination, through increased surveillance to detect and respond to possible flare-ups, implementation of rapid diagnosis initiatives, and treatment of cases with adequate rehydration and care.

Challenges

35. The response to the COVID-19 pandemic posed the greatest challenge to program implementation during the 2020-2021 biennium. It required the near-complete reprioritization of human, social, structural, and financial resources, on the part of both PASB and Member States for a significant part of the biennium. The overwhelming focus on COVID-19 response in the countries and territories curtailed their capacity to absorb technical cooperation directed at other high-impact pathogens, including other respiratory and emerging pathogens such as influenza, yellow fever, arboviruses, and viral hemorrhagic fevers. The changes in national priorities, the strain on health services, and the limited numbers of national counterparts in relation to the scale of needs hindered the delivery of essential products and services.

36. Some countries set up parallel COVID-19 response and management structures outside the established health emergency and disaster management mechanisms. By creating two channels for managing health emergencies, this resulted in overlap and inefficiencies within ministries of health, as preexisting disaster management units within ministries of health were not included in COVID-19 planning and response.

37. During the pandemic, it became evident that Member States need to increase investments in more robust surveillance systems that are capable of rapidly detecting health events down to the subnational level in order to produce timely information for action. Despite efforts, registration of data on the COVID-19 national platforms continues to face

challenges, including, among others, capacity at the first level of care for case detection, availability of registration tools and a document adapted to each country to capture the information, and knowledge of the surveillance strategy for COVID-19. Nevertheless, there is ongoing management of COVID-19 line list data for this Region, with nominal data submitted by 38 countries, territories, and areas.

38. The extraordinary nature of the pandemic required PASB to rapidly scale up its information technology capacities to develop and implement new tools to support technical cooperation. The Bureau will continue to reinforce these areas of knowledge to better respond to existing and future health emergencies, recognizing the need for greater investments in in-house storage capacity and specialized and collaborative software for data management and analytics.

Building a health care system better prepared for health emergencies in the Bahamas



COVID-19 vaccines received through the COVAX Facility.

Photo credit: The Bahamas Ministry of Health and Wellness

The Bahamas has a health system that aims to provide equitable access to quality health care for approximately 389,000 people; however, fragmentation of service delivery presents a challenge. Recent natural disasters and the COVID-19 pandemic have stretched the health system to capacity, exposing longstanding structural and systemic deficiencies. PAHO provided technical cooperation to build resilience and rapidly detect and respond to future health emergencies, focused on five main areas:

- **Strengthen policy and technical norms and guidelines** in areas including clinical management; infection prevention and control; disease surveillance; case and contact management; mental health and psychosocial support; implementation of public health measures for travel, workplaces, and schools; and social support for vulnerable groups.
- **Strengthen surveillance and data management for COVID-19**, including epidemiological surveillance, contact tracing, case isolation, quarantine of contacts, and classification of deaths due to COVID-19. Strengthen the Ministry of Health and Wellness (MHW) Emergency Operating Centre and vaccine distribution.
- **Increase clinical and hospital surge capacities and expand acute care services.**
- **Support the MHW in mobilizing funds for the COVID-19 response** from other United Nations (UN) agencies, foreign missions, the public sector, and civil society.
- **Enable risk communication and education on mental health**, cyber safety for children, prevention of gender-based violence and substance abuse, parenting during COVID-19, and tips for isolation. This includes the preparation of communication products in Haitian Creole for use with the Haitian migrant community through collaboration with other UN agencies.

By overcoming multiple challenges, including human resources shortages, scarce financial resources, and the need for multitasking, the Bahamas significantly improved its capacities in key aspects of the health system to rapidly detect and respond to future health emergencies sustainably. The government's enhanced ability to respond is likely to have already prevented thousands of COVID-19 infections and deaths. Strengthening is still required in some key areas, including reinforcing the MHW surveillance unit with additional trained human resources and further support for data management and analysis to sustain the progress made over the past two years. By building a more resilient health care system, the Bahamas is now much better equipped to detect and respond to natural disasters and disease outbreaks in the future, which is expected to save thousands of lives.

Debunking myths about COVID-19 vaccines in Costa Rica



Leader of an indigenous community where one of the workshops took place.

Photo credit: PAHO/WHO Representative Office for Costa Rica

As Costa Rica began to acquire COVID-19 vaccines through the COVAX Facility and bilateral agreements, an abundance of information, including some misinformation, fueled uncertainty, skepticism, and distrust, causing some Costa Ricans to reject safe and efficacious COVID-19 vaccines. To empower people to make evidence-informed choices, PAHO launched the Debunking Myths about COVID-19 Vaccines communication initiative in Costa Rica. Messages were transmitted through radio, television, in-person events, and virtual platforms, resulting in 29 virtual workshops in 2021, with 673 attendees and 7,794 views of Facebook Live videos.

The initiative was well received by community members, and PAHO received many requests from local, regional, and national stakeholders to replicate the workshops. This led to an increase in vaccine coverage, particularly in the segments of the population targeted by the initiative. The following approaches were implemented:

- **Involving diverse stakeholders.** New alliances were established at national and subnational levels to expand the campaign's reach. In addition to traditional partners such as the Ministry of Health and the Costa Rican Social Security Fund, new partnerships were forged with entities such as the Ministry of Justice, Ministry of Communications, National Emergency Committee, and National Patriotic Alliance for COVID-19 Vaccination, led by the Catholic Church.
- **Reaching indigenous communities.** PAHO collaborated with indigenous associations to adapt messages in ways that would resonate. Two radio programs and 37 in-person workshops were delivered in 11 indigenous communities.
- **Overcoming access barriers for people with disabilities.** Together with the National Council for People with Disabilities, multimedia materials were developed in sign language, and workshops were held with 31 people living with intellectual disabilities and caregivers.
- **Training health workers.** To address low vaccination rates in pregnant women, PAHO developed training focused on pregnancy and lactation and integrated it into an online continuing education course at Hospital México. The course reached 150 obstetric nurses nationwide.

PAHO's approach was successful because it recognized that COVID-19 myths and misinformation cut across all segments of the population. A collaborative, participatory approach was taken to address them and reach more people with vital information.

Engaging community stakeholders to respond to public health threats in Ecuador



Children in a Shuar indigenous community receiving the storybook “My Hero is You,” adapted and translated in the Shuar language as “Naatka Muruitme.” The book, developed by an Inter-Agency Standing Committee, aims to support children in coping with the effects of COVID-19.

Photo credit: PAHO/WHO Representative Office for Ecuador

Ecuador is a multiethnic country with wide cultural diversity and indigenous villages distributed across different geographic areas. In many cases, indigenous communities are in remote locations and access to health care services is limited, leaving the population at high risk from COVID-19 and other public health threats.

To mitigate the impact of the pandemic on these communities, PAHO engaged with two local civil society organizations, Pachamama Foundation and the Confederation of Indigenous Nationalities in the Ecuadorian Amazon. These organizations received support to scale up their community assistance programs through jointly planned interventions. PAHO provided technical cooperation as part of a global initiative, financially supported by the COVID-19 Solidarity Response Fund, that aimed to train and equip communities and health workers to prevent, detect, and treat COVID-19 and strengthen the resilience and readiness of communities to face future public health emergencies.

PAHO and the civil society organizations implemented the following actions:

- **Strengthened capacities of indigenous Amazonian women to become agents of change** who could engage their communities against COVID-19 and future emergencies. It was important to incorporate their knowledge because of their role as guardians of cultural and ancestral values in their communities.
- **Supported community workshops, with the presence of indigenous leaders**, on risk management and the use of PAHO guidelines. Inclusion of the indigenous leaders ensured integration of their ancestral knowledge and their participation and effective inclusion in the response and recovery plans.
- **Worked with organizations that had an existing presence in the communities** as well as a good relationship with PAHO. This encouraged the communities to accept the implementation of actions.
- **Supported the elaboration and wide dissemination of information** to address vaccine misinformation and hesitancy. The messages were adapted to be culturally appropriate for more than 200 indigenous communities.
- **Supported better hygiene and the continuum of essential health services.** A series of workshops was organized to build capacity in local communities, training 223 indigenous community health workers in the Amazon region. Trainings on safe deliveries to prevent maternal and neonatal deaths were supported through the distribution of 400 childbirth kits. COVID-19 awareness and health promotion were supported through training in artisanal soap production, enabling 20 local women to become agents of hygiene change while generating a source of sustainable income.
- **Provided gender-inclusive training.** These included, for the first time, a training for indigenous men (only) on ways to end the cycle of violence and better address gender-based violence.

Taken together, these actions focused on improving access to information, providing continued support for essential health services, and promoting inclusive community participation. They are expected to lead to improved uptake of vaccines, including for COVID-19, among indigenous communities, and to support other public health interventions. In the longer term the interventions are expected to help build more resilient communities and strengthen health systems for better preparation and response to health emergencies. The initiative shows the need for systematic community engagement, working with trusted civil society organizations and local leaders, to facilitate quality service delivery to communities.

Launching a rapid, comprehensive post-earthquake response to support health recovery in Haiti



An assembly point for people displaced by the earthquake in the Corail commune, Grand'Anse Department.

Photo credit: PAHO/WHO Representative Office for Haiti

On 14 August 2021, a 7.2 magnitude earthquake struck the southern peninsula of Haiti, killing over 2,000 people and injuring more than 12,000. In all, 600,000 people required immediate humanitarian assistance, 150,000 homes were destroyed, and more than 80 hospitals and health centers were damaged.

PAHO provided effective support to Haiti in the emergency and immediate recovery phases of the response. Multidisciplinary field response teams continued their work to maintain and reestablish essential health services three months after the earthquake to facilitate the transition from immediate response to recovery efforts. The following were areas of focus:

- **Delivery of emergency supplies.** During the emergency phase of the response, more than 80 tons of medical products and equipment worth US\$ 1.2 million were received and dispatched to the affected areas, benefiting over 70 health facilities.
- **Damage assessment.** PAHO assisted the Ministry of Public Health and Population (MSPP) in rapidly assessing structural, water, and sanitation damage to health infrastructure in the three earthquake-affected departments. This information was key for the post-disaster needs assessment and national recovery plan. PAHO directly supported the rehabilitation of seven health facilities to facilitate continuity of essential services.
- **Coordination.** PAHO supported the MSPP and the General Directorate for Civil Protection by organizing and facilitating weekly health response coordination meetings. PAHO also coordinated the deployment of 18 emergency medical teams from other countries, the care of over 30,000 people in the three departments, and the establishment of multidisciplinary field response teams in health directorates in each of the three departments. These teams were key in reestablishing essential health services, including maternal and child health, mental health, and vaccination.
- **An early warning system for outbreak detection.** PAHO supported the MSPP in establishing the first Early Warning, Alert and Response System in Haiti. Support included training; delivery of mobile data collection devices and internet access at 37 assembly points; and deployment of nurses to help screen, collect specimens, and test for selected infectious diseases, including COVID-19. Over 2,800 people were sampled for COVID-19 and diarrheal diseases, and over 100 alerts were investigated.
- **Developing capacity to deliver mental health support and priority health services at the first level of care.** PAHO provided technical support to establish mental health coordination units that organized integrated mobile clinics offering immediate psychological support. Psychological first aid training of trainers was organized; 41 trainers in four departments of the Great South of Haiti trained and refreshed 610 community health workers in psychological first aid and the other priority programs of the MSPP.

PAHO supported a rapid needs assessment, coordination of health sector partners, and rapid mobilization of human, financial, and material resources, improving mental and physical health outcomes for thousands of Haitians affected. The longer-term impact is yet to be realized, but the many lessons already learned from the earthquake response are expected to strengthen multi-hazard preparedness and response capacity in Haiti.

Rapid response to a volcano eruption amid a pandemic in Saint Vincent and the Grenadines

On 8 April 2021, volcanic activity from the La Soufrière volcano on the main island of Saint Vincent and the Grenadines rapidly increased. A same-day evacuation order was issued by the prime minister, and the volcano erupted the following day. Ash and gas impacted basic services (water, transport, and communications), and many health facilities were evacuated. There was a surge in demand for health services in the remaining operational facilities, which were already struggling due to a high caseload from the COVID-19 pandemic. One-fifth of the island population was affected and displaced by the event.



View of Kingstown, Saint Vincent, one day after La Soufrière volcano erupted on 9 April 2021.

Photo credit: Alex Williams/PAHO Consultant

PAHO provided comprehensive, rapid, and effective support to the government to increase access and continuity of health services in the emergency and recovery phases of the response. The support helped to improve mental and physical outcomes for thousands of people affected by the natural disaster. The cooperation focused on improving access to integrated health services and on long-term efforts to strengthen the health system through the following actions:

- **Mobilizing public health professionals.** PAHO mobilized specialists in water, sanitation, and hygiene (WASH), health emergency coordination and logistics, and damage and needs assessment.
- **Delivering emergency supplies and strengthening the supply chain.** PAHO provided support to access an initial 24,000 doses of COVID-19 vaccines through the COVAX Facility, with the delivery of additional doses arranged for later in the year, under the COVAX Humanitarian Buffer assistance mechanism. The PAHO Strategic Fund also purchased and delivered essential supplies and equipment.
- **Ensuring the safety of vital health infrastructure.** PAHO provided WASH experts and financial support for the assessment and improvement of 20 health facilities. Technical support for syndromic surveillance of COVID-19 and other diseases was provided through training of 35 health surveillance teams in EWARS. PAHO also procured insecticides, insecticide application equipment, and rodenticides for controlling and preventing outbreaks of vector-borne diseases.
- **Providing care for noncommunicable diseases (NCDs) and mental health.** PAHO transported nutritionists to serve people with NCDs in shelters and provided medicines and diagnostic supplies and training for over 40 health professionals to assist with the management of diabetes, hypertension, and cardiovascular disease in a population of 10,000 for three months. PAHO evaluated mental health and psychosocial support (MHPSS) capacity, formed a MHPSS Technical Working Group to address identified gaps, and trained three senior clinical health managers in MHPSS coordination in humanitarian emergencies, enabling the delivery of MHPSS in 86 shelters. PAHO also conducted an MHPSS and Psychological First Aid online course for frontline workers, with 568 participants from 22 countries.
- **Communicating with the public.** PAHO designed messages, developed communication materials, commissioned a videographer, and printed and distributed materials to the public through social media (with UNICEF) and through public service announcements (with the Ministry of Health). The aim was to increase vaccine uptake as well as knowledge about hygiene and sanitation, volcanic ash exposure, mental health, and healthy eating.

Strong coordination was vital to the success of the response. PAHO worked in close cooperation with national and local authorities and with emergency response entities such as the Ministry of Health and the National Emergency Management Office, UN entities, and other health partners and international organizations.¹²

¹² More information about the PAHO response to the La Soufrière volcano eruption is available at <https://youtu.be/HH-8EIpqhU8>.

Health Systems and Services

Outcomes 1 and 7-11



Achievements

39. Countries reorganized and expanded service delivery to respond to the needs of COVID-19 cases, including critical care, while at the same time maintaining essential services. These included the diagnosis and treatment of cancer, mental health disorders, and noncommunicable diseases, as well as immunizations and sexual and reproductive health services, among others. The substantial increase in hospital and critical care capacity in a short period of time was a significant achievement in most countries of the Region. A study in four countries reported a sustained increase ranging from 117% to 318% for intensive care units (ICUs) between March 2020 and January 2022. Even though many countries reached a breaking point in their hospital occupancy rate, many more deaths would have occurred without these sustained efforts.

40. Most countries introduced strategic changes in service delivery platforms and public health services to forestall the collapse of health systems.

- a) Nineteen countries developed plans for continuity of essential health services during the COVID-19 pandemic, and five have plans for building health service resilience and preparedness over the long term.
- b) Ten countries are planning to develop a recovery plan, and 10 countries have allocated additional funding for longer-term health system recovery and health service resilience and preparedness.
- c) Nine countries reported having made investments to improve access to medicines, supplies, and other health products and to strengthen the capacities of health workers.
- d) Eight countries reported having made investments in digital health technology, infodemic management, and new health facilities.
- e) Although they have done so unevenly, all countries have made significant efforts to strengthen the capacities of the first level of care with respect to COVID-19 inpatient management, diagnosis, provision of personal protective equipment, and vaccination. Investments included telemedicine and home care, hiring more staff and other measures to increase capacity to purchase essential products, implementing public communication strategies, and incorporating private sector health services to provide essential services with public funding.

41. Some countries, such as Guatemala, Mexico, and Paraguay, advanced in reforming their models of care. Other countries reactivated national initiatives to improve the quality of care in delivering health services, such as Argentina, Costa Rica, Ecuador, and Peru. Paraguay and Peru also implemented interventions to improve access to essential health services, such as maternity care, for populations in conditions of vulnerability.

42. Advance Market Commitment (AMC) countries, including Bolivia (Plurinational State of), Dominica, El Salvador, Grenada, Guyana, Haiti, Honduras, Nicaragua, Saint Lucia, and Saint Vincent and the Grenadines, have been supported in the development of COVID-19 Delivery Support (CDS) grants with Gavi, the Vaccine Alliance, and UNICEF. The objective of this new envelope is to ensure successful rapid roll-out and scale-up of COVID-19 vaccines, technical assistance, and strengthening health systems in countries.

43. The PAHO Virtual Campus for Public Health was rapidly adapted for the virtualization of PAHO's emergency work and delivery of strategic technical cooperation. More than 30 COVID-19-related courses were delivered to 1 million health workers throughout the Americas, and the Virtual Campus has incorporated on average 40,000 new health workers every month over the last two years. This effort was critical in the rapid deployment of vaccines as part of the COVID-19 response.

44. Two important global reports were published with the prominent participation of PAHO Member States. The State of the World's Nursing 2020 and The State of the World's Midwifery 2021 provide the latest evidence on policy options for the global nursing and midwifery workforce and present a compelling case for substantial, yet feasible, investment in nursing education, jobs, and leadership.

45. A subregional study investigated concerns, attitudes, and intended practices on COVID-19 vaccines among 1,200 physicians, nurses, and other health care workers from 14 countries in the Caribbean. The study was published by PAHO and its results shared in different forums, including with heads of state, ministers of health, chief medical officers, and the Regional Nursing Body. The findings supported communication strategies and policy development, including a policy brief that addressed COVID-19 vaccine hesitancy among health care workers in the Caribbean. That brief was approved by ministries of health and CARICOM, along with another policy brief on strengthening human resources for health to respond to COVID-19 and other emerging pandemics in the Caribbean. The Human Resources for Health Action Task Force for the Caribbean launched in April 2021 was expanded to 15 countries and two territories.

46. In Central America, human resources information systems were essential during the COVID-19 pandemic, with the Dominican Republic, Guatemala, Honduras, and Panama having made progress in developing and improving their systems.

47. The Bureau enabled increased access to essential health supplies for COVID-19 through advocacy, coordination, and negotiation within global mechanisms such as the COVID-19 global supply consortium and the Access to COVID-19 Tools (ACT)

Accelerator, whose three pillars are vaccines, diagnostics, and therapeutics. PAHO was formally represented in the supply consortium and in each ACT pillar.

48. In collaboration and coordination with WHO, PAHO selected manufacturers Bio-Manguinhos/Fiocruz (Brazil) and Sinergium Biotech (Argentina) for the development of COVID-19 mRNA vaccines. They are working with Afrigen Biologics and Vaccines in South Africa to receive training on mRNA vaccine technology, supported by WHO, the Medicines Patent Pool (MPP), and PAHO. Manufacturers from seven countries in the Region submitted expressions of interest in producing reagents and supplies for mRNA vaccines, and these proposals are currently being evaluated by PAHO, WHO, and the MPP.

49. The PAHO Regional Revolving Fund for Strategic Public Health Supplies (the Strategic Fund) procured over \$550 million in medicines and public health supplies on behalf of 31 participating entities, benefiting over 70 million people. This represented an approximately fourfold increase in utilization of the Fund compared to the 2018-2019 biennium. The Strategic Fund helped mitigate major disruptions to health care supply chains by successfully procuring over \$290 million worth of COVID-19 diagnostic tests, personal protective equipment, laboratory and medical equipment, and ICU-critical medicines for 20 countries with over 38 million people in the Region. Additionally, the 2020-2021 biennium saw critical progress in advancing other strategic priorities, such as establishing long-term agreements for 15 antihypertension medicines and incorporating the first similar biotherapeutic for breast cancer.

50. The Caribbean Regulatory System (CRS) issued 145 product recommendations to its Member States, including nine COVID-19 vaccines and its first orphan drug for a rare disease. The review of COVID-19 vaccines by the CRS was instrumental in supporting regulatory decisions and enabled national authorities to make decisions about procurement, including receipt of donations brokered through the Caribbean Public Health Agency (CARPHA) and CARICOM. A Central American regulatory mechanism was established to review dossiers for new medicines with the participation of Costa Rica, Guatemala, Honduras, and Panama. This mechanism is being used to share regulatory information during the COVID-19 pandemic, especially about vaccines.

51. Ten institutions in eight countries improved capacities for accurate antiretroviral (ARV) demand estimation based on morbidity and using the new PAHO platform QUANTMET (Bolivia [Plurinational State of], Cuba, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Paraguay). This led to important savings on procurement. In addition, seven countries used QUANTMET to strengthen their ARV national supply chains and promote sustainability (Bolivia [Plurinational State of], Ecuador, Honduras, Nicaragua, Panama, Paraguay, Venezuela [Bolivarian Republic of]).

52. Thirty-two countries had COVID-19 national preparedness and response plans in place, while many enhanced their research and epidemiological surveillance. The pandemic sparked awareness of the importance of research and of having comprehensive reports on access and coverage conditions. Countries also enhanced capacities for epidemiological

surveillance of COVID-19, with positive spillovers on national capacities. Many countries also implemented innovations in the delivery of individual and population-based health services, using technologies and improvements in planning and distribution of human resources. Of the 17 countries in the Region that responded to WHO's national pulse survey on continuity of essential health services during the pandemic, carried out in the fourth quarter of 2021, 57% reported allocating additional government funding for the purpose of ensuring essential health services.

53. The Bureau supported countries in implementing interventions and actions to promote and protect the health and well-being of migrant populations. In 2021, Panama approved a technical norm on mental health care for migrants and refugees. Peru established mechanisms for the care of migrants through its Comprehensive Health Insurance scheme in the context of the pandemic. Guatemala developed guidelines for the care and protection of unaccompanied children and adolescents returning to Guatemala in the context of the pandemic, and the Guatemalan Migration Institute started developing a policy with the support of the health sector. Honduras developed a guide for migrant health care, and Brazil launched a plan for mental health and psychosocial support for migrants, refugees, asylum seekers, and stateless persons in the context of the pandemic.

54. Direct support was provided to several countries for the implementation of ethics guidance. These countries further strengthened their public health ethics capacities on key topics, such as assessing the ethics of mandatory COVID-19 vaccination (Panama) and of COVID-19 vaccine surveillance (Peru). Member States are also strengthening their ethics capacities with guidance and tools that are embedded in other areas of PASB technical cooperation (e.g. immunization, vector-borne disease, emergency response). Efforts are underway to address ethics with a more systematic public health approach.

55. Countries continued efforts to strengthen health systems resilience, increasing health investment in sustained improvements toward universal health with equity and efficiency. Several countries are surpassing or approaching the recommended threshold of 6% gross domestic product (GDP) in public spending on health.

56. During 2020-2021, significant additional resources were pooled from different sources to secure an improved provision of essential health services, expansion of testing and genomic surveillance, increase vaccination coverage, and support continuity of essential health services. These were primarily external sources—loans and grants through international financial institutions (IFIs) and donors—and external debt (bonds), as well as contingency funds and reallocations, when possible. Support was provided to countries in the development of COVID-19-specific grant requests, as well as in the reprogramming of existing loans and grants to redirect resources required to tackle COVID-19. The IFIs, namely the World Bank, Development Bank of Latin America, the Inter-American Development Bank (IDB), the Central American Bank for Economic Integration and the Caribbean Development Bank, along with donors, continued supporting efforts to address COVID-19-related impact. At the end of 2021, 32 countries received approved external funding for health (both COVID-19- and non-COVID-19-related) from IFIs and donors for

a commitment estimated at nearly \$7.0 billion. Out of this, the amount of additional approved loans and grants negotiated by Member States for COVID-19 related purposes—including through the COVAX AMC Facility and the Global Fund to Fight AIDS, Tuberculosis and Malaria—reached nearly \$5.0 billion. Approximately 47% (\$2.4 billion) of these resources were used to reinforce COVID-19 vaccination programs and to work with partners and the private sector to address supply chain issues and delivery. The remainder was directed primarily to strengthen the provision of services related to COVID-19, testing, disease surveillance, and infrastructure and equipment for COVID-19 response

57. Panama started a process of institutionalization of health accounts, and Costa Rica continued improving and expanding this process in terms of its breadth and depth. Costa Rica produced the first report in the Region on COVID-19-related spending in a standardized way, using the PAHO System of Health Accounts 2011 (SHA 2011). This has triggered stronger collaboration between the Costa Rican Social Security Institution and the Ministry of Health, as well as South-South cooperation interventions with Panama.

Challenges

58. The overarching need is to sustain and adapt the health services' capacity to respond to the local epidemiological situation while ensuring access to high-quality essential health services. This implies moving from a reactive reorganization of health services to a more planned and sustainable model. A continuing challenge is the coordination and integration of different stakeholders—first level of care and hospitals, emergency medical teams, and alternative medical care sites, including public and private providers—to maintain access to quality health services. The difficulties reflect a lack of robust stewardship and governance of the health authority and weak intersectoral coordination.

59. The emphasis on increasing clinical capacity without fully addressing quality and safety of care negatively affected patients and health workers in most countries. Similarly, concrete interventions in prevention and health promotion were subordinated to efforts to increase capacity to care for the growing numbers of patients.

60. Despite the demands, sound decisions were made to safely maintain essential health services and avoid cascading impacts of health service outages. This required adaptations to policies and regulations as well as to service delivery: using telemedicine, adopting safety protocols, tightening scheduling, and modifying clinical approaches. In addition, the composition of COVID-19 response teams was enhanced by mobilizing community-based workers, optimizing roles, and engaging retirees and students. All these adaptations posed a significant challenge.

61. The pandemic caused setbacks in the improvement of regulatory capacities in the Americas. Due to political and social pressures, many countries disregarded formal regulatory pathways and oversight for the authorization and use of medicines and other health technologies. There were many situations in which lack of regulatory enforcement

allowed products to be used with no scientific evidence to recommend their use. Despite production, dissemination, and availability of evidence-based information about the lack of specific therapeutic options for COVID-19, most countries allowed, officially or unofficially, the use of products and interventions that were not proven efficacious in treating COVID-19 or were even harmful.

62. The pandemic limited the availability of national counterparts, and political priorities were reoriented to the immediate pandemic response. This situation interrupted the implementation of programmed activities, including the launch of the essential public health functions assessment tool and national assessments of access barriers to health services. There are concerns about the stability of the personnel of national regulatory authorities and/or the timely appointment of managerial staff.

63. Countries are facing challenges in the capacity of information systems to provide accurate and timely data on access barriers and on the capacities of frontline health services and facilities to deliver essential health services. Routine data systems are falling short in their ability to detect and track the extent of disruptions across essential health services during the COVID-19 pandemic—information that is needed to inform mitigation strategies, respond to evolving community needs, and reduce barriers to accessing care.

64. The pandemic generated complex circumstances that worsened existing bottlenecks in resource allocation. The rigidity and multiplicity of reporting systems hampers health expenditure tracking, needed to enhance transparency, and makes the systems less responsive to accountability requirements. It remains difficult to measure countries' progress toward meeting regional commitments for health financing because health accounts are still developing as a tool for resource tracking and allocation. These commitments include increasing public spending on health to at least 6% of GDP, with 30% of these resources invested in the first level of care.

65. The pandemic significantly impacted countries' capacity to monitor indicators related to financial protection. These indicators rely on in-person household expenditure surveys that were mostly put on hold during 2020 and 2021.

66. Another difficulty affecting many countries with segmented health systems was the reduction in employment that left many people out of contributory schemes. This moved them back under the umbrella of public tax-based schemes or, in the worst scenario, left them uncovered.

Introduction and extension of oxygen therapy for COVID-19 patients in the Plurinational State of Bolivia



A COVID-19 patient receiving high-flow oxygen therapy in El Alto Sur Hospital.

Photo credit: World Health Organization

The first case of COVID-19 in the Plurinational State of Bolivia was officially reported on 11 March 2020. By December 2021, after four waves of COVID-19 hit the country, the total number of cases reached nearly 600,000. The situation strained the national health care system. Efforts were focused on providing oxygen therapy to COVID-19 patients at the first level of care with a view to reducing the number of patient referrals to secondary- and tertiary-level hospitals and intensive care units and increasing the availability of oxygen therapy. In addition to the need to avoid overburdening capacity, there are also social and psychological benefits in keeping patients close to their family and communities.

By mid-May 2021, within the framework of the Bolivian Sistema Único de Salud or Unified Health System, the Ministry of Health (MoH) of the Plurinational State of Bolivia, with technical assistance from PAHO, announced the implementation of a comprehensive plan aimed at providing oxygen therapy for all levels of care in the public health system. In support of this plan, and focusing on the first level of care, PAHO donated 260 oxygen concentrators, 360 hand oximeters, 592 finger oximeters, and other health supplies worth approximately \$365,000. By the end of November 2021, the MoH strategy for coping with moderate COVID-19 cases was reinforced with the

support provided to hospitals with high-flow oxygen therapy. PAHO donated 20 high-flow oxygen therapy devices (\$103,000 approximately) that were distributed by the MoH to four large urban hospitals. PAHO also provided technical support, including hands-on training to 120 health care professionals (specialists, general doctors, and nurses) on the correct use of these devices.

With the continuous support of PAHO, the Plurinational State of Bolivia has strengthened its capacity to provide oxygen in a sustainable way in primary-level health care facilities as well as in key secondary- and tertiary-level hospitals. The benefits of this strategy are expected to extend beyond the COVID-19 pandemic, as Bolivians now have better access to oxygen for a wide array of needs. This integrated health network approach makes it likely that fewer patients will need to undergo intubation and visit intensive care units in the future.

“Teletriage in PHC” project in Chile: Technology at the service of health care during a pandemic



Health worker providing teleconsultation services.

Photo credit: Teletriage en APS, Chile

Teletriage in PHC (Teletriage en APS) offers a means of requesting health care online, managing requests for medical appointments, and prioritizing demands for care at primary health care (PHC) centers in Chile. The initiative arose from collaboration between PAHO, the Ministry of Health of Chile, the University of Chile School of Public Health, and the Plataforma 360 consulting group, with financial support from the COVID-19 Emergency Fund backed by the governments of Germany and Japan.

With teletriage, patients request care by completing a single online form on a cellphone, tablet, or computer. The professional in charge of triage then reviews the request and determines how to provide care. The project was launched in 2020 with the aim of maintaining continuity of health care services during the pandemic, avoiding infections that could be caused by crowded conditions, and improving PHC management. It has contributed to the transition from a system of care focused on face-to-face interactions to one based on remote care.

The positive results of the pilot led to the expansion of teletriage to eight family health centers belonging to the Metropolitano Sur Health Service, with PAHO providing the necessary equipment and technology. These results show the importance of technological innovation in health care, especially in pandemic situations.

Teletriage systems improve the user’s experience with the first level of care. They also enable health officials to implement new processes and organizational methods and to strengthen decision-making processes, especially with respect to resource allocation and maintaining an appropriate balance between supply and demand.¹³

¹³ More information available at <https://teletriage.cl> and <https://www.youtube.com/watch?v=0357yKUYS7s> (both in Spanish).

Health throughout the Life Course, Determinants of Health, and Health Promotion

Outcomes 2, 3, 18, and 19

Health throughout the
life course

Quality care for older
people

Social and
environmental
determinants

Health promotion and
intersectoral action

Achievements

67. The Bureau provided technical support for the implementation of the Familias Fuertes program, resulting in adoption of the intervention as a national strategy in Mexico and Uruguay. The program was also adapted for virtual implementation in the context of the COVID-19 pandemic, reaching more than 60,000 families during the biennium.

68. Updated analysis of mother-to-child transmission of syphilis was completed in Argentina, the Plurinational State of Bolivia, Honduras, Paraguay, and Peru, measuring the impact of the pandemic using the Perinatal Information System Plus. It includes new records to monitor sexual, reproductive, maternal, and neonatal health programs such as those addressing contraception, gender-based violence, and neonatal and maternal COVID-19.

69. The Plurinational State of Bolivia and Brazil participated in a WHO global project funded by the Bill and Melinda Gates Foundation and made progress in ensuring the continuity of maternal, child, and adolescent health services as part of their response to the pandemic. The project managed to raise the level of priority assigned to the maintenance of services at the national level. Both countries are using administrative data to monitor the effects of the pandemic on health services and inform decisions to maintain the continuity of maternal, reproductive, childhood, adolescent, and elderly health services.

70. Training in prenatal care was provided to traditional midwives and community workers in Colombia, Ecuador, and Peru. The training emphasized early identification and timely treatment of obstetric emergencies, in line with guidance provided by the regulatory entities of each country, with the aim of strengthening the networks that connect the community to first-level care centers and referral centers.

71. Equity profiles were developed for social inequalities in maternal, child, and adolescent health indicators for 21 countries of Latin America and the Caribbean.

72. A mechanism was established for monitoring outcomes in women and newborns through a collaborative database on maternal health and COVID-19. An analysis of the direct and indirect effects of COVID-19 was carried out in eight countries (Bolivia [Plurinational State of], Colombia, Costa Rica, Dominican Republic, Ecuador, Honduras,

Paraguay, Peru).¹⁴ This database is the largest published to date on maternal mortality and the virus and allows for evidence-based decision making.

73. A research protocol was implemented to assess the impact on maternal and perinatal outcomes of COVID-19 vaccines administered to pregnant women. The study was carried out through Latin American Center of Perinatology, Women and Reproductive Health (CLAP/WR) network of sentinel centers for the surveillance of maternal health in 15 countries.

74. The Bureau has promoted the use of vaccines of proven effectiveness to immunize professionals who care for pregnant women and has provided technical support for countries to administer vaccines against COVID-19 in pregnant women. Webinars have been held with professional associations of gynecologists and obstetricians, midwives, and obstetric nurses, as well as with the maternal health programs of ministries of health in countries such as Colombia, Panama, Paraguay, Peru, and Uruguay. In addition, the dissemination of a field guide on maternal and neonatal immunization for Latin America and the Caribbean was encouraged. Similar activities were developed within the framework of the interagency Regional Task Force for the Reduction of Maternal Mortality.

75. The UN Decade of Healthy Aging (2021-2030) was launched regionally with strong support from Member States and integration with different agencies of the UN and the inter-American systems. PASB hosted the regional kickoff with participation from the United Nations Population Fund (UNFPA), Economic Commission for Latin America and the Caribbean (ECLAC), International Labour Organization (ILO), and Organization of American States (OAS). Along with ECLAC and the Government of Chile, PASB held a regional forum with the participation of Argentina, Barbados, Chile, Costa Rica, Mexico, Paraguay, Suriname, and Uruguay. Participants shared their perceptions and commitments around the development of the Decade of Healthy Aging and the importance of this global movement for the Region in the context of the demographic transition. Many Member States are working on developing plans of action to establish priorities at country level, which has led to an increase in technical cooperation on healthy aging.

76. The Bureau supported the ratification by Peru of the Inter-American Convention on Protecting the Human Rights of Older Persons and provided technical-legal cooperation to enable the Colombian Congress to pass a law ratifying the Convention.

77. The virtual course ACAPEM-B (International Accreditation of Competences in Health Care for Older Persons - Basic Level) was launched in Portuguese. The course is now available in three languages (English, Spanish, and Portuguese) and has reached health professionals around the world. From January 2020 to December 2021 the course reached

¹⁴ Maza-Arnedo F, et al. Maternal Mortality Linked to COVID-19 in Latin America: Results from a Multi-country Collaborative Database of 447 Deaths. *The Lancet* 2022;12 (100269). Available at: [https://www.thelancet.com/journals/lanam/article/PIIS2667-193X\(22\)00086-2/fulltext](https://www.thelancet.com/journals/lanam/article/PIIS2667-193X(22)00086-2/fulltext)

over 41,000 participants in 80 countries, a significant increase from the 11,000 participants in 55 countries registered during the previous biennium.

78. The implementation of nonpharmacological public health measures in vulnerable populations in the context of COVID-19 improved through a regional call for proposals to implement guidance developed by PAHO. More than 146 proposals were received, of which 43 were selected from 23 countries and have been implemented in the areas of communication, adaptation, and evaluation. This highlighted the wealth of experience in the Region with respect to innovation, solutions, and adaptation of products developed by the Organization to benefit populations in local communities and nationwide.

79. As part of the COVID-19 response and recovery, an initiative promoting policies and practices to address social determinants of health for advancing health equity was implemented in Chile, Colombia, Costa Rica, El Salvador, and Peru. In each of these countries, case studies were developed to map policies and programs in relation to social protection, unemployment, labor, gender, housing, and migration. In addition, systematic reviews were conducted on unemployment, migration status, and informal workers and the impact of health and policy interventions.

80. Two environmental strategies were included in the PAHO Elimination Initiative: the elimination of polluting fuels for cooking, and the elimination of open defecation. Road maps to phase out use of polluting fuels for cooking were launched in Honduras, Panama, Paraguay, and Peru.

81. Twenty countries analyzed the governance of the WASH sector (water, sanitation, and hygiene) as part of the Global Analysis and Assessment of Sanitation and Drinking-Water. In addition, a guidance document, *Guía para el análisis y la cuantificación del SARS-CoV-2 en aguas residuales*, was published in 2021.

82. Action on healthy settings included progress on healthy schools through the production of guidance documents addressing the topic both in general terms and in the COVID-19 context (such as return to school for populations in situations of vulnerability). Paraguay is one of the early adopters of global standards on health-promoting schools. Guidance on markets and COVID-19 was produced and implemented in Peru, and Nicaragua carried out activities around healthy markets.

Challenges

83. The pandemic has intensified preexisting barriers to progress on child survival and well-being with equity. It has also demonstrated the importance of PAHO working systematically and consistently with critical non-health sectors such as education and social protection. Addressing inequities within countries implies continuous support to the subnational and local levels, using an intersectoral approach.

84. Health and social protection systems have been overloaded with service demands, resulting in several cases of ageism and discriminatory decisions affecting older persons, mainly the most vulnerable ones. The lack of trained human resources, especially those providing long-term care, has affected the capacity to protect older adults. In addition, the poor coordination between social and health services has also negatively impacted the care of older people.

85. Health services still lack a people-centered approach in primary care, hindering their efforts to deliver comprehensive care that fully meets the needs of older adults. This undermines the implementation of self-care and self-management programs in the community, which are important for successful care of older adults.

86. Weak occupational health and safety services available in countries required additional efforts to address workplace contagion and spread of the coronavirus. Countries need to strengthen occupational health and safety policies and programs, giving workers' health a higher level of attention and commitment.

87. Roles and responsibilities of the health sector with respect to climate change and environmental determinants of health suffer from a lack of clarity, due in part to weak governance mechanisms in environmental public health and the limited size of the trained environmental public health workforce. To tackle this challenge, PASB intensified technical cooperation to clarify and strengthen the roles and responsibilities of the health sector through the essential environmental public health functions, aligned with PAHO's essential public health functions renewed for the 21st century.

88. Countries have not prioritized health promotion, intersectoral action, and community participation in planning processes, in part because of their cross-cutting nature. This means that their relevance is diluted and not always visible. However, in the context of the COVID-19 pandemic response, these areas emerged as priorities that should be strengthened during the pandemic and beyond.

Using an evidence-based information system to strengthen maternal and child health services in Dominica



Nurse filling out the take-home card of the Perinatal Information System.

Photo credit: Anneke Wilson, country specialist for Dominica

The Government of Dominica prioritized the elimination of mother-to-child transmission of HIV and syphilis as a strategic policy initiative to improve the quality of maternal and child health services. Inadequate availability of quality, timely, and reliable health information on pregnant women and newborns had long hindered the achievement of this milestone.

In 2021, in the midst of the pandemic, the combined efforts of the Ministry of Health (MoH) and PAHO teams paid off when Dominica was certified by WHO for the elimination of mother-to-child transmission of HIV and syphilis. Dominica joined seven other Caribbean countries that have received dual validation. Critical to achieving certification was the introduction and roll-out of the Perinatal Information System, developed by CLAP/WR. PAHO provided technical and financial support, including training, monitoring, software installation, consultations, design of the antenatal record, updating data in the system, and the roll-out strategy.

The Perinatal Information System was put in place to improve monitoring of maternal and child health data, including reporting on vertical transmission of syphilis, HIV, Chagas, and hepatitis B. Ten countries in the Region use this system, which allows health administrators to learn about the factors related to maternal and neonatal deaths and follow up to improve maternal and neonatal health. In Dominica, actions were focused on:

- **National-level commitment.** The effort to ensure that no child is born with HIV or congenital syphilis must be rooted in antenatal care, equitable access to care for women with HIV, and human rights. The MoH took ownership of the Perinatal Information System to strengthen perinatal care.
- **Roll-out of the Perinatal Information System Plus.** The roll-out enabled maternal and child health data to be collected in a systematic way and used to inform planning and programming and to monitor and improve maternal and child health care. The system is low-cost and easy to use.
- **Health worker capacity building.** Training on use of the system involved health workers in data collection and analysis, enabling them to improve maternal and child health through monitoring and evaluation, quality of care assessment, and diagnostic procedures.

Dominica's success in ensuring that no child will be born with HIV or syphilis brings the country one step closer to achieving an AIDS-free generation and ending the disease. The success was the result of strong government leadership and the technical and resource contributions of PAHO, in particular, to develop, implement, and ensure the smooth operation of the Perinatal Information System Plus.

Adapting COVID-19 public health measures for groups in vulnerable situations

The COVID-19 pandemic highlighted serious inequities. These included greater exposure to the virus for groups in vulnerable situations as well as specific obstacles to implementing non-pharmacological public health measures for controlling the pandemic.

PAHO developed guidance for implementing non-pharmacological public health measures to vulnerable population groups within the context of the pandemic and issued a call for proposals to promote their implementation. More than 120 proposals were received, and 40 initiatives from 19 countries were selected. These initiatives covered the areas of training, communication, and adaptation of measures for implementation. Their actions focused on groups such as children and adolescents who are victims of rights violations, people with disabilities, informal workers, and the LGBTQI+ population.

The main lessons learned from this experience are as follows:

- It is important to consider and respect the viewpoints of groups in vulnerable situations and to encourage community participation in prioritizing and designing interventions.
- Timely communication adapted to local social realities is key to the organization, implementation, and effectiveness of actions targeting groups in vulnerable situations.
- The use of non-pharmacological public health measures, and compliance with the recommendations, requires the active participation of communities to localize and adapt them to the different contexts of vulnerability.
- Work with groups and territories in vulnerable situations should be continuous, not only undertaken in times of crisis, to consolidate sustainable processes.

Based on this pilot program led by PAHO, a network for action and cooperation is being built to leverage the lessons learned and to promote their scalability within other contexts in the Region of the Americas.

Noncommunicable Diseases and Their Risk Factors, Malnutrition, Mental Health, Violence, and Injuries

Outcomes 5, 6, and 13-16

<p>Access to services for NCDs and mental health conditions</p>	<p>Response capacity for violence and injuries</p>	<p>Risk factors for NCDs</p>
<p>Malnutrition</p>	<p>Intersectoral response to violence and injuries</p>	<p>Intersectoral action on mental health</p>

Achievements

89. New knowledge was generated on the links between noncommunicable diseases (NCDs) and COVID-19, and technical guidance and educational materials were provided to help health providers address NCDs in the context of the COVID-19 pandemic. This included information on service adaptations to ensure continuity of care for persons with NCDs, use of telemedicine and digital health to minimize disruption in NCD services, prioritization of cancer services, and provision of palliative care during the COVID-19 pandemic. A series of factsheets were also developed and widely disseminated to provide authoritative advice on managing NCDs during the pandemic. In addition, high-level webinars were held with senior government officials to showcase effective and innovative NCD and mental health care strategies and to demonstrate how NCDs and mental health have been incorporated into health system transformations during COVID-19.

90. As part of the expansion of the HEARTS in the Americas Initiative, 21 countries implemented the evidence-based tools in the HEARTS technical package during the biennium. A total of 1,045 primary care centers are participating in the program, including 306 new health centers added in 2021. These centers cover an aggregate population of 8.2 million in the catchment areas, including an additional 2.1 million persons in 2021. Technical tools such as the clinical pathway, cardiovascular disease risk calculator, and regulatory framework for blood pressure devices were developed. Together with the HEARTS virtual courses, these tools benefited over 182,000 users during 2021.

91. Diabetes modules have been integrated into the HEARTS Initiative and into the tuberculosis programs in three countries (Brazil, Mexico, Peru). A regional analysis on diabetes prevalence and control was completed and has informed two reports: Panorama of Diabetes in the Americas (awaiting publication) and Country Snapshot of Diabetes Prevention and Control in the Americas. A regional stakeholders' group was established to expand the partnerships and collaborations on diabetes in the Region, and a communications campaign with social media messages and other communications products was disseminated widely throughout the Region to raise awareness of the disease.

Diabetes programs were strengthened with guidelines, supplies, and monitoring in three countries (Bolivia [Plurinational State of], Honduras, Paraguay).

92. The regional cervical cancer elimination strategy was launched in November 2020 with great support from ministries of health throughout the Region, along with professional associations and nongovernmental organizations. PASB has provided various technical tools and assistance to Member States, including a virtual monthly tele-mentoring program to support interventions aimed at reaching the cervical cancer coverage targets of 90% HPV (human papillomavirus) vaccination, 70% screening, and 90% treatment. A communications campaign was developed with Chile, and HPV testing is being introduced, with support on procurement and training, in Antigua and Barbuda and Paraguay.

93. On childhood cancer, PAHO has implemented the *CureAll Americas* initiative in collaboration with St. Jude Children's Research Hospital to support the development of national plans, organize multi-stakeholder dialogues, and help improve the organization and delivery of childhood cancer care. This initiative has been rolled out in more than a dozen countries (Brazil, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru). Peru has been the flagship country and established a new cancer law in September 2020, ensuring universal access and coverage for childhood cancer. Several tools were developed to support capacity building, including a manual on psychosocial support for children with cancer and a virtual course on early diagnosis of childhood cancer.

94. An innovative approach was developed to continue NCD surveillance during the COVID-19 pandemic using mobile phone surveys. These were implemented in five countries (Antigua and Barbuda, Belize, Bolivia [Plurinational State of], Honduras, Paraguay), generating data on how people with NCDs have been affected by COVID-19. Anticipating the initiation of NCD surveys in the post-COVID era, technical assistance was provided to several countries to plan future STEPS surveys on NCD risk factors (Grenada, Paraguay, Saint Lucia, Suriname).

95. National assessments of rehabilitation and assistive technology services took place in the Plurinational State of Bolivia, the Dominican Republic, and El Salvador, implementing PAHO/WHO tools and with PASB support. These assessments will lay the foundation for the development of new plans and policies for rehabilitation and assistive technology in 2022. The assessments also integrated learning on how the COVID-19 pandemic has impacted rehabilitation services and implications for building back better. Two important regional forums have been established: a rehabilitation leadership roundtable with the focal points for rehabilitation in the ministries of health of 12 countries and a Disability Community of Practice (CoP). This CoP is made up of people with disabilities and their representative organizations and works to ensure that PAHO's programming on disability is directly guided and informed by members of the disability community in the Region.

96. Substance use has also been an area of increased attention, and PASB has mobilized financial resources for the implementation of substance use management programs in eight countries. PASB developed and deployed the first digital health specialist on alcohol-related topics to educate the public on alcohol harms and health. The female digital health worker, named Pahola, chats with users in English, Spanish, and Portuguese to help them assess their individual alcohol risk and develop a plan to reduce consumption. Pahola also provides country-specific resources to facilitate access to treatment and support for alcohol use disorders. The communication campaign potentially reached 61 million people during the two months in which it was implemented, and over 236,000 people landed on the online page, showing that Pahola has the potential to become an effective health literacy and risk communication tool for countries. The top five countries accessing Pahola were (in decreasing order) the United States, Canada, Colombia, Argentina, and Haiti.

97. South America became smoke-free during the biennium. Despite the challenges posed by COVID-19 and by tobacco industry efforts to use the pandemic as an opportunity to interfere with policy processes, several Member States developed stronger tobacco control regulations aligned with the WHO Framework Convention on Tobacco Control (FCTC). Among these advances, the Plurinational State of Bolivia passed a new law in February 2020 and Paraguay and Saint Lucia approved new regulations, all establishing smoke-free environments in indoor public places and workplaces and increasing the total number of countries with such regulations to 23 in the Americas. With new regulations issued in Paraguay in December 2020, all South American countries are now in compliance with the WHO FCTC, a huge milestone for the Region. Additionally, in Mexico the Congress approved a bill to amend the tobacco control law and establish 100% smoke-free environments in public places and workplaces along with a total ban on tobacco advertising, promotion, and sponsorship, in line with the WHO FCTC mandates.

98. Progress continued in the use of excise taxes to reduce consumption of tobacco, alcohol, and sugar-sweetened beverages. Peru established the annual automatic indexation of its amount-specific ISC tax on cigarettes and alcoholic beverages. This measure will help ensure that the effectiveness of the ISC in reducing the affordability of cigarettes and alcoholic beverages does not decrease as prices rise. PAHO also led pioneering work on calculating a tax share for sugar-sweetened beverages and alcoholic beverages, learning from and adapting the well-established WHO protocol for monitoring tobacco taxes. A standardized tax share indicator for sugary drinks and alcoholic beverages will enable countries to better assess their own situation related to tax rates, allow comparisons with other countries, and propose tax changes with the goal of reducing the consumption of these products, thus contributing to the achievement of health objectives.

99. There was progress on front-of-package labeling (FOPL) in the Americas. Mexico and Uruguay joined the three countries in the Region (Chile, Ecuador, Peru) that are already implementing FOPL to discourage the consumption of processed or ultra-processed products high in sugar, fat, and/or salt. Argentina approved a healthy eating law, incorporating the highest recommended standards for FOPL and food marketing and school food environment regulations.

100. With the ongoing “mental health pandemic” and increasing concern about the impact on vulnerable groups, support to countries on the development and implementation of mental health policies, plans, laws, and capacity building has been intensified throughout the Region. Working with the Central American Parliament (PARLACEN) and the Executive Secretariat of the Council of Ministers of Health of Central America (COMISCA), PAHO developed model legislation for mental health, promoting a rights-based perspective and setting out a broad conceptual framework to promote mental health and well-being for all. The model law incorporates important principles of the Convention on the Rights of Persons with Disabilities. It was approved by the plenary of the Parliament, and Nicaragua has presented it as an initiative to their National Assembly. In addition, ORAS-CONHU (Andean Health Agency-Hipólito Unanue Agreement) has published a new mental health policy. Both initiatives are based on PAHO/WHO recommendations.

101. Thirty-four countries and territories now have an approved mental health policy or plan, with emphasis on the development of community-based mental health care. The integration of mental health services into primary care through the WHO Mental Health Gap Action Programme (mhGAP) has continued. Providers from 34 countries and territories participated in training initiatives aimed at highlighting the importance of decentralizing mental health services, which are still often exclusively available in specialized facilities. Due to the increasing suicide rate in the Region, suicide prevention is a focus, and prevention activities were implemented in five countries (Argentina, Costa Rica, Guyana, Suriname, Trinidad and Tobago). These activities include a situation assessment as well as development of plans and improvement of surveillance mechanisms.

102. Updated technical guidance was provided on protection, promotion, and support for breastfeeding during the COVID-19 pandemic. Dissemination of technical guidance on implementation of the Baby-Friendly Hospital Initiative (BFHI) was sustained and expanded to take into account the pandemic context, in particular through the Latin American and Caribbean BFHI networks.

103. Following the publication and dissemination of new health system tools by PAHO/WHO, several Member States have shown an interest in updating their clinical guidance on response to violence. Examples include new guidance on an integrated response to sexual violence in the Plurinational State of Bolivia, completion of a situational service assessment and new standard operating procedures in Grenada, initiation of the adaptation of the WHO clinical handbook in Argentina, and revisions to the interpersonal violence protocol in Jamaica.

104. In the context of COVID-19, there is a renewed push to strengthen the skills of health workers, especially frontline providers, for the identification of survivors of violence and provision of first-line support. PAHO’s partnership with UNFPA was strengthened to develop a new e-learning course for health workers in Latin America in collaboration with counterparts in countries, with a similar partnership established in the Caribbean to assess and advance health institutional capacity building in late 2021.

105. The COVID-19 pandemic has also reaffirmed the need for better administrative data on violence, including the collection, analysis, and use of data from health information systems. In Peru and Trinidad and Tobago, work advanced to strengthen the development of a data collection methodology and related tools. This included efforts to develop an online clinical record for survivors of violence against women and its incorporation as a new module within the PAHO Perinatal Information System.

106. Multi-sector and multi-stakeholder partnerships remain essential to advance the work on violence and injuries. There was strengthened collaboration on INSPIRE, a package of seven evidence-based strategies to reduce violence against children and young people. This included a series of workshops for policymakers from 10 South American countries (Argentina, Bolivia [Plurinational State of], Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela [Bolivarian Republic of]), organized under the auspices of the Colombian government and in collaboration with INSPIRE partners.

107. Evidence was strengthened to inform action on violence, including development of two draft papers on the impact of COVID-19 on violence, a scoping study on ethnicity and violence against women, and a policy brief on alcohol and violence.

108. Multiple countries advanced in the development and strengthening of their legal frameworks for road safety, considering PAHO/WHO recommendations on best practices. This included the establishment of a lead agency on road safety in Suriname (published in September 2019, incorporated in August 2021); improvement of vehicle safety standards in Argentina and Mexico; and changes to the legislation on road safety risk factors in Brazil (child restraint systems). These measures have great potential to improve road safety in these countries and to encourage other countries to move forward. As part of the Bloomberg Initiative for Global Road Safety, PAHO and other partners worked with city-level authorities in five countries (Argentina, Brazil, Colombia, Ecuador, Mexico) to implement a multi-pronged road safety program.

109. The Plurinational State of Bolivia created a single toll-free emergency number with national coverage for road safety. This is a key mechanism for the centrally coordinated dispatch of ambulances and other emergency responders to care for road crash injuries and other acute medical conditions that require rapid intervention. It is an essential action to improve post-crash response and is included in the recently launched UN Global Plan for the Decade of Action for Road Safety 2021-2030.

Challenges

110. The COVID-19 response resulted in extensive disruptions to NCD services. Only one-third of Member States reported that outpatient NCD services were functioning normally, and only one in four countries reported no disruptions. Staff were largely redirected to work on the pandemic response, either full-time or part-time, reducing the human resources available for NCD services. Six countries reported stockouts of essential NCD medicines and/or diagnostics at health facilities that affected service continuity. NCD

activities, most commonly screenings for cancer, diabetes, and other NCDs, were adversely affected in half of the countries. Mitigation strategies to ensure continuity of care for people with NCDs were deployed in many countries and included triaging patients, telemedicine and teleconsultations, and electronic prescriptions and other novel prescribing practices.

111. Governments faced difficulties in making the necessary investments and system changes to improve services and quality of care for NCDs, mental health, disabilities and rehabilitation, substance use, and palliative care. Population-based NCD surveillance through household surveys came to a halt. The need to strengthen mental health services is increasing since the COVID-19 pandemic has raised levels of depression, anxiety, and other mental health conditions, particularly among vulnerable populations, youth, and health workers.

112. Prior to the COVID-19 pandemic, salt reduction and elimination of industrial trans-fatty acids were relatively new topics that had not been prioritized. Countries tend to focus more on control and management of disease than on prevention and health promotion. Nutrition staff still focus heavily on educational interventions and do not have the mandate needed to establish intersectoral agreements on interventions like food reformulation. Regarding physical activity, most countries do not have plans in line with the WHO Global Action Plan on Physical Activity 2018-2030, nor do they have a specific focal point for physical activity. Responsibilities are shared among NCD, nutrition, and health promotion departments, and are mostly uncoordinated.

113. It has been a challenge to support continuous capacity building for PAHO country and subregional staff on nutrition, healthy diets, and physical activity, and to carry out the activities needed to reach the regional scale required. There is also limited capacity to communicate in virtual spaces in a timely and effective manner and to develop and maintain online tools for capacity building and technical cooperation on nutrition, healthy diets, and physical activity.

114. Disruptions in health services due to the COVID-19 pandemic have exacerbated the need for action while introducing new challenges and risks, including an increase in the risk of domestic violence. Sexual violence services are likely to be particularly affected, necessitating a renewed emphasis on this area of work. Drawing on data from before the pandemic, the regional status report on violence against children also warns of major barriers in access to services, with substantial differences noted across population groups. While the pandemic has shined a spotlight on the increased risk of violence, there is a need to strengthen advocacy in favor of prevention. The health system's response to violence has long been a core pillar of the broader prevention agenda. The health sector has an important role to play in convening partners, advocating for a public health approach, and guiding responses based on best available evidence. Access to quality response services addresses the immediate needs of the violence survivor and is also a key step in preventing secondary victimization or revictimization. However, the limited engagement and institutional capacity of the health sector on these topics in many countries continues to pose barriers to progress. The current situation calls for greater attention to ensure access

to adequate support, especially for groups in conditions of vulnerability, taking into account the increased risk and barriers to access they face.

115. Information needed to monitor progress on road safety comes from the WHO Global Status Report on Road Safety, which has been delayed because of the pandemic. Information on violence similarly draws on data reported by countries in relation to the regional strategy on violence against women. A mechanism to systematically receive progress updates at regular intervals might make information on road safety and violence available in a timelier manner. There continue to be major gaps in data and information in both areas, hindering effective progress monitoring and impeding the broad implementation of evidence-based policy and programs.

116. Regarding road safety, the health services response has traditionally received less attention than the broader prevention agenda. As a result, post-crash care remains limited in many countries, and there has been little progress on establishing national emergency telephone numbers. In close coordination with broader efforts to strengthen health systems, more targeted and practical guidance is needed to improve post-crash care, adapted to the regional context. It is important to note that the technical work in this area is complicated by major gaps in information on post-crash care, including data on time intervals for accessing care as well as quality of care for survivors.

Responding to mental health needs during COVID-19 in indigenous communities in Guatemala



Community leaders receive MHPSS training.

Photo credit: PAHO/WHO, Cesar Gonzalez

In Guatemala, mental health and substance use disorders represent 14% of the disease burden and 32% of the disability burden. The COVID-19 pandemic has amplified existing vulnerabilities to mental health problems within the indigenous population of the departments of Quiché and San Marcos. Historically, indigenous populations in the Region have suffered from higher rates of maternal and under-5 mortality, child stunting, and disability, fueled by political, social, cultural, and economic inequalities and a deep-rooted history of colonialism and structural racism.

A mental health and psychosocial support (MHPSS) situation assessment and resource mapping was carried out in Guatemala by PAHO, Ministry of Health officials, and Asociación IDEI, a national NGO that specializes in culturally adapted MHPSS training and interventions. The results of this exercise led to the identification and development of a tailored action plan focused on MHPSS needs assessment for the targeted communities.

As part of the action plan, intercultural training in mental health and psychological first aid (PFA) activities was conducted in local languages (Maya Mam for San Marcos and Maya Ixil for Quiché). Additionally, a total of 38 health care workers from 19 health care centers covering 24,961 people were trained in PFA, using IDEI's culturally adapted methodology. The trainees included 27 women and 11 men.

The action plan also included development of a communication strategy to raise awareness among target communities on mental health during COVID-19. The communication strategy established actions for the effective dissemination of information through digital, radio, and print media among indigenous communities to increase awareness, decrease stigma, and expand access to mental health services. As part of this strategy, 50 community leaders from the territories of Nebaj and Comitancillo were trained in MHPSS.

PAHO and the Ministry of Health will provide continuing support to trained community members with a view to creating solid community-based MHPSS networks in an effort to sustain the results achieved.

Groundbreaking road safety law in Mexico



Members of Mexico's Safe Mobility Coalition in the Mexican Senate after the law was finally passed in April 2022.

Photo credit: Agustín Martínez Monterrubio/CoalicIÓN Movilidad Segura

The number of road traffic fatalities in Mexico has remained consistently high in recent years. Limited accountability within the relevant sectors and the federal government, as well as differences at the subnational level regarding laws on speeding, alcohol limits, and licensing, have hindered intersectoral coordination and efforts to prevent fatal and non-fatal traffic injuries.

In 2020, a constitutional amendment was introduced that acknowledged mobility under conditions of safety, accessibility, efficiency, sustainability, quality, inclusion, and equity as a universal right. The amendment recognized road safety as key to saving lives and advancing toward achievement of the SDGs.

In April 2022, Mexico's National Law on Mobility and Road Safety was passed by the Congress, marking a major step forward in the country's efforts to reduce road traffic deaths and promote sustainable and equitable mobility for all. The law calls for the establishment of the "Safe Systems" approach, which is fully aligned with the Global Plan for the Decade of Action for Road Safety 2021-2030. It prioritizes safety of the most vulnerable road users; increases equitable and sustainable access to transport services; clarifies roles and responsibilities within the government; and calls for creation of a unified database for licenses, number plates, and fines. The law incorporates most of WHO's recommendations to promote safe use of devices and to reduce road users' exposure to key risk factors.

PAHO has been central to progress in mobility and road safety, working with partners to build up the necessary systems, capacities, and awareness. The Organization's role has focused on the following:

- Empowering community participation by supporting and strengthening Mexico's Safe Mobility Coalition, which played a key role in the amendment of the Constitution and approval of the new law. The coalition brought together 70 civil society organizations from 25 of Mexico's 32 states.
- Advocating at the highest level to shape the draft legislation and build momentum for its passage, working closely with government officials and coordinating across the UN system at all levels.
- Providing technical and legal support for the development of Mexico's Mobility Plan for a New Normality in 2020.
- Advising local authorities on the development of technical documents to advance police enforcement of road safety regulations.
- Supporting social marketing campaigns and media training for public awareness on road safety.

A safer mobility system for Mexico will benefit human health and the environment, reducing the social and economic toll of road safety tragedies and increasing equitable access to safe mobility for all.

Empowering communities to prevent and self-manage NCDs in Trinidad and Tobago



Freeport Health Centre, Trinidad and Tobago, June 2021.

Photo credit: PAHO/WHO, Denith McNicolls

Trinidad and Tobago, like many countries around the world, faces a growing burden of noncommunicable diseases. These chronic conditions account for over 62% of deaths each year in Trinidad and Tobago, with three-quarters occurring in people under 70 years of age. Over half the country's population has three or more NCD risk factors, such as tobacco use, unhealthy diet, physical inactivity, and harmful use of alcohol, placing them at greater risk of developing a chronic illness. The country's experience shows that empowering and equipping communities to take charge of their health through prevention and self-management of chronic conditions is an effective way to build healthier populations and achieve health for all.

A chronic disease self-management course was implemented by PAHO with the support of the Universal Health Coverage (UHC) Partnership. The Ministry of Health, supported by PAHO, designed the course. Working in support groups, each participant is encouraged to both manage their own NCD conditions and help others make healthy lifestyle choices. The approach is integrated into the health system so that people can get appropriate support when necessary.

Participants from state and non-state organizations across Trinidad and Tobago took part in this training to either manage their own NCDs or become lead trainers who will share knowledge in their communities. Local health centers also referred some people to the training. This community-based approach has increased the people's knowledge, skills, and confidence to care for themselves and manage their conditions effectively.

To date, the chronic disease self-management course has trained 75 people living with NCDs. Over time, the initiative will be scaled up nationwide to reach all communities, with a plan to train more leader-trainers over the next two years. PAHO is working with several participants to document the impact of the course on their lives.

Achieving health for all begins with strengthening primary health care while empowering communities to improve and protect their health. Trinidad and Tobago is among 115 countries to which the UHC Partnership helps deliver WHO support and technical expertise, together with PAHO.

Prevention, Control, and Elimination of Communicable Diseases

Outcomes 4, 12, and 17

Response capacity for
communicable diseases

Risk factors for
communicable diseases

Elimination of
communicable diseases

Achievements

117. In Latin America and the Caribbean (LAC), 91% of people with HIV on antiretroviral therapy (ART) reached viral suppression in 2020. Overall, seven countries have achieved over 90% of people on ART with viral suppression (Brazil, Canada, Chile, Dominican Republic, Panama, Trinidad and Tobago, Uruguay). Nine other countries are close to achieving the indicator. Dominica was certified as having eliminated maternal and child transmission of HIV and congenital syphilis. Nineteen countries and territories have achieved 95% coverage of appropriate syphilis treatment among pregnant women.

118. Thirty-four out of 35 Member States adopted the WHO “treat all” policy, and 71% (25/35) use a DTG-based first-line regimen for HIV treatment, as recommended by WHO. Fourteen Member States have adopted PrEP (pre-exposure prophylaxis) as a public policy, although implementation is still low. In LAC, 81% of persons with HIV have been diagnosed, up from 77% in 2018. Ten countries implemented HIV self-testing in 2021, and this strategy has the potential to further increase the number of people with HIV who know their status.

119. El Salvador was certified free of malaria. The Regional Malaria Elimination Initiative in Central America and three other countries is advancing elimination efforts in this subregion with support from the IDB, the Global Fund, the Bill and Melinda Gates and Clinton Foundations, and PAHO.

120. Thanks to the well-established PAHO Latin American and Caribbean Network for Antimicrobial Resistance Surveillance network (ReLAVRA+), countries were able to successfully detect the emergence of extensively antimicrobial-resistant microorganisms. The Organization has worked with countries to strengthen infection prevention and control practices with appropriate use of antimicrobials and to build the capacities of food analysis laboratories for the detection of antimicrobial resistance through the Inter-American Network of Food Analysis Laboratories.

121. A resolution on reinvigorating immunization programs in the Region was approved by the 59th Directing Council in 2021. The related policy includes a strategic line of action, “Strengthen the integration of immunization programs into the primary health care system toward universal health,” which highlights the importance of maternal and neonatal care and offers a platform for the integration of immunization into primary health care.

122. The new Plan of Action 2021-2025 for the Hemispheric Program for the Eradication of Foot-and-Mouth Disease was approved by the Hemispheric Committee for the Eradication of Foot-and-Mouth Disease. Its implementation is underway.

123. Thirty-three of the 35 Member States have sustained the elimination of measles, and all Member States have sustained the elimination of rubella and congenital rubella syndrome. Implementation of the first phase of a tuberculosis (TB) elimination project was carried out in three low-incidence countries (Costa Rica, Cuba, Jamaica).

124. Fifteen of the 17 countries with vectoral transmission of *T. cruzi* were able to maintain control of the main vectors. PASB intensified efforts in the Plurinational State of Bolivia and Colombia, where the number of municipalities with interruption of domiciliary vectoral transmission increased during the biennium.

125. New tools for virtual technical collaboration were developed, including but not limited to automated epidemiological bulletins for the regional and national levels and epidemiological dashboards with real-time information. Guidelines for clinical diagnosis and treatment of dengue, chikungunya, and Zika were finalized, published, and launched through a webinar, and 15,000 health workers have been trained.

126. Codex Trust Fund beneficiary countries (Bolivia [Plurinational State of], El Salvador, Guatemala, Guyana, Honduras) conducted assessments of the Food Safety Risk Analysis framework to identify strengths and weaknesses.

127. The regional system for Surveillance of Events Supposedly Attributable to Vaccination or Immunization (ESAVI) is progressing well. Sixteen Latin American countries are transferring data to the regional database, and eight countries and 20 hospitals are part of the ESAVI and AESI (Adverse Events of Special Interest) regional surveillance network.

128. The Bureau provided technical assistance to countries to prepare them for the introduction of COVID-19 vaccines. For instance, quality control tests were carried out to verify compliance with International Organization for Standardization (ISO) standards for syringes acquired through the PAHO Revolving Fund for Access to Vaccines (Revolving Fund) to meet the demand for the administration of COVID-19 vaccines. Effectiveness studies of the vaccines were developed in Argentina, Brazil, Chile, and Colombia.

Challenges

129. The changing political contexts in many countries caused personnel changes and affected leadership and governance for the prevention, control, and elimination of communicable diseases. There has been high staff turnover in priority programs within ministries of health, causing significant disruption and loss of continuity in the provision of essential services for all public health programs.

130. A challenge faced by programs targeting elimination was the allocation of insufficient resources, including infrastructure in countries and, within PAHO/WHO Representative (PWR) Offices, human resources. There were funding disruptions from important donor agencies. In addition, the cost of interventions, including community-based interventions, increased due to COVID-19 and its requirements. This also affected procurement and transport costs of medicines, vaccines, supplies, and equipment. The COVID-19 pandemic affected access to life-saving treatments for diseases that are on the path to elimination, such as HIV, viral hepatitis, sexually transmitted infections, TB, and neglected infectious diseases.

131. Attention to migrants' health issues, including treatment of infectious diseases, was disrupted by COVID-19. Differences in treatment protocols among countries further impacted treatment coverage among migrants.

132. Travel restrictions and limited mobility due to COVID-19 impacted interventions for the prevention of communicable diseases, which is expected to drive an increase in cases in the near future. In addition, multidrug-resistant organism outbreaks in intensive care units affecting COVID-19 patients have been notified in several countries. Overall, reports of emerging antimicrobial resistance are on the rise, and certain multidrug-resistant pathogens have spread to areas where they had not been detected previously.

133. Sustaining the epidemiological surveillance of arboviral and other diseases in the context of the pandemic has been a continuing challenge, since the national epidemiological teams often include the same personnel working on COVID-19 at national and local levels.

134. Strong social determinants in contexts with weak public health structures continue driving the transmission of malaria. The COVID-19 pandemic disrupted early access to malaria services, aggravating the situation.

135. Brazil has continued to experience the circulation of measles for almost four years and therefore the reestablishment of the endemic transmission of measles for three years. The Bolivarian Republic of Venezuela interrupted the circulation of measles after two years, but it will not be recertified by the regional committee for monitoring and reverification of elimination until after the measles and rubella campaigns planned for 2022.

136. The vaccination rates for first and second MMR (measles, mumps and rubella) doses have declined due to COVID-19, and there has been a negative impact on the epidemiological surveillance of measles and rubella. This might trigger outbreaks of both diseases if the vaccination program is not strengthened.

Addressing socioeconomic hardship associated with tuberculosis in Brazil

People with tuberculosis (TB) often incur substantial costs related to seeking and receiving diagnosis, treatment, and care, and this may create barriers to access that adversely affect health outcomes and increase the risk of disease transmission. Eliminating catastrophic costs for people with TB and their households with effective mitigation strategies and policies is at the center of the WHO End TB Strategy.

PAHO, in collaboration with the WHO Global Tuberculosis Program, provided direct technical assistance for a national survey of TB patient costs in Brazil. The National TB Program, in collaboration with the University of Espírito Santo, conducted the survey between 2019 and 2021. It reached a total of 603 people diagnosed with TB, despite interruptions in data collection due to the COVID-19 pandemic.

PAHO provided extensive technical support to implement the survey and address COVID-19-related bottlenecks. This included securing survey funding, monitoring survey implementation, and hosting post-survey events, which aimed to highlight research leading to policy development and recommendations.

The results of the survey showed that about half (48%) of TB-affected households face catastrophic costs, defined as costs above 20% of their annual household income, during their TB episode. One-third of affected households had to borrow money or sell assets in order to mitigate the costs from the onset of symptoms to the completion of treatment, according to the survey.



Poverty levels almost doubled in respondent households, with one in four TB-affected patients living below the international poverty line. The risk of being unemployed was significantly higher for TB patients who had HIV co-infection, were self-employed, and/or had lower levels of education.

A TB patient holds the medicine he must take as part of his treatment.

Photo credit: PAHO/WHO Representative Office for Brazil.

TB has social, income, employment, and poverty consequences, some of which may be long-lasting, and all of which require a multisectoral response. Findings from the survey and associated policy recommendations are being disseminated among a wide range of stakeholders in collaboration with PAHO. The evidence stemming from this survey is being used to design interventions, provide evidence-based case studies for health and social policy changes, and promote multisectoral collaboration to alleviate the burden of disease on TB patients and their households.

Information Systems for Health, Evidence, and Research

Outcomes 20-22

Integrated information
systems for health

Data, information,
knowledge, and
evidence

Research, ethics, and
innovation for health

Achievements

137. Information systems for health (IS4H) maturity assessments were conducted and completed in all countries and territories. Based on these assessments, roadmaps were developed to revise and modernize legislative frameworks and regulations, focusing on the collection of data from the private sector and on privacy, confidentiality, and security. Most countries included strategies for capacity building and change management at all levels in their national roadmaps for the implementation of digital health solutions and strategies.

138. Member States adopted two policies: the Roadmap for the Digital Transformation of the Health Sector in the Region of the Americas, and the Policy on the Application of Data Science in Public Health Using Artificial Intelligence and Other Emerging Technologies. With these, the Americas became the first region to accelerate innovative processes for the digital transformation of the health sector. In support of policy implementation, a comprehensive digital transformation toolkit was developed. Significant progress was made in providing technical cooperation on legal frameworks to support the digital transformation. Steps were taken to adopt international standards on interoperability, cybersecurity, data management, and ethical use of artificial intelligence (AI), among others.

139. Efforts were made to improve the infrastructure for IS4H and information and communication technology more broadly. The emphasis was on increasing bandwidth and connectivity to bridge digital divides and improve access to both structured and unstructured data. Particular attention was given to finding digital AI-based solutions to support Member States in the fight against infodemics.

140. Three critical platforms advanced: *a)* Health in the Americas,¹⁵ with an analysis of potentially avoidable premature mortality using regional, subregional, and national data for 33 countries; *b)* Core Indicators update for all countries and territories;¹⁶ and *c)* the SDGs monitoring portal.¹⁷ The portal includes a regional dashboard with subregional and country data, country profiles for 25 countries, and methodological tools and a repository of evidence to monitor regional, national, and subnational progress toward the SDGs.

¹⁵ More information available at <https://hia.paho.org/en>.

¹⁶ More information available at <https://opendata.paho.org/en/core-indicators>.

¹⁷ More information available at <https://www3.paho.org/ods3/en/home/>.

141. The Institutional Repository for Information Sharing (IRIS) and an intranet-based COVID-19 Institutional Knowledge Repository (IKR) provided easy and constant access to institutional and scientific-technical literature and documents. During the biennium, PAHO IRIS, also known as PAHO's Digital Library, made available 2,834 documents which received more than 39 million accesses/interactions. Of these documents, 2,101 were on COVID-19, including the papers of the Pan American Journal of Public Health. The COVID-19 IKR became a searchable platform and a hub for collective work among the three levels of PASB in response to the pandemic. Launched in March 2020, it contained a total of 2,947 items by December 2021. The Pan American Journal of Public Health, which completes 100 years of uninterrupted publication in 2022, increased its impact factor to 1.46 (source: Web of Science, 2021). The Journal received a record 2,900 manuscripts and published around 300 of them. A fast-track process was used to expedite the peer review of COVID-19-related papers, allowing the Journal to be an important instrument for the production and dissemination of public health evidence in the Region of the Americas.

142. The Organization once again implemented innovative ways to engage with the PAHO/WHO Collaborating Centers to better respond to priorities and mandates as well as share and disseminate best practices on delivering technical cooperation and responding to COVID-19. In April 2021, a regional webinar was held with more than 340 participants from 183 Collaborating Centers.

143. The e-BlueInfo 2.0 application offers access to documents and scientific evidence in the Virtual Health Library in support of decision making, using the codes of the International Classification of Diseases (ICD-10) and the DeCS/MeSH unique identifier or term. The DeCS/MeSH 2021 edition was published, highlighting COVID-19-related terms. The DeCS/MeSH Finder was developed as an innovative online service, allowing researchers, editors, and librarians to locate any descriptor, synonym, or qualifier of the DeCS/MeSH controlled vocabulary in any given text in a fraction of a second.

144. The scientific community and governments accelerated research and innovation aimed at containing the spread of COVID-19, facilitating optimal care, strengthening health systems, and protecting health care and essential workers. A considerable number of COVID-19 studies, including clinical trials, were conducted in most countries of the Region. PASB provided technical support for the prioritization of ethical research, development and implementation of standards, coordination and harmonization of research, and development and integration of research results into health systems, among others. Multinational and international collaborative research studies on COVID-19, including the WHO Global Clinical Platform, the COVID-19 respiratory study (WHO O2CoV2), and the WHO Solidarity trials, were promoted and supported by PASB in the Region.

145. Coordination of research, evidence synthesis, and knowledge translation facilitated the global and regional response to the pandemic. This includes the harmonization of norms and standards, development of public goods (evidence-informed policies and

recommendations), strengthening of capacity building in evidence use for decision making, and support for cross-country collaborative research. PASB reinforced the development of networks of health professionals and health facilities to support the characterization, diagnosis, and management of acute COVID-19 and post-COVID-19 conditions. The Bureau also developed capacity building for health professionals in related clinical management and health systems issues; supported the provision of treatment for patients through the ACT Accelerator and other mechanisms; and provided technical support for health systems preparedness. PASB provided technical support for the implementation of the WHO Global Clinical Platform for COVID-19 in countries of the Region, with more than 500,000 global COVID-19 cases.

146. PASB provided technical support for the development of timely, demand-driven evidence, research, and public health recommendations on COVID-19, the SDGs, and other health priorities. The Organization also supported engagement processes to enable stakeholders to understand and shape policy, practice, and political and systems dynamics in order to strengthen health systems and improve programs and services. PASB produced and continually updated evidence and recommendations for the management of patients infected with COVID-19, and technical cooperation was enhanced through the development of more than 40 evidence publications on COVID-19 and other priorities.

147. Critical resources were developed to advance the transformation of evidence and knowledge translation. They included *a)* BIGGREC, a database incorporating all evidence-informed recommendations that have been formulated by PAHO and WHO, classified by SDG3 target; *b)* BIGG, a database of all evidence-informed guidelines that have been produced by different international organizations; *c)* EVID@EASY, a guided evidence search tool in the Virtual Health Library, which offers paths to locate scientific evidence according to the stage of the decision-making process; and *d)* a collection of evidence synthesizing health recommendations produced by PAHO/WHO.

148. In partnership with Health Systems Global, PAHO developed webinars in Spanish and English to increase the capacity of countries to produce and disseminate research evidence on health systems' response to the COVID-19 pandemic. In addition, four research documents examining structural aspects of health systems resilience in Latin America and the Caribbean were developed.

149. Mobility of health professionals, especially nurses, from the English-speaking Caribbean to North America, Europe, and Australia was exacerbated by the pandemic. PASB, in collaboration with the University of the West Indies and 18 countries and territories, developed a study to quantify human resources for health in the Caribbean and understand the magnitude and patterns of health professional emigration before and during the pandemic. This project seeks to produce the necessary evidence to inform decisions and policymaking on health human resources, migration, and health systems and policy to improve health and reduce health inequalities in the subregion.

150. The pandemic focused attention on the urgent need to catalyze ethical research. PASB published seven ethics guidance documents on COVID-19 in English and Spanish. They have been accessed more than 50,000 times from IRIS and are being implemented across the Region. PAHO's ethics guidance regarding the use of unproven interventions for COVID-19 continues to be the global reference on this topic. Eleven countries received direct support to strengthen their research ethics systems using an indicators-based approach.¹⁸, which was applied in an evaluation of 22 countries (carried out in 2021 and published in 2022).¹⁹ In addition, 18 regional bilingual discussion sessions and virtual ethics training activities were held, with almost 2,379 participants and more than 19,400 additional views on YouTube.

151. The PAHO Ethics Review Committee (PAHOERC) held 38 meetings during the biennium to meet the increasing demand for review of research. PAHOERC is supporting the WHO COVID-19 Research Ethics Review Committee in the implementation of PAHO's ProEthos platform, which was adapted to meet WHO cybersecurity standards.

152. Crowdsourcing calls made it possible to identify social innovations for health across the Region that have supported the response of health systems to COVID-19 and the continuity of regular services. Research is showing the impact of these innovations and how they can be adapted and replicated. A crowdsourcing call in 2021 received over 100 eligible applications from 17 countries, including five priority countries; eight were recognized or given a special mention. An analysis in 2021 of the innovations previously recognized showed how these have been scaled up in support of health systems, spearheading local responses to the pandemic and ensuring continuity of care.

153. PAHO collaborated with the WHO Global Observatory on Health R&D (GOHR&D) and reached out to counterparts in UNESCO, the Ibero-American Network of Science and Technology Indicators, and the Organisation for Economic Co-operation and Development (OECD) to streamline reporting on shared indicators. This enhanced consistency, reduced the reporting burden on countries, and allowed for updated data on financial flows for research on health and human resources for health. By the end of 2021, information on financial flows for research had been reported by 13 countries. Eight of them updated their data during the biennium (Argentina, Chile, Costa Rica, El Salvador, Guatemala, Paraguay, Trinidad and Tobago, Uruguay).

154. An assessment of national policies and agendas on research for health was completed. It identified an increase in the number of countries and territories with an active national policy and/or agenda (Argentina, Brazil, Canada, Colombia, French Guyana, Guadeloupe, Haiti, Martinique, Mexico, Panama, Paraguay, Peru, Puerto Rico, United

¹⁸ Pan American Health Organization. Indicators for Strengthening National Research Ethics Systems. Available at: <https://iris.paho.org/handle/10665.2/54869>.

¹⁹ Aguilera B, et al. Research ethics systems in Latin America and the Caribbean: a systematic assessment using indicators. The Lancet 2022. Available at: [https://www.thelancet.com/journals/langlo/article/PIIS2214-109X\(22\)00128-0/fulltext](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(22)00128-0/fulltext)

States of America). To support countries developing or updating policies or agendas, a checklist with good practices was produced.

155. PAHO has documented efforts for pooled procurement of essential medicines and strategic public health supplies. A recent article published in *The Lancet* looks at pooled procurement, and specifically the PAHO Strategic Fund, as a means to control the pandemic and minimize its disruption by ensuring the supply of essential health products for health emergencies and routine health services. In addition, pooled procurement is key to improving equitable access to medicines and supplies and eliminating diseases.

Challenges

156. Establishing effective public health measures while leaving no one behind requires that all people enjoy good connectivity and bandwidth. This enables them not only to continue their work or educational activities but also to access health services and maintain continuity of care via telemedicine and other technologies. However, connectivity and bandwidth are still critical aspects to be solved with respect to information access.

157. Although countries generate, analyze, and disseminate health data, information, knowledge, and evidence disaggregated by social determinants of health and other sociodemographic stratifiers, improvements are needed in availability, accessibility, and use of this information.

158. The pandemic accelerated innovation, research, and use of evidence for decision making. Nonetheless, prioritization of the response also caused delays and difficulties in the implementation of planned activities and in the uptake and appropriate use of scientific evidence. Some countries faced challenges related to the distortion or misuse of evidence, the negation of the scientific process generating evidence, the questioning of scientific institutions generating evidence, and lack of an integrated scientific authority on COVID-19. A related problem is lack of public trust in government, as well as excessive use by the public of information from untrustworthy sources.

159. Personnel changes in national administrations and relevant teams caused lack of continuity, while pandemic demands at times overwhelmed the work of research ethics committees and oversight entities. This hampered the completion of key initiatives.

160. Assessing financial flows on research for health requires intersectoral collaboration, as various sectors provide data that must be integrated. Given the COVID-19 pandemic, such collaboration was difficult to achieve. A mapping exercise done in 2021 identified institutions and focal points, and analysis has highlighted opportunities and challenges in using the Frascati Manual of the OECD or the PAHO SHA 2011. This has led to recommendations to advance the field during the 2022-2023 biennium. As a result of changes in national priorities triggered by the pandemic, the development of national policies and agendas on research for health stalled in some countries. This made it difficult to monitor progress in the implementation of the Policy on Research for Health (Document CD49/10).

When a name defines the path: Why information systems for health instead of health information systems?



Nurses at a primary care facility in Dominica sharing progress with a PAHO team.

Photo credit: Marcelo D'Agostino, PAHO

Countries in the Americas have made substantial progress in the rapid adoption of digital health solutions. However, they face challenges in ensuring sustainable investments and open access to reliable, secure, and quality data, in the appropriate time and format, to inform decision making, policy development, monitoring and evaluation, and the production of intelligence for action in health. At the same time, emerging technologies such as big data, artificial intelligence for data science, and digital interdependence may offer public health benefits never seen before.

The change from “health information systems” to “information systems for health” (IS4H), which seemed like just a name change, was in fact a conceptual advance that pointed to a new vision, framework, definition, and work model. A holistic form of technical cooperation, IS4H goes beyond the notion of health information systems as being limited to technological applications designed to solve issues with medical health records. The IS4H model includes a broad array of mechanisms to capture, analyze, report, and use data from both health and non-health sectors, with the participation of government, civil society, academia, social networks, and the private sector. It contributes to progress toward universal health and well-being by strengthening interconnected and interoperable information systems that provide access to open and quality data, strategic information, and digital health tools for decision making.

Launched in 2016, the IS4H model spread throughout the Region over the next five years. Convened by PAHO’s Director, PAHO and Caribbean leaders came together in Kingston, Jamaica, in November 2016 to co-create a renewed vision, a subregional plan, and the first-ever strategic framework for advancing IS4H in the Americas. Based on that experience, high-level meetings were held in 2017 with Central America and in 2018 with South America. This culminated with the approval of the plan of action for strengthening IS4H by the 57th PAHO Directing Council in 2019. The 4th Council of Ministers of the Eastern Caribbean States endorsed a resolution for the same purpose. Based on lessons learned and discussed with Member States at a conference 2021,²⁰ the 59th PAHO Directing Council approved a policy document called Roadmap for the Digital Transformation of the Health Sector in the Region of the Americas.²¹ Those early efforts helped Member States prepare for a rapid adoption of digital health solutions during the pandemic. A critical success factor was the implementation of a country-focused approach.

During 2020-2021, PAHO conducted the first-ever regional maturity assessment that resulted in a detailed analysis of information systems for health at the regional, subregional, and national levels. These studies are now the basis for investments by technical and financial partners as well as for the formulation and implementation of sustainable roadmaps and public policies.

²⁰ Pan American Health Organization. From the Evolution of Information Systems for Health to the Digital Transformation of the Health Sector. IS4H Conference Report. Washington, DC: PAHO; 2021. Available at: <https://iris.paho.org/handle/10665.2/53364>.

²¹ Pan American Health Organization. Roadmap for the Digital Transformation of the Health Sector in the Region of the Americas. Washington, DC: PAHO; 2021. Available at: <https://www.paho.org/en/documents/cd596-roadmap-digital-transformation-health-sector-region-americas>.

Digital transformation has the potential to increase access to health services, but people in conditions of vulnerability typically have the lowest levels of digital health connectivity and literacy. In the Americas, hundreds of millions of people continue to experience structural discrimination, exclusion, and inequality due to lack of access to digital technologies and the potential health benefits associated with their use. Digital transformation must aim to ensure equitable access; otherwise, the turn to digital health could end up disadvantaging vulnerable populations even more. In collaboration with key partners such as the IDB and the US Centers for Disease Control and Prevention (CDC), PAHO is working to ensure that “leave no one behind” becomes a reality in the age of digital interdependence.

Equity, Gender, Ethnicity, and Human Rights

Outcome 26

Achievements

161. During the biennium, PASB ensured that the cross-cutting themes were strategically positioned within the context of the pandemic. In collaboration with the Incident Management Support Team (IMST), PASB produced a first-of-its-kind publication, *Gendered Health Analysis: COVID-19 in the Americas*.²² The report reviews morbidity and mortality in specific populations, the mitigating national responses, and socioeconomic impacts of COVID-19, all through a gender equality lens. This work provides a foundation for new inequality analyses, for example, on vaccination coverage.

162. Outreach to women's groups across the Region was established with the Latin American and Caribbean Women's Health Network (LACWHN) through "Let's Talk among Women" dialogues on the impact of COVID-19 on women, targeting gender networks, women's equality advocates, and civil society. Over 20,000 people benefited from these PAHO webinars on gender-based violence, vaccination, and adolescent health.

163. As part of a WHO/UN-wide initiative to develop an LGBTI+ organizational strategy, a social media campaign was developed and implemented with the PASB Communications Department. Multiple social media messages were prepared and disseminated widely throughout the Region, promoting the rights (including the right to health access) of LGBT persons and calling for an end to stigma and discrimination. Several countries, including Bolivia (Plurinational State of), Chile, Trinidad and Tobago, and Uruguay, have advanced related national plans and initiatives with PASB's support, including campaigns, virtual courses, LGBT-friendly clinics, and inclusive data registration.

164. In late 2020, subregional consultations and high-level meetings were held with indigenous peoples and Afro-descendant representatives and leaders in the context of the pandemic. The recommendations emanating from these meetings were published and are being used as frameworks for follow-up actions at country level with the different organizations representing diverse ethnic groups.

165. A technical consultation was conducted on the impact of COVID-19 on Roma people in the Americas. A report on outcomes of the meeting is being finalized, highlighting recommendations for technical cooperation relevant to these groups.

166. Training was provided on the use of knowledge dialogues as an innovative tool to make health services accessible and culturally appropriate for indigenous peoples and Afro-descendant groups. A document, *La salud de la población afrodescendiente en*

²² Pan American Health Organization. *Gendered Health Analysis: COVID-19 in the Americas*. Washington, DC: PAHO, 2021. Available at: <https://iris.paho.org/handle/10665.2/55432>

América Latina, was published and launched at a high-level meeting with the participation of Afro-descendant leaders.²³ It highlights some of the inequities faced by Afro-descendants and issues a call to action for Member States.

167. A database and online dashboard were developed to map the existing legislation, policies, and programs addressing the intersection between health and migration from a human rights perspective.

168. In Costa Rica, support was provided to the Vice Ministry of the Presidency, the Ministry of Health, and Indigenous Development Associations for the response to COVID-19, promoting intercultural dialogues for recovery and social insertion. PAHO worked with other United Nations agencies on the economic recovery and health of migrant women and refugees in priority areas. The Ministry of Health received support in evaluating and updating its Health Plan for People of African Descent, coordinating with the subregional initiative on Afro-descendant and indigenous issues.

169. In Paraguay, coordination actions were reactivated with the National Directorate for the Health of Indigenous Peoples (DINASAPI) and the National Commission for the Health of Indigenous Peoples (CONASAPI) with a view to institutionalizing and strengthening dialogues with representatives of indigenous peoples. This coordination also makes it possible to identify the health needs of indigenous peoples and discuss strategies and plans in compliance with the country's Indigenous Health Law.

170. In Colombia, in coordination with the departmental secretariats of health and indigenous affairs of La Guajira and with the Ai Hospital program of the Ministry of Health, a project is underway to guarantee the right to health of all people who inhabit a territory, using an ethnic and cultural diversity approach. The “gestores” model responds to the needs of widely dispersed rural populations that have serious difficulties in accessing health care. It has a strong focus on social mobilization and community participation, which is fundamental to any primary health care intervention.

171. In Haiti, PASB supported the Ministry of Public Health and Population in developing a national framework document and guidelines on the organization of District Health Services in line with the primary health care approach and the Integrated Health Services Delivery Networks strategy. The guidelines will allow the development of a primary health care-based system at the first level of care, increasing accessibility, equity, and efficiency in health at the community level.

172. A country channel for Suriname was added to the OpenWHO portal to host a series of COVID-19 online courses that have been translated into Dutch, the country's official language. This represents a step toward building the capacity of frontline workers. These courses have also been included in the national requirements that health workers need to complete prior to being deployed to respond to COVID-19.

²³ Pan American Health Organization. *La salud de la población afrodescendiente en América Latina*. Washington, DC: PAHO, 2021. Available at: <https://iris.paho.org/handle/10665.2/54503>

173. In Panama, technical and strategic support was provided to expand access to health services for refugees, asylum seekers, and migrants through mobile units for primary and comprehensive medical care with a preventive approach. This was an interagency project with the UN Refugee Agency and the Panamanian Ministry of Health.

Challenges

174. While countries have taken some steps toward disaggregating health data by sex, ethnicity, and age, support for this essential task has been limited in scope. The limited availability and reporting of such data in and from countries has impeded the generation of evidence-based recommendations on COVID-19. Much greater effort is required to include ethnic variables in health registries and to conduct gender-based analysis to determine, address, reduce, and eventually eliminate the causes of gender, ethnic, and other inequities in health, including but also going beyond COVID-19.

175. There is a need to further develop competencies related to the cross-cutting themes at all levels of the Organization. Efforts to meet the demand from Member States for activities such as knowledge dialogues, among others, have been constrained by the limited number of staff trained and available for their sustainable implementation.

176. While the pandemic has heightened attention to the cross-cutting themes and related issues, this attention is not always systematic, uniform, or aligned with longer-term institutional approaches.

COVID-19 vaccination for indigenous populations in Colombia



A member of the indigenous community in Puerto Nariño, Amazonas, Colombia receives a COVID-19 vaccination.
Photo credit: OPS/OMS Colombia/Karen González

In 2021, the Colombian media reported that many indigenous people in the country were declining to be vaccinated against COVID-19, based on their cultural practices and beliefs. With 1.9 million indigenous Colombians, there was an urgent need to change attitudes toward this life-saving intervention.

In August 2021, the health minister stated that only 6% of the indigenous population had been vaccinated. To address this situation, PAHO designed and rolled out a communications strategy, tailored to indigenous communities, to promote acceptance of COVID-19 vaccines. Drawing from indigenous peoples' customs, the strategy emphasized the use of oral communication. Vaccination brigades included indigenous translators; training of trainers involved cultural leaders, creating a multiplier effect; and free phone applications were distributed to vaccinators in remote areas, facilitating connectivity.

This communications strategy produced the desired results as measured by increased vaccine uptake. In prioritized areas of the Amazonia region, for example, 34% of the indigenous population was vaccinated by the end of 2021.

To encourage acceptance of the COVID-19 vaccine in indigenous communities, it was necessary to demonstrate respect for indigenous cultures, including their system of knowledge and their understanding of the relationship between health and disease. It was also important to find appropriate ways to create dialogue that were aligned with how these communities perceive the pandemic. Trust in PAHO as an institution was key to the success of these interventions. The PAHO communications strategy for reaching indigenous populations led to behavior change because it included elements that appealed to both emotions and reason.

A key challenge in the near future will be to provide training to health workers in the indigenous regions, emphasizing intercultural and ethnic approaches to COVID-19 vaccination and health. Similar strategies may be adapted for other populations and other health challenges, especially those facing the most vulnerable populations.

Leadership, Governance, and Enabling Functions

Outcomes 27 and 28

Leadership and
governance

Management and
administration

Achievements

177. PAHO remained an authoritative voice in the Region with strong name recognition, providing political, strategic, and technical guidance on the COVID-19 pandemic at the highest levels of national governments and the UN and inter-American systems. Its agenda called for addressing the impact of the pandemic, ensuring an agile response to Member States, while simultaneously advocating for key foundational investments in public health in the Region. PASB presented policy options to Member States aimed at promoting the Region's recovery while protecting public health gains, addressing the impact of the pandemic on people living in conditions of poverty and vulnerability and on mental health, and building stronger in a context where economies have become fragile. Initiatives to foster the Region's self-sufficiency in vaccines and other health technologies included mechanisms for faster procurement of quality and affordable COVID-19 vaccines through the PAHO Revolving Fund and the COVAX Facility with Gavi and UNICEF. PASB continued to call for heightened attention to the Region's scientific and technological capabilities.

178. PAHO achieved consistently high visibility as an unrivaled authority and newsmaker on COVID-19 globally and across the Region through weekly press conferences and media outreach, including hundreds of interviews by spokespersons in Headquarters and PWR Offices. The media briefings helped raise awareness not only on COVID-19 but on other critical health challenges affecting the Region. Innovative communication approaches shared with nontraditional partners (e.g., Global Citizen, Sony Music Latin, Sesame Street, World Economic Forum, and Univision, among others) allowed PAHO to expand its outreach to broader audiences.

179. The Bureau implemented a prudent financial management approach that took into account the Region's severe economic contraction over the past two years, during which a number of countries were in arrears on their payments of assessed contributions to the Organization. This was coupled with challenging resourcing scenarios at WHO. Cost containment measures, as well as the arrival of funds in 2021 and advocacy with Member States, allowed the Organization to mitigate the most severe effects of the financial crisis while continuing to respond to its mandates and build resilience for the future.

180. The PAHO Resource Mobilization Strategy 2020-2025 was launched in December 2020 as a roadmap to enable the Organization to mobilize more resources. In addition, the PAHO Roadmap 2021-2023: Working with the Private Sector was launched in 2020 to

provide strategic guidance on private sector engagement to help PAHO achieve expected results for the period of the SP20-25 and beyond.

181. The Report of the End-of-Biennium Assessment of the PAHO Program and Budget 2018-2019 / Final Report on the Implementation of the PAHO Strategic Plan 2014-2019 (Documents CD58/5 and Add. I) was presented to the 58th Directing Council in September 2020. The PAHO Program Budget 2022-2023, with the theme *Protect, Recover, and Build Stronger*, was approved by the 59th Directing Council. PASB conducted a consultative and iterative process to develop this PB, including bottom-up costing and planning with all PASB entities and a strategic review of priorities with Member States, within a unique context during the COVID-19 pandemic.

182. The Bureau developed a new policy to prevent and address any sexual exploitation and abuse of people who depend directly or indirectly on services that the Organization provides. Additionally, the ClearCheck process was adopted from the United Nations to identify individuals involved in sexual harassment, exploitation, and abuse in order to prevent situations that could compromise the reputation or credibility of the Organization. A conflict of interest disclosure form was made mandatory for new hires. These measures have enhanced the selection process in line with the recently launched WHO initiative for Preventing and Responding to Sexual Exploitation, Abuse and Harassment.

183. The new PAHO Evaluation Policy was approved in 2021. The policy aims to strengthen PAHO's evaluation capacity and culture by aligning it with the Organization's results-based management approach. Accordingly, it promotes the identification of lessons learned from evaluations and their incorporation into corporate plans and strategies.

184. Amid the pandemic, PASB implemented innovative ways of working and continued its efforts to increase efficiency in order to mitigate disruptions (including travel restrictions and supply chain issues) and remain responsive to the needs of Member States. Despite the cost containment measures, PASB continued to respond to the increasing demands for technical cooperation from Member States under the teleworking modality. Full implementation of a paperless initiative, one-device strategy, cloud-based archives, and expanded use of Microsoft Teams and Zoom created a seamless telework environment and facilitated high-level meetings that enabled the Organization to remain fit for purpose. During the pandemic, the leadership and continuity of strategic, technical, and managerial operations at country and subregional levels was ensured through virtual transfers and continuous communication and coordination at all levels.

185. PAHO reached \$2.84 billion in procurement on behalf of Member States during the biennium, becoming one of the top 10 United Nations agencies carrying out procurement activities to support countries in achieving their national and regional health goals.

Challenges

186. The Organization was challenged to respond in a timely and efficient manner to the COVID-19 pandemic while protecting priorities in base programs. The competing demands faced by national authorities, which were mostly focused on the COVID-19 pandemic response, and by PWR Offices affected the timeliness of planned activities. For instance, the development and evaluation of Country Cooperation Strategies was delayed, as was the joint assessment of results for the end-of-biennium assessment of the Program and Budget 2018-2019. This resulted in reliance on outdated strategic agendas to guide PASB's technical cooperation. The limited interest of donors in programs not directly related to the COVID-19 response also affected the financing of planned activities during the biennium.

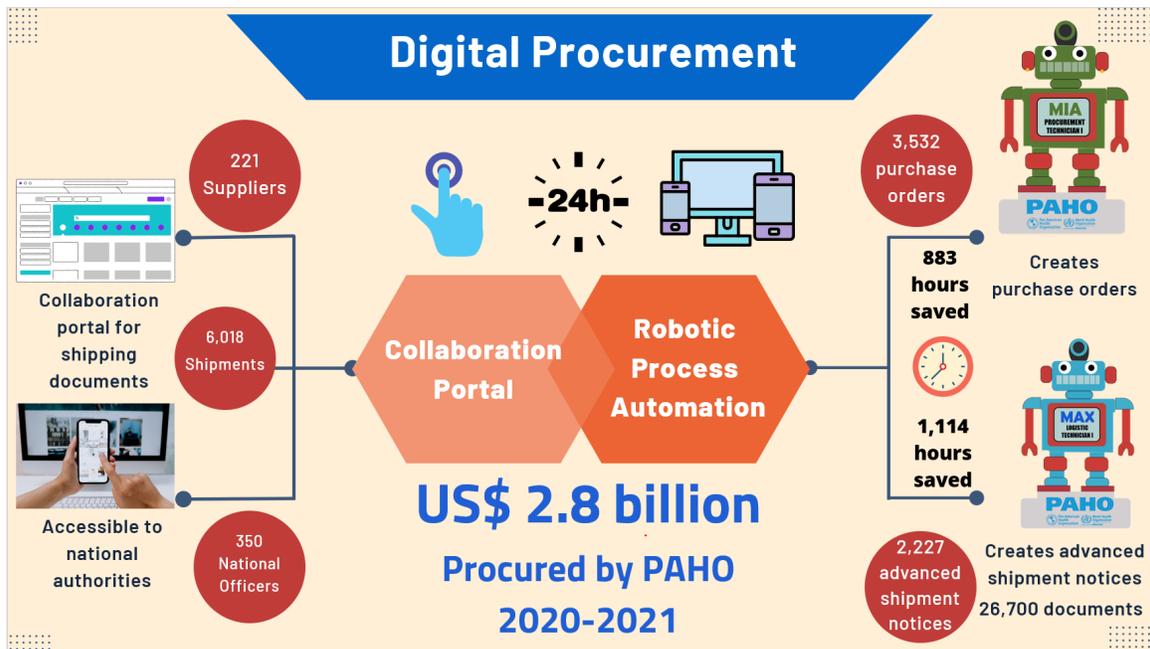
187. The financial crisis stemming from significant delays in the receipt of assessed contributions from Member States and the cost containment measures taken in response to the crisis affected the delivery of technical cooperation to countries. The Organization had to prioritize activities and impose cost containment measures on work plans that had already been disrupted by the pandemic. Despite the arrival of flexible funds in 2021, some activities were cancelled or postponed.

188. PAHO's high-level advocacy and policy dialogue activities were affected by the pandemic since face-to-face meetings were cancelled, while visits by the Director to countries and visits by national authorities to PAHO Headquarters were postponed. Additionally, the biennium saw an unprecedented turnover in health ministers and senior officials that affected the continuity of processes and resulted in loss of institutional memory. Changes in health authorities and shifting COVID-19 restrictions required PAHO to innovate and implement alternative ways to ensure business continuity for meetings and workshops with Member States and other stakeholders.

189. Staffing levels remained a challenge as the demands from Member States and the volume of work continued to increase. For example, staff from different backgrounds were detailed to the IMST supporting the COVID-19 response. Although PASB had to implement these measures to respond to the pandemic, this situation also contributed to a shortage of human resources that affected commitments during 2020-2021. The shortage of staff due to hiring restrictions imposed by the 2020 financial crisis was especially challenging for enabling entities, which are mostly financed by flexible funds.

190. PAHO is experiencing an increase in the proportion of small grants (value under \$100,000), from 34% of all grants in 2018-2019 to 50% in 2020-2021. This is placing an increasing burden on the Organization to negotiate, review, implement, monitor, and report on such grants. Resource mobilization should focus on higher-value grants over longer periods with major flexibility for allocation.

Digital procurement to increase speed and efficiency in provision of health supplies



PAHO procured US\$2.8 billion during the biennium, an increase of 41% compared to 2018-2019.

Photo credit: PAHO Department of Procurement and Supply Management

In order to respond to the increased procurement demands from Member States, PASB developed and implemented two digital initiatives: the PAHO Collaboration Portal for Shipping Documents and the “Max” and “Mia” bots.

By the end of 2021, the PAHO Collaboration Portal had been consulted by 221 suppliers, 350 focal points from the Ministry of Health of 44 countries and territories, and a number of PWR Offices. The Portal allows users to track shipment information in an expedited manner, which was key during the COVID-19 pandemic response.

In March 2021, the PASB procurement and information management teams led the design and implementation of robotic process automation (RPA) using the UiPath platform. The result of that collaboration was the Mia bot, which creates draft purchase orders, and the Max bot, which has optical character recognition capabilities that create advanced shipment notifications for Member States. The implementation of RPA allowed the procurement team to save 1,997 work hours since beginning use of the technology. The time savings from the software bots allowed the PASB procurement team to increase efficiency by eliminating administrative tasks with no added value, allowing the team to negotiate optimal prices and strengthen partnerships with internal stakeholders and suppliers.

As a result of these innovations, PAHO was recognized by Procurement Leaders, a global procurement network, and won the World Procurement Award 2021 for Digital Impact for the deployment of new technology and its significant role in the response to COVID-19 in the Americas.

Improving Accountability for Results and Financial Resources

191. In the context of the pandemic and the financial crisis of the Organization, PAHO's ability to demonstrate accountability for results and financial resources has become more important than ever. The end-of-biennium assessment report to Governing Bodies, including the joint assessment with Member States, represents one of four key mechanisms for the monitoring, assessment, and reporting of the PB20-21. The other three are:

- a) Internal monthly financial reviews by PASB Executive Management (EXM) and provision of monthly monitoring reports to entity managers.
- b) Internal PASB performance monitoring and assessment (PMA) reviews at the end of each semester (six months).
- c) Quarterly updating of the PAHO Program Budget Portal with information on Program Budget financing and implementation, disaggregated by country.

192. During the biennium, PASB scaled up efforts on each of these mechanisms. Important enhancements were carried out in the systems, reports, and presentations utilized for the internal PMA reviews with EXM, leading to more concrete discussions and actions to accelerate implementation of the Program Budget. These mechanisms were also crucial for management of the Bureau's response to the internal financial crisis.

193. During 2020-2021, PASB further strengthened the culture of results by integrating the evaluation function into the Planning and Budget Department. The aim is to ensure that PASB's planning, reporting, and results-based management includes lessons from both monitoring and evaluation. A new Evaluation Policy and Corporate Work Plan for Evaluation were developed in 2021. Setting up a new institutional and governance framework for evaluation also included preparing a new evaluation handbook consistent with international standards and practices.

194. Some evaluations that had been planned to start during 2020 had to be postponed due to the pandemic. In 2020 two regional evaluations commissioned by regional entities were finalized: the Evaluation of the Sub-Regional Level of Technical Cooperation-Subregional Program Coordination-Caribbean, and the Evaluation of the Integrated Health Systems for Latin America and the Caribbean Project. During the last quarter of 2021, the Evaluation of Human Resources for Health began. Terms of reference were drafted for three additional evaluations: the evaluation of PAHO's response to COVID-19, PAHO's actions on noncommunicable diseases, and the state of results-based management in PAHO. These evaluations are in progress and will be finalized in the 2022-2023 biennium.

195. To build and enhance capacity to conduct quality evaluations and promote their use for institutional learning, PAHO conducted webinars and provided technical backstopping and advice for decentralized, country-level evaluations. These included the joint PAHO-FAO-UNDP programs in Guatemala's Ixil and Cuilco regions of San Marcos department, both finalized in 2021. Additionally, PASB advised on an evaluation regarding actions to address the health needs of Venezuelan migrants in Colombia who lacked access to the health system amid COVID-19. Finally, PAHO also participated in five WHO corporate evaluations.

IV. Financing and Implementation of the PAHO Program Budget 2020-2021

196. The total approved PB20-21 was \$650 million, comprising \$620 million for base programs and \$30 million for special programs. The budget for base programs includes the 28 outcomes of the approved PAHO Strategic Plan 2020-2025. The special programs segment includes the Hemispheric Program for the Eradication of Foot-and-Mouth Disease, Smart Hospitals, Outbreak and Crisis Response (OCR), and polio eradication maintenance.

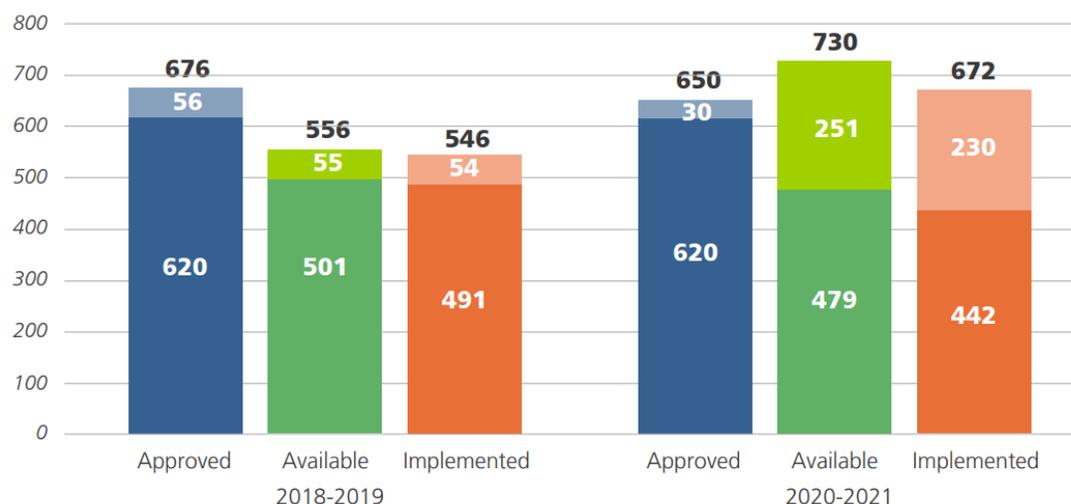
197. The overall Program Budget was overfinanced by 48%, or \$315 million over the total approved budget; however, the base programs segment was only \$16 million overfunded. The high level of budgetary financing is explained by the large quantity of resources received for special programs (\$329 million), more than 10 times the amount that was projected as a placeholder. Of this, 85% (\$280 million) went to OCR to address the COVID-19 pandemic and other health emergencies. The overfinancing is also explained by the assumption that all PAHO assessed contributions for 2020-2021 were paid in full; by the inclusion of all voluntary contributions available in the 2020-2021 biennium (including those that were carried over into 2022, which amounted to \$97 million); and, finally, by funds from other sources that were not fully spent during 2020-2021.²⁴

198. As shown in Figure 4, funds available to entities for implementation amounted to \$730 million (\$479 million in base programs and \$251 million in special programs). At biennium closure, implementation was \$672 million (\$442 million in base programs and \$230 million in special programs), or 103% of the total approved budget. This level of implementation is historic, representing 23% (\$126 million) more than in 2018-2019, an increase driven by implementation of the special programs segment. However, funding of base programs was affected by delays in financing. While the implementation of base programs was 10% lower than that of the previous biennium, implementation of special programs was more than four times that of 2018-2019.

199. During 2020-2021, PASB was able to maintain a high level of performance despite the combined challenges of a financial crisis due to the delayed payment of Member States' assessed contributions and the effects of the COVID-19 pandemic on planned activities. The Organization identified opportunities and mechanisms to mitigate the effects on implementation of base programs, enhancing the efficiency and effectiveness of technical cooperation. These included employing prudent financial management practices and cost reduction measures, reprogramming and prioritizing, and accelerating implementation when possible. These efforts led to many innovations and cost efficiencies like paperless communications, virtualization, a one-device strategy for computer use, and reduced travel, all of which could become permanent as part of the Organization's future work.

²⁴ These other sources include the Special Fund for Program Support Costs, the Master Capital Investment Fund, Virtual Campus for Public Health services, PROMESS vaccines and medication sales, sales of PAHO publications, and the Special Fund for Health Promotion.

**Figure 4. PAHO Program Budget 2020-2021:
Overview of Budget and Implementation
(US\$ millions)**



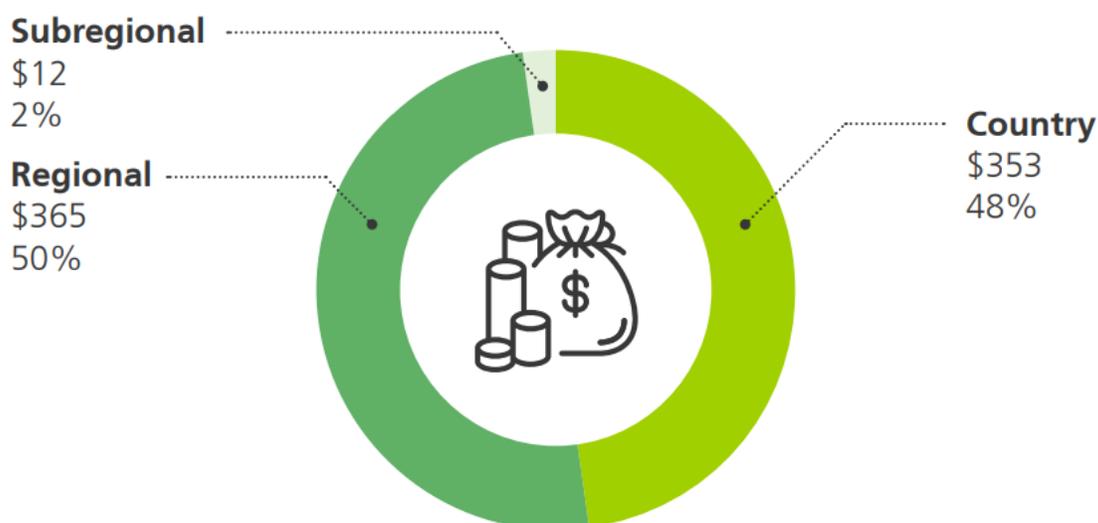
Bottom segments: Base programs

Upper segments: Special programs and emergencies

200. Figure 5 presents the distribution of funds available for implementation in all segments across PASB. In 2020-2021, PASB allocated \$365 million (50%) of its available resources at the country and subregional levels, an increase over the \$229 million (41%) allocated to these levels in the 2018-2019 biennium. The funds allocated to the COVID-19 response, mostly implemented at country level, were instrumental for this result, considering that 47% (\$172 million) of the \$365 million was allocated to the country level for OCR.

201. While the distribution of funds to the country level was above the 45% established by the PAHO Budget Policy, PASB has made a commitment to continue maximizing the allocation of funds to the country and subregional levels. It is also important to recognize that technical and enabling functions coordinated by the regional level directly benefit the country and subregional levels.

**Figure 5. PAHO Program Budget 2020-2021:
Funds Available by Functional Level
(US\$ millions)**



Base Programs

202. At the end of the 2020-2021 biennium, the available funds for base programs were \$479 million, of which 92% was implemented.

203. A deeper analysis by outcome shows that absolute and relative levels of financing varied greatly, as shown in Figure 6. Of the 28 outcomes, three were overfunded with respect to their approved budgets: Outcome 25 (Health emergencies detection and response), with \$13.6 million (155%); Outcome 18 (Social and environmental determinants), with \$1.5 million (112%); and Outcome 22 (Research, ethics, and innovation for health), with \$29,000 (101%). Nevertheless, 17 of the outcomes were financed between 60% and 90%, and eight outcomes at less than 60%.

204. The outcomes with the lowest percentage of financing were Outcome 11 (Strengthened financial protection), with 34% of its approved budget; Outcome 13, (Risk factors for NCDs), with 39%; and Outcome 2 (Health throughout the life course), with 48%. Reasons for underfinancing included the highly earmarked nature of some voluntary contributions and the limited interest of donors in certain priority areas. Due to the integrated nature of the outcomes in this Strategic Plan, funding for some outcomes would have supported the implementation of activities under other outcomes. It should be noted, however, that some outcomes were overbudgeted, as was the case of Outcome 2 (Health throughout the life course). This specific situation has been addressed in the Program Budget 2022-2023.

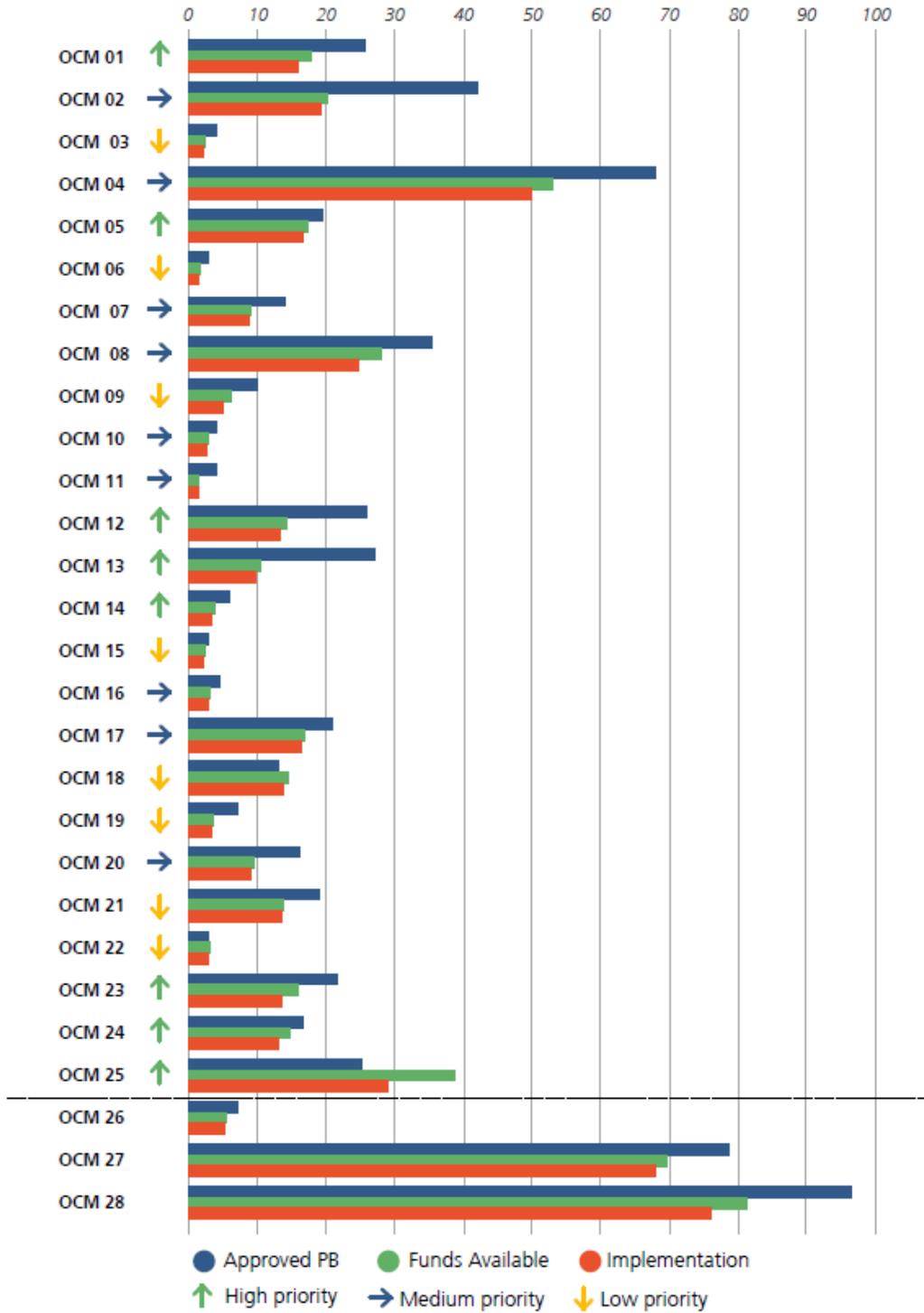
**Figure 6. Level of Financing and Priority by Outcome
2020-2021**



205. As expected, there was a direct correlation between funds available and implementation as measured against approved budgets. Outcomes with a high level of funding had a high level of implementation. In fact, Outcome 4 (Response capacity for communicable diseases), Outcome 27 (Leadership and governance), and Outcome 28 (Management and administration) had the highest levels of financing and implementation. Consistent with this, their corresponding financial gap was low (between 12% and 22%). On the other hand, Outcome 6 (Response capacity for violence and injuries) and Outcome 11 (Strengthened financial protection) had the lowest levels of implementation, limited funding, and gaps of 49% and 66%, respectively. In the cases of Outcome 25 (Health emergencies detection and response), Outcome 18 (Social and environmental determinants), and Outcome 22 (Research, ethics, and innovation for health), which received funds in excess of their approved budgets, the implementation levels were 116%, 105%, and 96% of their approved budgets, respectively.

206. When implementation is measured against funds available, as shown in Figure 7, 21 of the 28 outcomes (75%) exceeded 90% implementation, and six outcomes (21%) were between 80% and 90%. Only Outcome 25 implemented less than 80% of its funds available, reaching 75%, explained in part by the carryover of some of its funding into 2022 and the need to implement other funds for OCR in the special programs. The other two overfunded outcomes had an implementation of 94% in the case of Outcome 18 (Social and environmental determinants) and 95% for Outcome 22 (Research, ethics, and innovation for health).

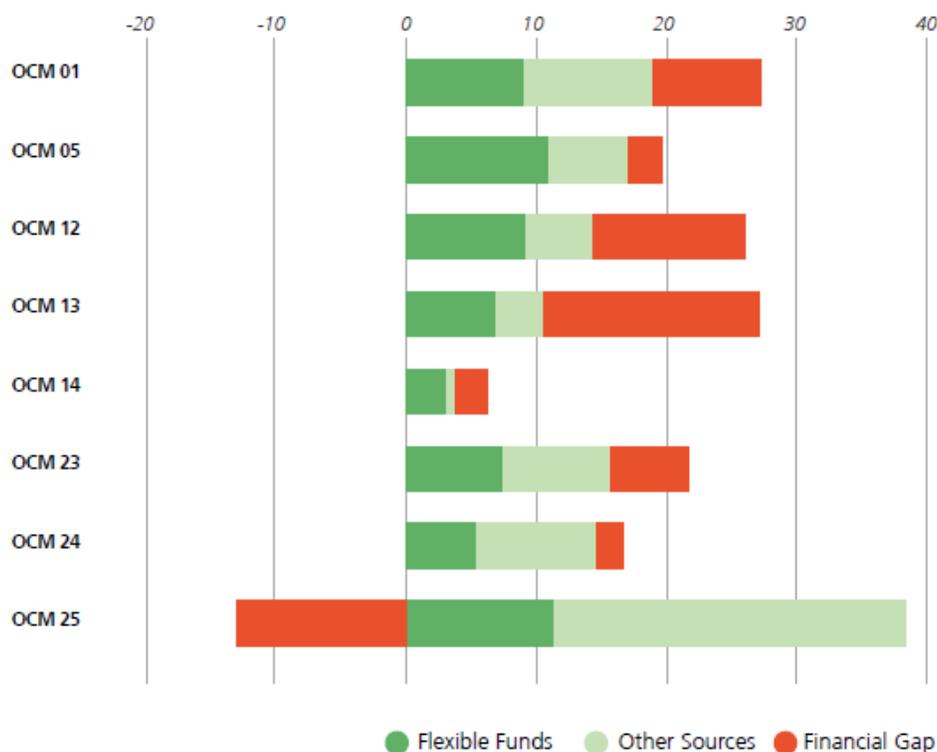
**Figure 7. PAHO Program Budget 2020-2021:
Approved, Available, and Implemented Funds, by Outcome
(US\$ millions)**



207. The Bureau strives to reduce funding gaps in high-priority outcomes, using more flexible funds when needed. To illustrate this, Figure 8 presents a summary of approved budget levels, available funds by main type of fund, and financial gaps by high-priority outcomes. It should be noted that the cross-cutting themes and PAHO's leadership, governance, and enabling functions rely primarily on flexible funds.

208. Outcome 12 (Risk factors for communicable diseases) and Outcome 5 (Access to services for NCDs and mental health conditions) fall in the top tier of prioritization and are two of the technical outcomes that received the highest amount of flexible funding. Still, given the reliance on flexible funding for many other outcomes, and with insufficient voluntary contributions for some other outcomes, the Organization has not been able to completely close the financial gaps for all high-priority (Tier 1) outcomes. The gaps for Outcome 13 (Risk factors for NCDs), Outcome 12 (Risk factors for communicable diseases), Outcome 14 (Malnutrition), and Outcome 1 (Access to comprehensive and quality health services) were 61%, 45%, 38%, and 30% of their approved budgets, respectively. Nevertheless, it is important to note that given the interprogrammatic nature of the PB, funding in one outcome may compensate for the lack of funding in another, contributing to PAHO's existing priorities in an integrated way.

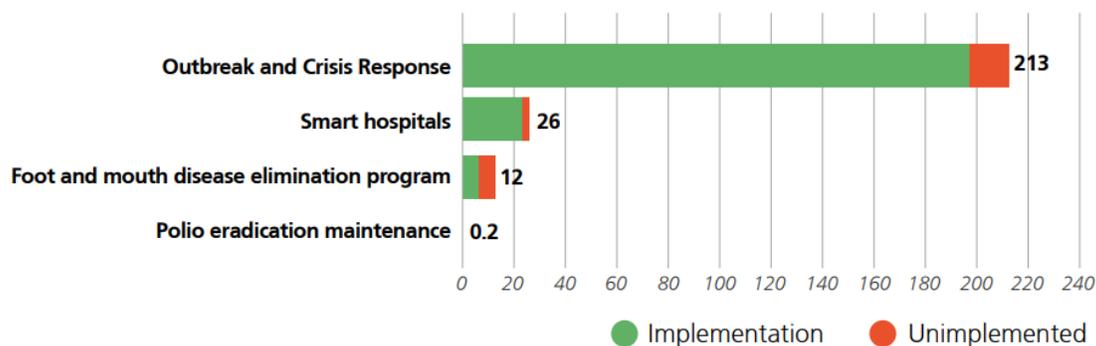
Figure 8. PAHO Program Budget 2020-2021: Approved and Available Funds for Implementation of High-Priority Outcomes, by Fund Type (US\$ millions)



Special Programs

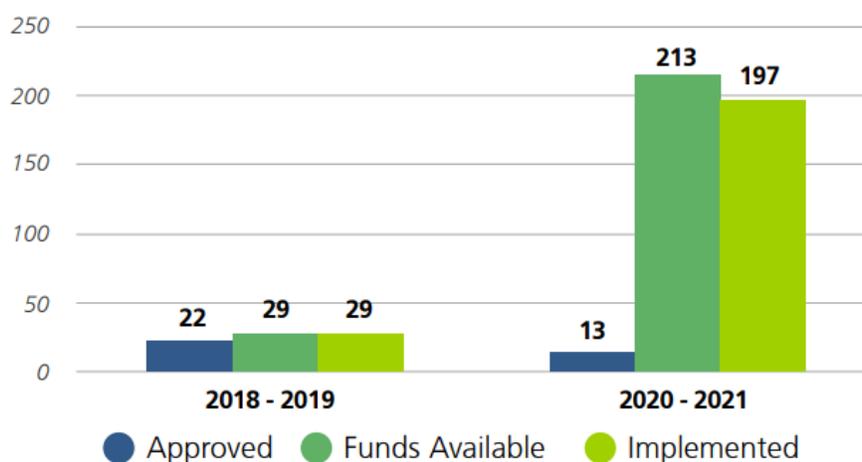
209. As defined in the approved PB20-21, the special programs segment is considered a placeholder, given the uncertainty about the needs and funding of this segment when the Program Budget was developed. Because of the COVID-19 pandemic, PASB received much more than the approved placeholder amount for the biennium (\$30 million). The available funding for special programs amounted to \$251 million in 2020-2021, of which \$213 million (85%) was concentrated in Outbreak and Crisis Response. The Smart Hospitals initiative represented 10% (\$26 million), and the remaining 5% (\$12 million) funded foot-and-mouth disease eradication. The amount received for polio eradication maintenance was \$200,000 (Figure 9).

**Figure 9. Special Programs:
Funds Available and Implementation
(US\$ millions)**



210. Figure 10 illustrates the available funding and implementation of the OCR component only for 2018-2019 and 2020-2021. In 2020-2021, OCR had an estimated placeholder of \$13 million. Because of the COVID-19 pandemic, however, PAHO had available a total of \$213 million for this component, more than seven times the amount of OCR funds available in 2018-2019. In 2020-2021, 92% of available funds were implemented. Most funds mobilized for OCR in 2020-2021 were COVID-19-related funds, which were allocated for the most part in the special programs segment of the budget. In addition to COVID-19, OCR funds supported PAHO's efforts to maintain an effective humanitarian response to the situation in the Bolivarian Republic of Venezuela and to hurricanes in Central America, the earthquake in Haiti, and other emergencies in the Region.

**Figure 10. Outbreak and Crisis Response:
Overview of Budget, Funds Available, and Implementation
(US\$ millions)**



211. The funds received to respond to the COVID-19 pandemic deserve special attention. In total, PAHO PB20-21 received \$232 million for this purpose only. Most of these funds (\$194 million, or 84%) financed the special programs segment of the Program Budget (Figure 9). The remainder (\$38 million, or 16%) was received to complement the funding for base programs and was instrumental for the integrated response to the pandemic. This in turn ensured that technical cooperation continued, focusing on the protection of essential health services in the Region. Many plans were adapted to enable the Organization to rise to the historic moment while continuing to deliver on the commitments set in the Program Budget by Member States.

212. Additionally, \$16 million was implemented through national voluntary contributions in countries like the Dominican Republic, Haiti, Honduras, and Nicaragua. These funds fall outside the Program Budget but are programmatically linked to emergencies.

Main Sources of Financing for 2020-2021

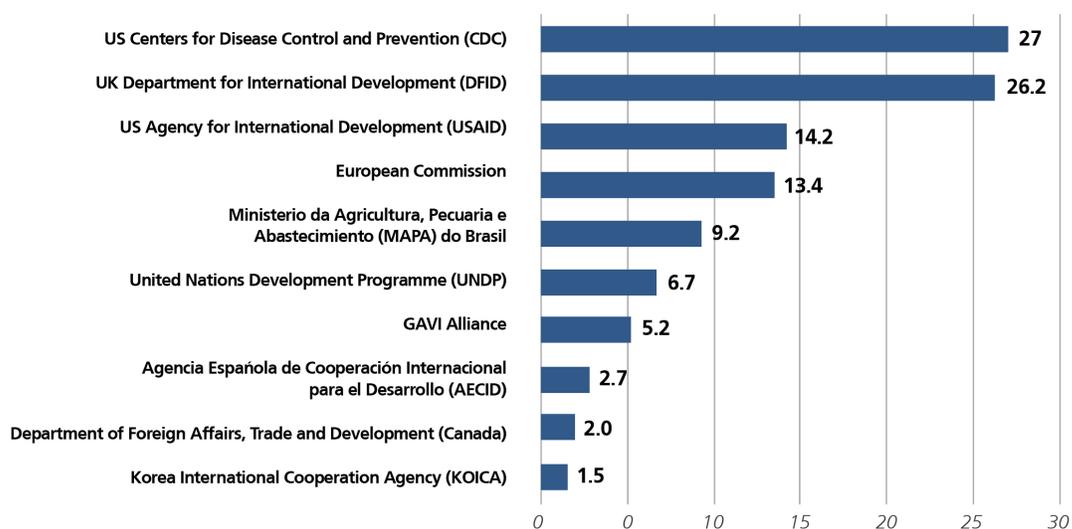
213. **Assessed contributions and budgeted miscellaneous revenue** constituted 33% of total funds expected to finance the Program Budget. Since PAHO assessed contributions are considered financial commitments from Member States, they are counted as “funds available” in full at the start of the biennium. However, PASB needs timely payment by Member States in order to respond to the commitments in the approved Program Budget and its operational plans.

214. In 2020, PAHO suffered a financial crisis due to a delay in the payment of assessed contributions from several Member States, which created financial uncertainty and a backlog in implementation. This situation, compounded by the effects of the pandemic, forced PASB to establish cost containment measures and reprogram work plans to preserve

its core operational capacity. These measures, most of which were phased out in early 2021, included a reduced Human Resources Plan for the 2020-2021 biennium, with a freeze on all vacant positions and reductions in funds for activities and short-term staff. Thanks to the prudent and adaptive measures put in place by senior management, the resolve and commitment of staff, collaboration across the three levels of the Organization, an increase in resource mobilization, and advocacy with Member States, the Organization was able to navigate through these storms. These efforts allowed PAHO to continue responding to its mandates while building resilience for the future, achieving a high level of performance.

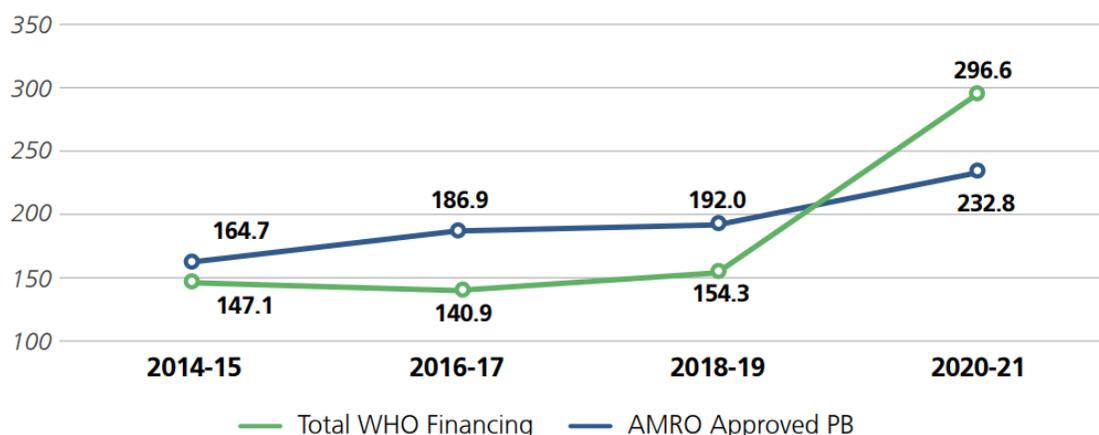
215. Resource mobilization efforts yielded \$210.6 million in **PAHO voluntary contributions** during 2020-2021, though some of these funds correspond to multi-year agreements that go beyond that specific biennium. As shown in Figure 11, 86% of all voluntary contributions available for implementation in 2020-2021 came from 10 donors. PASB greatly appreciates the trust of its partners and their commitment to support the Program Budget; at the same time, the Organization calls for improved flexibility of funds and strategic alignment with priorities set out in its mandates. Compared to the 2018-2019 biennium, the contribution of the 10 main donors increased by 45% (\$33.5 million) in 2020-2021.

**Figure 11. Top 10 Donors to PAHO Program Budget 2020-2021
(US\$ millions)**



216. The funding received as the **WHO allocation to the Regional Office for the Americas (AMRO)** reached \$296.6 million in 2020-2021. This was 27% more than the initially approved budget for AMRO and the highest level of financing in the last four biennia (Figure 12). Of this total, 35% or \$105.3 million was flexible funds²⁵ and \$191.3 million corresponded to WHO voluntary contributions. Of the latter amount, \$148.9 million was allocated to emergencies (\$136.6 million for special programs and \$12.3 million for base programs) and \$42.4 million to base programs.

Figure 12. WHO Approved Budget Levels and Financing for AMRO (US\$ millions)



Note: “AMRO Approved PB” refers to fiscal space from the WHO Programme budget that has been assigned to the Region of the Americas. It may or may not be fully funded.

217. **Other sources** of the PB20-21 comprise PAHO revenue from program support costs and all other PAHO special funds that finance the Program Budget. These accounted for \$245 million of available funds in 2020-2021, and 58% of these funds were to finance OCR in special programs. It is important to note that some of these funds were utilized to cover the assessed contribution shortage.

218. Although they are not part of the Program Budget of the Organization, government-sponsored initiatives, known as **national voluntary contributions (NVCs)**, are an important funding modality that complements the financing of PASB technical cooperation at country level. National governments provide NVCs to finance specific in-country initiatives that are aligned with the existing technical mandates of PAHO. Like Program Budget funds, NVCs are managed following the PAHO Financial Regulations and Financial Rules; they are audited regularly and are reported in financial statements. This funding modality is becoming increasingly important for PASB’s technical cooperation in many countries that do not qualify for traditional voluntary contributions due to their level of economic development. The programmatic achievements to which NVCs contribute are reported as part of the Organization’s overall results. In 2020-2021, NVCs contributed

²⁵ Considers WHO Core Voluntary Contributions as part of the flexible fund allocation to the Americas.

mostly to Outcome 4 (Response capacity for communicable diseases), Outcome 8 (Access to health technologies), Outcome 23 (Health emergencies preparedness and risk reduction), and Outcome 25 (Health emergencies detection and response).

219. NVCs should be consistent with the PAHO Strategic Plan and Country Cooperation Strategies. However, the level of such funds is not easy to predict from one biennium to the next. Table 2 lists the governments that used this modality of technical cooperation and financing in 2018-2019 and 2020-2021. Compared to the previous biennium, five additional governments implemented funds through PAHO during 2020-2021: Guyana, Haiti, Honduras, Nicaragua, and Venezuela (Bolivarian Republic of). It is important to note that NVCs do not follow Program Budget timelines, and therefore the amounts financed during 2020-2021 are frequently not intended to be fully implemented in that same period. This is the case with countries like Jamaica and Trinidad and Tobago, which signed NVCs in late 2021 to be implemented during 2022-2023.

**Table 2. National Voluntary Contributions provided to PAHO
and implemented during 2018-2019 and 2020-2021
(US\$)**

Government	Implemented 2018-2019	Implemented 2020-2021
Argentina	1,655,751	3,404,330
Brazil	109,791,250	87,959,929
British Virgin Islands	148,627	161,726
Chile	13,083	-
Colombia	1,279,441	199,413
Costa Rica	739,001	886,687
Dominican Republic	15,024,133	14,575,160
Ecuador	52,810	27,626
Guatemala	142,894	-
Guyana	-	101,458
Haiti	-	6,250,590
Honduras	-	754,042
Mexico	2,270,748	1,633,607
Nicaragua	-	883,199
Panama	530,263	533,948
Paraguay	43,389	70,611
Trinidad and Tobago	303,036	-
Uruguay	88,700	4,173
Venezuela (Bolivarian Republic of)	-	10,576,782
Total NVCs	132,083,126	128,023,281

V. Risk Analysis

220. Corporate risks and opportunities were identified as part of the PAHO Strategic Plan 2020-2025. Eleven key risks were identified, along with their potential adverse impacts on the achievement of the Plan's outcomes and tools to mitigate the risks. During 2020-2021, the COVID-19 pandemic tested core functions of the Organization related to procurement, business continuity management, financial sustainability, and PASB's capacity to support the response and undertake technical cooperation with Member States. Despite the increased risks due to unstable social, political, and economic situations in Member States, the implementation of PASB activities has maintained the highest levels of accountability.²⁶ Even now, the course of the pandemic in the Americas remains highly uncertain. This means that pandemic control 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.

221. While the pandemic was unfolding, PASB faced an unprecedented threat to pan-American solidarity and to the institution's very existence. Due to the nonpayment of several Member States' assessed contributions, the Organization found itself on the brink of insolvency. A Special Session of the Executive Committee was held virtually to allow Member States to monitor and provide guidance on issues related to the internal financial situation and the response to the emergency. Nonetheless, the critical situation provided a stimulus for change management. Once the business continuity plans for every duty station were activated, administrative guidance was provided and regularly monitored.

222. The reality faced by the Organization during 2020-2021 showed that the Enterprise Risk Management system implemented by PASB, which is aimed at increasing transparency and improving governance and accountability, is an integral part of PASB's operations and decision making. It is also a critical component of results-based management. The risk management approach, considering the 11 key risks identified for the implementation of the PAHO Strategic Plan, increases managerial capacity, leverages the resources and knowledge of staff to better inform Executive Management, and optimizes the performance of the Organization and thereby the achievement of results.

²⁶ Pan American Health Organization. Financial Report of the Director and Report of the External Auditor, 1 January-31 December 2020 (*Official Document 362*). Washington, DC: PAHO, 2020.

223. Due to the particular conditions of the 2020-2021 biennium, the risks were systematically monitored, reviewed, and prioritized, including the level of risk tolerance.²⁷ They were reported as part of the internal control statement that is part of the Financial Report of the Director and Report of the External Auditor.

224. The information contained in the corporate risk register is reviewed regularly, with the key findings reported to Executive Management during the corporate performance monitoring and assessment process. The list of risks was reviewed and prioritized with the PAHO Enterprise Risk Management and Compliance Standing Committee and with Executive Management for the purpose of monitoring the mitigation strategies and preparing the Program Budget 2022-2023. The review and prioritization considered aspects such as the use of risks as potential opportunities; programmatic and financial implications; identification of new and emerging risks; and decisions to strengthen the organizational risk culture. Based on this exercise, the concept of tolerance level has been incorporated as part of the corporate risk register in order to reinforce the linkage between internal controls and risks, and specific questions related to use of the corporate risk register are included in the quarterly compliance survey for cost center managers.

225. Table 3 shows the key risk areas managed during 2020-2021. Mitigation actions are described below and are applicable to one or more risks.

²⁷ United Nations System, Chief Executives Board for Coordination, Guidelines on Risk Appetite Statements (Final), 38th Session of the High-Level Committee on Management (Document CEB/2019/HLCM/26, 15-16 October 2019). Annex 1: Risk tolerance is the “acceptable level of variation an entity is willing to accept regarding the pursuit of its objectives.” Page 23: “Risk tolerances can also be defined as quantitative thresholds that allocate the organisation’s risk appetite to specific risk types, business units, activities and segments, and other levels. Certain risk tolerances are policy limits that should not be exceeded except under extraordinary circumstances (hard limits), while other risk tolerances are guideposts or trigger points for risk reviews and mitigation (soft limits). Whereas risk appetite is a strategic determination based on long-term objectives, risk tolerance can be seen as a tactical readiness to bear a specific risk within established parameters.”

Table 3. Key Risk Areas and Scope Managed during 2020-2021

Risk Area	Scope
Dependence upon and need to ensure Member States' funding of their financial commitments ²⁸	<ul style="list-style-type: none"> • Failure of some Member States to comply with financial commitments (assessed contributions) • Insufficient resources or decline in investments to implement and achieve the PAHO Strategic Plan, including funds through voluntary contribution mechanisms • Governance collapse or crisis that may delay compliance with financial obligations or derail programmatic development
Ability to support Member States' needs through mobilization of resources and leveraging of partners and donors	<ul style="list-style-type: none"> • Lack of diversification of partners and donors • Failure to develop and implement resource mobilization plans
Failure to provide business continuity and duty of care for PASB personnel during pandemic	<ul style="list-style-type: none"> • Failure to follow workplace safety protocols to ensure health and well-being of personnel • Lack of updated business continuity plans in PAHO duty stations
Failure to respond rapidly to Member States' needs in emergencies and disasters (outbreaks and natural events)	<ul style="list-style-type: none"> • Failure to provide adequate support and technical cooperation to Member States in cases of outbreaks, pandemic events, or new diseases (COVID-19 pandemic) • Inability to strengthen and support responsive and adaptive health systems in the face of risks from the current pandemic situation • Lack of monitoring system in the Region for recurring epidemic waves and outbreaks • Failure to effectively and equitably make COVID-19 vaccines accessible and achieve appropriate population coverage
Competing national priorities that reduce attention to health priorities	<ul style="list-style-type: none"> • Increasing scale of the COVID-19 emergency and new humanitarian crises that may affect health outcomes • Information systems with limited disaggregated data and scarce data on the social determinants of health
System/technology infrastructure readiness to support digital transformation	<ul style="list-style-type: none"> • Insufficient resources to develop applications for workplace modernization and business continuity • Cybersecurity gaps
PASB reputation	<ul style="list-style-type: none"> • Potential for fraud, conflict of interest, and/or misconduct

²⁸ Financial Regulations and Financial Rules of the Pan American Health Organization. In the Financial Regulations (latest update approved by Resolution CD58.R7, 29 September 2020), Regulation IV, para. 4.4, refers to the legal obligation of Member States to make available the assessed contributions for implementation on the first day of the budgetary period to which they relate.

226. To manage risks, several mitigation actions are integrated into the regular program of work of the risk owners and are regularly monitored by the Enterprise Risk Management Program, the Enterprise Risk Management and Compliance Standing Committee, the Executive Management team, and other entities. The range of mitigation actions with different levels and dimensions includes the development or review of policies and procedures, regular confirmation of compliance within specific business processes, monitoring of the implementation of donor agreements, training to build internal capacity in several areas of work, regular and ad hoc consultative processes with Member States, maintenance of communications with internal and external stakeholders regarding PASB progress and challenges, monitoring of the implementation of the PASB response during the emergency and duty of care, and conducting assessments or audits.

227. For the purpose of this report, mitigation actions can be classified by the level of intervention: strategic or operational/technical. The nature of risk mitigation may be technical, financial, political, or administrative. However, it is important to highlight that the general understanding of mitigation actions is based on the root causes of the identified risks, the risk interactions due to common causes, and the scope of the Organization in terms of mandate, governance framework, and current policies in place. The following are among the main mitigation actions reported by PASB entities:

Strategic mitigations:

- a) Consult Member States regularly and promote dialogue to find regional solutions, respecting the specific needs and priorities of countries.
- b) Maintain open communication channels and keep internal and external stakeholders continuously informed about progress and challenges.
- c) Promote dialogue and solidarity among countries to reduce inequities and better respond to emerging risks.
- d) Advocate at the national level for financing for health.
- e) Increase the role of PWR Offices and regional department directors in support of high-level political dialogue to ensure commitment of Member States and partners, giving priority to health programs with a focus on health equity.
- f) Create and promote opportunities for collaboration among Member States, United Nations agencies, and other nongovernmental organizations.
- g) Advocate for continuously strengthening and funding at national level the first line of response for emergencies.
- h) Continue advocating for investment and upgrading of integrated information systems for health with capacity to generate and analyze disaggregated health data.

Operational/technical mitigations:

- a) Monitor collection of assessed contributions and continue to explore mechanisms to increase the timely collection of assessed contributions.
- b) Identify other resources and funding mechanisms available to the Organization.
- c) Improve governance for projects funded by voluntary contributions (building lesson learned, risk management, and project management).
- d) Provide technical cooperation to strengthen *i)* leadership, stewardship, and governance; *ii)* epidemic intelligence; *iii)* health systems and service delivery networks; *iv)* emergency operations response and supply chain. Support Member States in procuring COVID-19 vaccines and public health supplies through the Revolving Fund and the Strategic Fund.
- e) Monitor the implementation at national level of the International Health Regulations (IHR) and Member States' acceleration of actions to strengthen information systems for health.
- f) Adopt digital solutions for access to timely (close to real-time) and disaggregated data to support decision making for responding to the COVID-19 pandemic.
- g) Adjust policies to enable the Organization to perform its mandate in an environment that promotes accountability, a respectful workplace, and duty of care.
- h) Monitor to ensure that donor agreements are implemented fully and on time and build internal capacity in project management and donor engagement.
- i) Continue generating efficiencies in budgetary implementation.
- j) Ensure that PASB standard operating procedures are in place to organize support teams in cases of outbreaks, disasters, or other declared emergencies.
- k) Monitor, learn, and adapt business continuity management for all PASB duty stations to support the duty of care and COVID-19 response and to maintain the Organization's technical cooperation presence.
- l) Maintain and update the information security program and train PASB personnel to build awareness of and compliance with information security procedures.

VI. Lessons Learned and Recommendations

Overview

228. The 2020-2021 biennium will be remembered as one of the most critical periods during the first 120 years of PAHO. Therefore, documenting the lessons learned and identifying recommendations for how to move forward becomes more relevant than ever. While these lessons are based on PAHO's experience during the 2020-2021 biennium, they should be seen in the broader context of the various reviews that are taking place at country, subregional, regional, and global levels. Although the full impact of the COVID-19 pandemic remains to be seen, this report contains important insights on how PAHO faced the COVID-19 pandemic and the financial crisis while simultaneously advancing in the first biennium of the Strategic Plan. This review seeks to ensure that during 2022-2023 and beyond, as the Region aims to *protect, recover, and build stronger*, actions take into account the knowledge and understanding gained over the past two years.

229. PAHO has identified lessons that can be seen from multiple angles, with political, strategic, technical, and managerial aspects, as described below. Lessons presented here include positive and innovative practices that should be promoted to enhance implementation of programs and ensure successful achievement of results. They also include adverse practices and experiences that need to be documented and shared to avoid recurrence as PAHO continues to implement the SP20-25 and SHAA2030.

Political

230. If the pandemic has taught us anything, it is that health cannot be left out of development. The COVID-19 pandemic has highlighted the inextricable linkages between health, social development, and the economy, and the evidence suggests that controlling the health crisis is the key to a sustainable and equitable economic recovery. The pandemic resulted in important lessons learned on the political and strategic dimensions of health and the need to further strengthen PAHO's capacities to proactively analyze and foresee scenarios and trends in order to be better prepared. The capacity shown by PAHO Member States in sustaining the response to the pandemic also presents the opportunity to engage in strategic thinking to reshape the future of technical cooperation.

231. PAHO has proven to be of critical value to Member States in its role as catalyst, convener, and trusted broker during an unprecedented health emergency. While responding to the pandemic, the Organization also acted to protect essential health services in collaboration with Member States and partners, in line with its mission and values. Technical leadership and ongoing engagement with national authorities were crucial in enabling the Organization to exercise its mandate as lead agency in health for the Americas and to support countries in facing an emergency of such great magnitude and duration. Equally important was strategic communication, especially sharing evidence and improved storytelling. Regular press conferences and op-eds have had a tremendous positive impact on PAHO's name recognition worldwide and have allowed the Organization to expand its outreach to broader audiences. Confronted with an "infodemic" of misinformation and

disinformation around COVID-19, PAHO worked to expand access to and use of up-to-date evidence and information. In addition, annual country reports are being produced that illuminate PAHO's work and value-added at country level.

232. While PAHO has played a leading role in the Region and the world, contributions in global forums from the Region of the Americas, both PASB and Member States, were essential to the response. Coordination with WHO improved significantly and led to increased access to collaborative projects with funding and participation in global initiatives, as well as access to the experiences of other regions. Similarly, joint work with other agencies, programs, and funds of the UN system and other international organizations facilitated the mobilization of financial and technical resources. PWR Offices exercised a constant and strong leadership role in the UN system at country level. PAHO's engagement with multi-agency partnerships was critical to the pandemic response and provided opportunities for joint resource mobilization. Advocacy and presence in the global mechanisms (the ACT Accelerator and Consortiums) proved very productive and allowed PAHO to position the Region for the mRNA technology transfer project and others.

233. Confronting major public health threats requires strong public health institutions at national and international levels with clear mandates, good governance mechanisms, and adequate financial and human resources. Barriers to access, fragmentation, and segmentation in health systems must be addressed through comprehensive policy reforms and stronger legislation. As the pandemic response continues, countries will soon be required to envision a post-COVID-19 development era in which they prioritize, build, and embed resilience within societies and health systems and continue advancing toward the SDGs. Countries will need to prioritize the strengthening of health systems toward the achievement of universal health based on the regional strategy for resilient health systems. Pandemic preparedness and response will be a key component of this work.

234. South-South cooperation, cooperation among countries for health development, and subregional initiatives continue to provide opportunities to advocate for stronger health systems response, promote PAHO/WHO recommendations to countries, and increase engagement with national programs while creating spaces to share experiences. Collaboration and coordination between countries, donors, and external partners is even more essential in a context of competing priorities. This is illustrated, for example, by the rapid implementation of strategies and interventions in Central America through the Regional Malaria Elimination Initiative and the mobilization of Global Fund support to the Bolivarian Republic of Venezuela.

Recommendations

- a) Intensify advocacy for health at the highest levels of government, ensuring linkages between health, the economy, social protection, and pandemic preparedness and response.

- b) Capitalize on the visibility that PAHO has earned through its response to COVID-19 and extend it to other areas and audiences (in particular as pandemic fatigue sets in).
- c) Continue providing technical cooperation and support to promote the higher positioning of the health sector in preparedness for and response to health emergencies, with the aim of placing health at the center of all policies.
- d) Use PAHO's unique position as lead agency for the COVID-19 response within the inter-American system to gather strategic intelligence to increase the Organization's influence and identify new partnership opportunities.
- e) Assess the effectiveness of the PASB response to COVID-19 and develop urgent strategies and plans to reorient the Bureau's technical cooperation in a post-pandemic world, ensuring better preparation for the next pandemic and intensifying efforts to achieve the full spectrum of health goals for the Region.
- f) Advocate for greater investment in human and financial resources to communicate the Organization's role and achievements and to face emerging political and diplomatic challenges in the changing political context of the Region.
- g) Continue to implement initiatives that promote collaboration between countries across the Region and its subregions.

Strategic

235. Despite the constraints of the COVID-19 pandemic and the financial crisis, PASB was able to advance many planned activities and achieve important progress in the technical cooperation agenda. PASB used the pandemic as an entry point to advocate for strengthening essential health services and health systems, showing that even in acute emergencies, public health priorities can be addressed. Agility, flexibility, responsiveness, and, in some cases, reprioritization were more important than ever as approaches to technical cooperation. At the same time, effective health diplomacy and regular, systematic, and persistent engagement with the national authorities at different levels were key to ensuring the delivery of work plans and the achievement of desired results.

236. Strong intersectoral work continues to be essential to the effectiveness of PASB's technical cooperation. High-level coordination across sectors played a crucial role in the containment and mitigation of the pandemic. The sustainability of such mechanisms is key to ensure a Health in All Policies approach over the long run. For example, when it comes to violence and injuries, ensuring timely access to quality emergency care involves challenges and opportunities that are shared across sectors, and thus there are possibilities for win-wins. This is an opportune moment to push forward, as governments, partners, and donors are increasingly looking to address these topics in a coordinated and integrated manner.

237. Civil society organizations play a key role in the effort to advance on priorities. Providing technical support and advice to these organizations can help promote evidence, recommendations, and best practices from PAHO/WHO.

238. Working at the local level became very important during the pandemic. Local governments have a clear role to play in promoting and protecting health in the communities. Regional, national, and subnational networks of local governments have provided valuable platforms through which to disseminate information and have advocated for including health promotion on local government agendas. Similarly, health systems that involve community health workers have had better success than other systems in communicating public health measures. During the pandemic, local health teams demonstrated resilience and the capacity to integrate topics such as malaria and integrated vector management into routine health services. PAHO presence in the field was key to coordinating the response among prioritized groups in hard-to-reach locations.

239. Interprogrammatic work enabled an integrated approach in responding to Member States' demands, achieving better results during the pandemic than would have been achieved without such collaboration. Such approaches were envisaged in the SP20-25, and past investments facilitated a timely, efficient, and effective response to the crisis. Coordinated activities in the Incident Management Support Team, including by PWR Offices and technical and enabling departments, drove the delivery of technical cooperation. Still, the crisis offers an opportunity to take stock and make changes to the model of work.

240. New modalities of technical cooperation were established, including partnerships, networks, and various modes of virtual training that were essential for a coordinated response. Resource mobilization efforts for COVID-19 facilitated the establishment of new partnerships and helped build relationships for development work in a post-pandemic era. The crisis presented an opportunity to expand strategies and innovations for bringing together partners around the health agenda—an opportunity that must not be missed.

Recommendations

- a) Strengthen the engagement of the Organization in high-level dialogue with health and finance ministries, international financial institutions, and donors, to continue advocacy for increased, improved, and sustainable public investment in health.
- b) Strengthen work with other sectors, listening to and involving communities and civil society, to better position health on national agendas and to address topics that involve actors outside the health sector.
- c) Continue to promote interprogrammatic work as an efficient and cost-effective approach to technical cooperation.
- d) Strengthen relationships with academia and PAHO/WHO Collaborating Centers to better respond to technical cooperation demands and develop a targeted approach to increase the number of collaborating centers.
- e) Advocate for sustained investments in areas of work pertaining to health emergencies and leverage the lessons learned from the pandemic, recognizing that health emergencies can have extraordinary impact on all sectors.

- f) Strengthen competencies and acquired knowledge of processes and mechanisms to offer strong technical cooperation through virtual means and integrate programs and activities, giving them synergy and breaking down silos.

Technical

241. As indicated above, setbacks have put at risk progress toward the achievement of the targets in the SP20-25, SHAA2030, and SDGs. There has been a disproportionate effect on the most vulnerable populations. Achieving impact requires sustained implementation of proven interventions and an integrated, Organization-wide approach that looks closely at the determinants of health and the access barriers, as well as at the impact of health systems and services interventions.

242. During the pandemic, it has been essential to negotiate, coordinate, and integrate emergency public and private services, the first level of care, hospitals, EMTs, and AMCSs to contain and mitigate the spread of COVID-19 and maintain access to quality essential health services. There were many positive experiences during the biennium that showed the potential of accelerated innovation in health services management. These included, most notably, reorganization toward integrated health services networks, with emphasis on strengthening the first level of care and incorporating telemedicine solutions.

243. The pandemic has put to the test virtually all provisions of the IHR. The crisis offers unprecedented opportunities to identify, understand, and take stock of national core capacities, technical tools, legal instruments, and preparedness frameworks and to introduce legal, institutional, and operational changes to strengthen preparedness and response capacities. The IHR should cease to be portrayed as an end in themselves and should be seen instead as a means to exercise the essential public health functions (EPHF). By strengthening their health systems as a whole and the EPHF in particular, countries will be empowered to achieve compliance with the IHR. Similarly, ensuring that the IHR can be used to practice good public health will require a deeper knowledge of their articles at all levels, going beyond their selective application to date.

244. The institutionalization of emergency and disaster risk management programs in national health authorities has been recognized as a priority need. The COVID-19 response reinforced the role of national teams to serve as first responders and support life-saving actions, not only at the onset of an emergency, but also in the medium and long term to ensure sustainability of operations. Renewed focus must be placed on strengthening national response teams to assist their own countries during emergencies.

245. Collaborative networks of laboratories that existed before the pandemic made possible the timely deployment and adoption at scale of novel diagnostic methods for COVID-19 and influenza. At the same time, laboratory response to emerging pathogens has historically been concentrated in the national public health laboratories (NPHL). Countries that have decentralized laboratory capacities under the supervision of the NPHL were better able to respond to the pandemic. Increased investment in epidemiological and

laboratory-based surveillance, including sequencing, is needed to detect and report early emergence of pathogens and assess abrupt changes in transmission or disease severity.

246. Maintenance of a self-sustaining strategic stock, prepositioned for health emergencies, was critical to delivering life-saving responses during the pandemic. Propositioning helps mitigate delayed or blocked access to critical supplies that may result from the global dynamics of demand/supply, logistics constraints, transport delays, and/or production shortages during emergencies.

247. COVID-19 triggered innovation. Despite the need to accelerate adoption of new methods, however, countries have been slowed by the limited availability of human, financial, and technological resources and normative instruments. Research, evidence, and innovation, including the capacity for adaptation, early adoption of, and use of evidence for decision and policy making, are crucial in the context of public health emergencies. In addition, the pandemic has shown that quality, transparency, rigor, and effective communication and knowledge management are essential to ensure uptake of evidence.

248. Health workers are essential to the effort to expand services and build the resilience of health systems. However, given the widely reported burnout among health personnel, it is increasingly difficult to sustain and further expand capacity. Investment in health workers needs to be prioritized to enable a comprehensive response to current and future pandemics and maintain access to quality essential health services. In their planning for pandemics and other public health emergencies, countries need to place greater emphasis on the health workforce, ensuring the availability, distribution, and necessary competencies at the different levels of care. Special consideration should be given to the personal health and safety of health workers, including their mental health. Psychosocial support for health workers is critical, and while remote training and virtual support are important modalities, they do not replace the effectiveness of face-to-face training and support.

249. Rapid increases in international health worker migration threaten the health emergency response and achievement of universal health in several countries. Continued support is required to enable Member States and relevant stakeholders to monitor and manage international health worker migration and mobility effectively and ethically.

250. The COVID-19 pandemic accelerated a transition to telemedicine that had been slowly underway for years. However, health systems must avoid simply layering telemedicine technology on top of current systems and should instead reimagine the entire system, fully integrating telemedicine to ensure that access to care is safe, free from inequities, and truly responsive to the needs of patients, families, and the health workforce.

251. The PAHO Virtual Campus for Public Health constitutes a strategic resource for the Organization. It enabled PASB to respond directly to the needs of countries and the health workforce for emergency response and priority program objectives. It is expected that this growth in the virtual modality of technical cooperation will continue after the pandemic subsides, even as in-situ technical cooperation activities return.

252. The achievement of equity and efficiency with sustainability in health outcomes depends to a large degree on how resources are planned, budgeted, and allocated. The pandemic demonstrated that flexibility in the reallocation and transfer of resources and agile payment mechanisms to frontline providers in emergency situations are crucial to ensure availability of testing and isolation strategies, deployment of vaccines, and operation of essential health services. Some countries responded better than others, demonstrating an ability to direct and spend resources in a timely manner and allocating them where needed to ensure an efficient response to the demands imposed by the emergency.

253. Despite improvements in financial protection, the pandemic proved once again that unpredictable events can produce substantial setbacks. Some financial protection means that rely strongly on contributory mechanisms (like social security-related health insurance) are too pro-cyclical and should be revised in the light of the economic downturn resulting from the pandemic. The creation of specific schemes to cover expenditures related to COVID-19 should be seen as a temporary solution and undertaken with caution, as such schemes may undermine the continuity of care and a comprehensive approach to financial protection in health. Having accurate and timely information on the impact of out-of-pocket expenditures on households is key, and special emphasis should be put on disaggregating this impact by ethnicity, gender of the household head, and rural/urban context.

254. Health systems and services need to reinforce preventive and health promotion initiatives. Addressing the social determinants of health through a Health in All Policies approach at all levels of government has proven to be important for a more effective and equitable response to the pandemic. Moving forward, there is an opportunity to sustain momentum created by the crisis for continued health sector leadership on intersectoral action and community participation to address the social determinants.

255. Services for NCDs, mental health, rehabilitation, and palliative care all suffered significant disruptions during the biennium, and the long-term impact on people's health is not yet fully known. As countries strengthen and improve their health services, it is urgent that NCDs be prioritized and that services become more accessible, with adaptations such as teleconsultations, extension of prescriptions to 90 days, availability of mobile pharmacies, and apps for continuous care. The links between NCDs, risk factors, and COVID-19 have underscored the urgency of taking action to effectively address the commercial determinants of NCDs. This includes setting up regulatory frameworks for risk factors that are conducive to making the healthy choice also the easy choice. However, it has been difficult to gain political commitment to put in place effective policies.

256. Mental health, too, must become a higher priority, with services adapted to be more accessible, advances in deinstitutionalization, and mental health coverage more firmly integrated into primary care. There is an opportunity to integrate mental health into emergency response as the pandemic has increased visibility and awareness of mental health problems and of the need to increase capacity in mental health promotion, prevention, and care. Suicide prevention activities that are evidence-based need to be implemented at country level. Mobilizing funds for suicide prevention and working with

countries that have high suicide rates also creates the opportunity to improve mental health care and services.

257. In the context of the COVID-19 pandemic, action by governments, partners, and PASB on violence prevention and response has taken on new urgency. However, service disruptions have hampered the response and have exacerbated preexisting vulnerabilities in health services, such as inequity in access. Strengthening the health system response to survivors of violence is widely seen as an area where PAHO has a comparative advantage over other actors.

258. As with other areas, there is an opportunity to accelerate progress in the prevention, control, and elimination of communicable diseases. Some advances were seen even during the pandemic, such as the expansion of PrEP to mitigate the impact of HIV. In pursuit of the elimination agenda, community approaches and intercultural dialogue were important factors in helping with diagnosis and follow-up care.

259. Member States have agreed on the importance of reinforcing data management and information technologies, data governance, knowledge management and sharing, and innovation, following a lessons learned exercise convened by PASB. The adoption of international standards and principles for managing data, implementation of digital literacy programs, and information systems maturity assessment are key steps to that end.

Recommendations

- a) Readdress universal health with a view to strengthening and transforming health systems and services as the conduit for delivering essential public health programs and priorities, focusing on the health needs of vulnerable populations and on the social and environmental determinants of health.
- b) Undertake continuous indicator monitoring, explore methods to accelerate progress toward the targets, and take actions to protect past achievements, recover, and build stronger, to reach and maintain national, regional, and global goals.
- c) Provide the necessary technical, legal, and strategic support for health sector reform processes with a view to enhanced capacities for health systems strengthening and resilience, aligned with global and regional mandates.
- d) Define the key elements of a national health emergency preparedness and response system, including its expected modus operandi and necessary legislation, and work with Member States and partners to put them in place.
- e) Advocate for greater national investment in emergency preparedness, based on best practices in countries that responded effectively to COVID and prior emergencies and ensuring that the health needs of vulnerable groups are protected.
- f) Promote within PASB and among national authorities a shared understanding of the IHR as a tool to facilitate the practice of evidence-based public health and a cohesive and coherent approach to health systems strengthening.

- g) Continue to encourage Member States to comply with the provisions of the IHR, especially those related to the timely sharing of information, and to conduct and document reviews of their national response to the pandemic.
- h) Continue strengthening emergency response coordination mechanisms at all levels of PASB and Member States, including the political leadership.
- i) Highlight the importance of routine immunization, taking into account lessons learned from COVID-19 vaccination, and integrate it into public health activities.
- j) Work in a coordinated manner to address challenges related to the lack of updated, reliable data on the impact of COVID-19 on health and well-being.
- k) Focus actions on the integration of service provision for priority programs, the formation of interprofessional health teams within health services networks, and the application of digital technology as tools to support the optimal organization of the health services.
- l) Renew the approach to workforce planning and education, increasing competencies for primary health care, in line with the regional strategy on human resources for health.
- m) Improve access to quality-assured, safe, and effective health technologies and essential supplies, oversee the integrity of the supply chain, and regulate the quality of health technologies and their rational use, based on evidence, to ensure future improvements in pandemic preparedness and response.
- n) Encourage intersectoral action and partnerships on research and innovation and ensure that health decisions and interventions are informed by the best available evidence to ensure their success.
- o) Advocate at the highest levels of government and partners for political commitment to and prioritization of actions on NCDs, mental health, malnutrition, road safety, and violence, with intersectoral collaboration and increased investment.
- p) Continue to advocate for the elimination of communicable diseases in the Region, utilizing the platform of the Elimination Initiative.
- q) Strengthen efforts to address the social and environmental determinants of health and reinforce the importance of gender, equity, ethnicity, and human rights in the context of pandemic response.

Managerial and administrative

260. The Bureau faced an unprecedented threat to its functioning in the first part of the biennium due to the nonpayment of quotas by some Member States. This financial crisis was compounded by the effects of the pandemic and forced PASB to establish cost containment measures and reprogram work plans to preserve its core operational capacity. The measures, most of which were phased out in early 2021, included a reduced Human Resources Plan for 2020-2021, with a freeze on all vacant positions and reductions in funds for activities and short-term staff. Thanks to these adaptive measures, plus the collaboration of teams across PASB, an increase in resource mobilization, and advocacy with Member

States, the Organization was able to mitigate the effects of the financial crisis, respond to the pandemic, and continue fulfilling its mandates while building resilience for the future.

261. The progress achieved in automating the corporate risk register and the review process for projects funded by voluntary contributions (VC) provided an enabling environment that allowed rapid advances in addressing key recommendations from the PAHO Governance Reform resolution to strengthen the integration of risk management into VC projects.

262. The Bureau invested during non-emergency times in information technology, including cyber security and migration to the new cloud-based Microsoft SharePoint online platform. This allowed the Organization to operate remotely during the pandemic, reducing accessibility problems and potential security issues. Innovations led to the development of new tools, such as mobile applications and virtual seminars and training, that allowed PAHO to reach a broader audience. The introduction of PAHO's first-ever digital workers, bots named "Mia" and "Max," has been a positive experience, enabling PAHO to handle an increase in procurement transactions.

263. The transition to virtual modalities has energized PAHO's work, allowing technical cooperation to be maintained without the excess time and costs that in-person meetings would require. Virtual platforms also facilitate expanded outreach to a wider range of target beneficiaries, increasing the impact of activities in Member States. Use of technology has made it possible to maintain an adequate level of coordination and communication across all levels of the Organization. Several innovative approaches and practices in preparing for and conducting Governing Bodies meetings have proven very useful and should continue.

264. Teleworking provided positive lessons and opportunities for strengthening a country focus approach by *a)* broadening and facilitating the interaction of the three functional levels of the Organization, resulting in further inclusiveness, transparency, and diversity; *b)* facilitating knowledge-sharing and capacity-building activities that reduced the impact of the extended no-travel declaration on the delivery of technical cooperation; *c)* fostering innovative approaches to ensure PAHO's positioning as regional health leader and technical expert; and *d)* reducing regional transaction costs. Nevertheless, not all activities can be implemented virtually. Technical cooperation implies sharing lessons and successes with country counterparts, which requires deep contextual understanding. Virtual exchanges, while practical and convenient, will still need to be complemented with face-to-face encounters once COVID-19 restrictions are lifted.

265. The special procedures for emergency response that were put in place enabled the Organization to respond to the pandemic and other health emergencies and to meet Member State demands. This was accomplished by enhancing its agility while remaining in compliance with procedures and requirements.

266. Finally, there are stronger expectations that organizations will adhere to sound ethical policies and practices that also consider the rights and needs of victims of abuse and improper conduct. The ways in which organizations investigate allegations of sexual

exploitation and abuse, sexual misconduct, and other forms of harassment must reflect the new realities. Investigations need to be streamlined and timely, provide personnel with the right of recourse, and hold perpetrators accountable.

Recommendations

- a) Continue building on existing efficiencies and increasing effectiveness of core activities in ways that maximize the use of resources.
- b) Continue to streamline administrative processes to increase agility and enhance risk management, compliance, and internal controls in ways that optimize staff time and the hybrid work environment, drawing on good practices and innovations that proved valuable in the pandemic response.
- c) Evaluate technologies and processes to determine which can feasibly be automated to strengthen PAHO's ability to provide technical cooperation.
- d) Strengthen recruitment processes to attract and retain well-qualified personnel in a job market and work environment that continue to undergo changes as a result of the pandemic.

Annex

Annex

1. This Annex presents detailed findings from the review of impact indicators of the Strategic Plan of the Pan American Health Organization 2020-2025. An overview of the main findings to be presented in the Annex is available in Section III of the present report.
2. The indicator assessments present trends over the past two decades, considering the most recently available data that have been standardized to facilitate comparative analyses among countries and territories in the Region. These existing data are also used to project estimates through the end of the Strategic Plan period: 2025. Each assessment includes a summary table with the indicator baseline, target, current status, and rating. An analysis is presented for each impact indicator, followed by key takeaways and recommendations to improve health outcomes. For indicators that could not be assessed, information is presented on refining the methodology to improve measurement.
3. For 10 of the 28 impact indicators (3, 4, 6, 7, 9, 10, 16, 17, 18, and 20), modeling examples are presented using available data from selected countries to construct hypothetical cases that demonstrate how strategic programmatic and policy actions can drive progress at country level, which will also accelerate progress toward reaching the regional targets. These examples consider cost-effective actions that could have a pronounced impact on the indicator trajectory.
4. It is important to note that modeling is one of several tools applied to help identify challenges and solutions to public health problems; however, these models should not be applied in a vacuum. Modeling can be useful in conjunction with other tools and information to inform and guide decisions.

Impact Indicator 1: Reduction of within-country health inequalities

Baseline 2019	Target 2025	2022 Status	Rating
0	17 countries	4 countries	On track

Analysis: This indicator is defined as the number of countries achieving a measurable proportional reduction of within-country absolute inequalities between groups, as defined by a relevant social stratifier, in at least two of the four core tracer SDG3 health indicators: neonatal mortality rate (SDG 3.2.2), adolescent fertility rate (3.7.2), tuberculosis incidence rate (3.3.2), and premature mortality rate due to noncommunicable diseases (3.4.1).

As Impact Indicator 1 is new, the preliminary assessment—based on subnationally disaggregated data currently available, mostly from Demographic and Health Surveys (DHS) and Multiple Indicators Cluster Surveys (MICS)—has been made mainly through an exploratory ecosocial approach using core health data from national initiatives.

According to the technical definition of the indicator, a reduction over time in the absolute inequality gap of at least two of these four SDG core indicators is required to count a given country toward the 2025 target. Of nine countries with DHS and MICS survey data available, four (Dominican Republic, Guyana, Honduras, and Nicaragua) have achieved a reduction in the absolute inequality gap of these two core indicators (i.e., neonatal mortality and adolescent fertility) between the last two survey rounds. These preliminary estimates indicate that the region is on track toward achieving the target for this indicator.

Key Takeaways and Recommendations:

- Three other countries (Bolivia [Plurinational State of], Guatemala, and Haiti) have achieved inequality reduction in one of the two indicators.
- Two countries achieved no significant reduction in at least two of the tracer indicators.
- Active plans are under way to expand the inequality assessment in several other countries for an expanded set of relevant health-impact indicators.

Impact Indicator 2: Health-adjusted life expectancy

Baseline 2019	Target 2025	2022 Status	Rating
65.76 years*	66.42 years**	65.89 years*	At risk

* Baseline updated based on source: Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019 (GBD 2019) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2020.

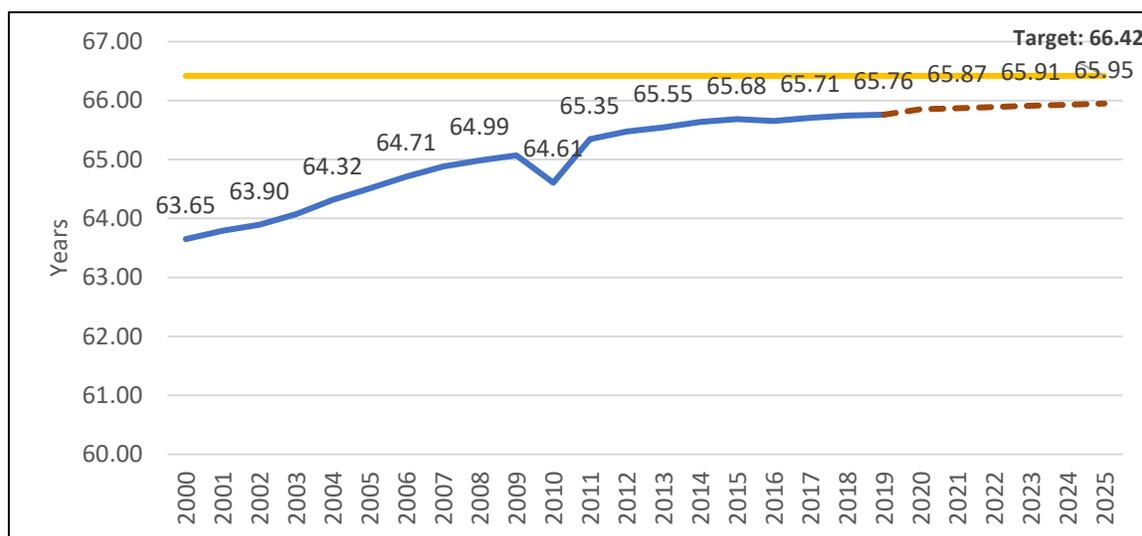
**Considering the updated baseline information and the nature of the original Strategic Plan 2020-2025 target, PASB proposes to update the target.

Analysis: Based on the latest estimates available¹, the age-standardized health-adjusted life expectancy (HALE) for 2019 was estimated at 65.76 years. As shown in Figure A.1, the forecasted estimate² for 2025 is 66.44 years, showing an average increase of 0.17% years of life in good health between 2019 and 2025. To reach the projected target, an annual increase of 0.46% is required. Given the average rate of increase, the Region is not on track to reach the target for this indicator.

¹ Institute for Health Metrics and Evaluation (IHME). Global Burden of Disease (GBD); 2020. Available at <https://www.healthdata.org/research-article/global-age-sex-specific-fertility-mortality-healthy-life-expectancy-hale-and>

² Forecast has been conducted applying the methodology proposed in this publication: Sanhueza A, Espinosa I, Mujica OJ, da Silva Jr. JB. Leaving no one behind: a methodology for setting health inequality reduction targets for Sustainable Development Goal 3. Rev Panam Salud Publica. 2021;45:e63. <https://doi.org/10.26633/RPSP.2021.63>. Available at: <https://www.paho.org/journal/en/articles/leaving-no-one-behind-methodology-setting-health-inequality-reduction-targets-sustainable>

Figure A.1. Health-Adjusted Life Expectancy, the Americas, 2000-2025



Source: ENLACE: Data Portal on Noncommunicable Diseases, Mental Health, and External Causes, PAHO. Forecast based on Global Health Estimates 2019, WHO, 2020.

Key Takeaways and Recommendations:

- As HALE is an index influenced by different factors among countries in the Region, it is crucial to conduct individual, subnational analyses allowing for the identification of preventable causes of premature death and disability, stratifying by variables such as sex. Initial exploratory analyses stratifying the indicator by sex showed a consistent gap of nearly three years of average life in good health favoring women throughout the period.
- Comparative country and subnational analyses might show important findings applying inequality metrics to prioritize goals on specific topics. These findings should be translated into policies and actions to improve health and wellbeing with equity.
- It is not yet known how the COVID-19 pandemic will affect the performance of the HALE indicator. As additional data become available, there will be greater insight on the overall impact on this indicator.

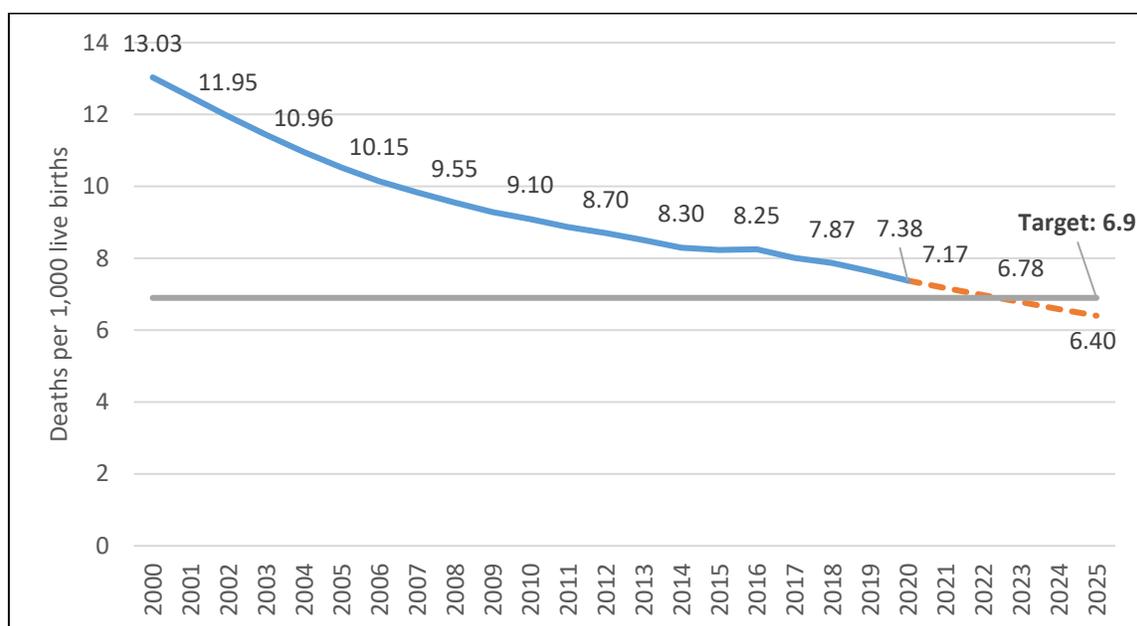
Impact Indicator 3: Neonatal mortality rate

Baseline 2017	Target 2025	2022 Status	Rating
7.9 deaths per 1,000 live births	6.9 deaths per 1,000 live births *	7.0 deaths per 1,000 live births (projected value)	On track

* This target was established based on an average annual percent change of -2.1% considering the estimates from UN IGME 2017.

Analysis: Using the latest available neonatal mortality rate (NMR) produced by the United Nations Inter-Agency Group for Child Mortality Estimation (UN IGME) for countries in the Region in 2021, it is observed that in 2020 there were 7.4 neonatal deaths per 1,000 live births. As shown in Figure A.2, the NMR projection for 2025 is 6.4 deaths per 1,000 live births. This shows a projected reduction of 13.3% for the regional NMR between 2020 and 2025. This indicates that the Region is on track to achieve the target for this indicator.

Figure A.2. Neonatal Mortality Rate, the Americas, 2000-2025



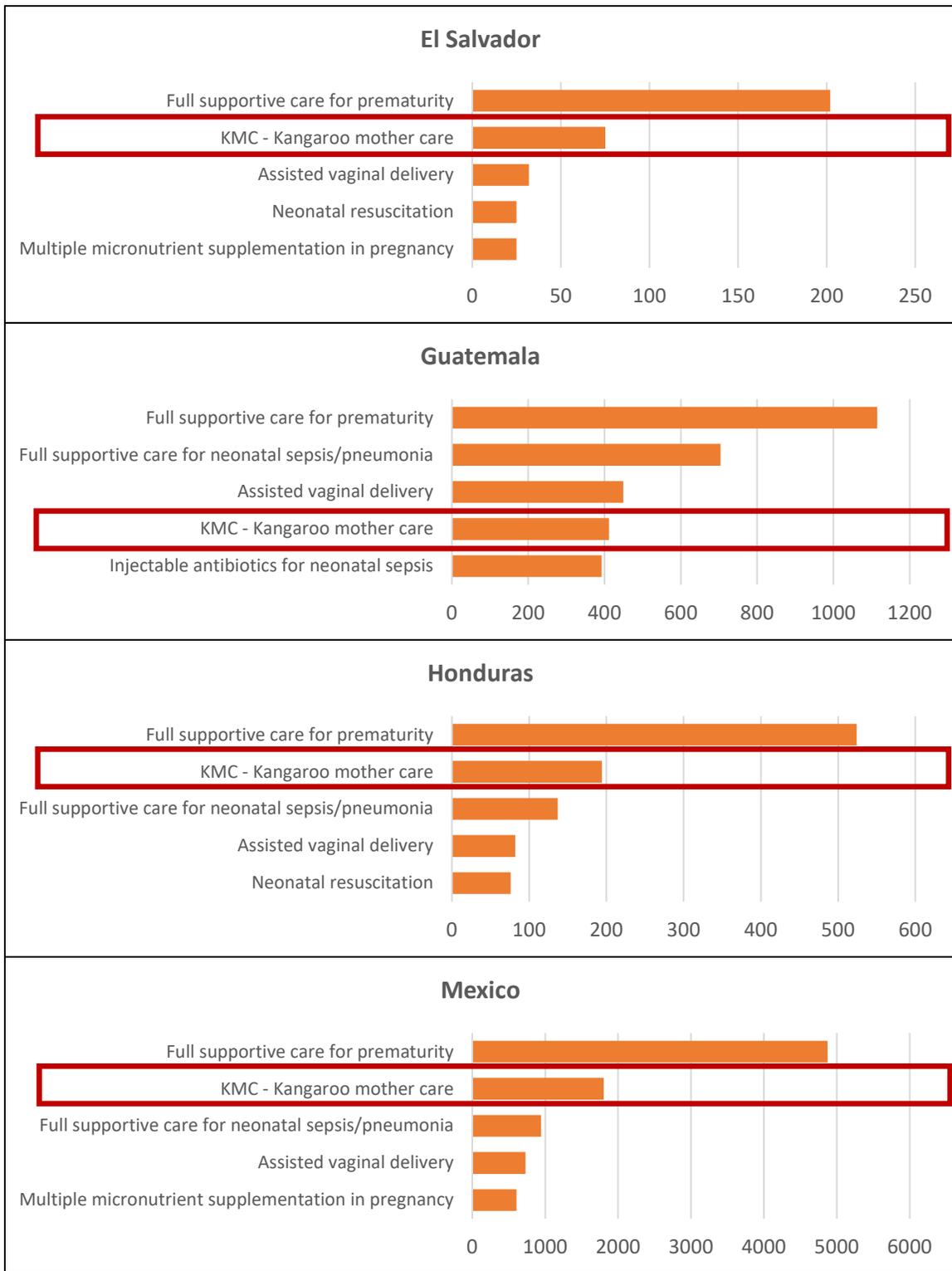
Source: UN IGME, 2021 (2020 data).

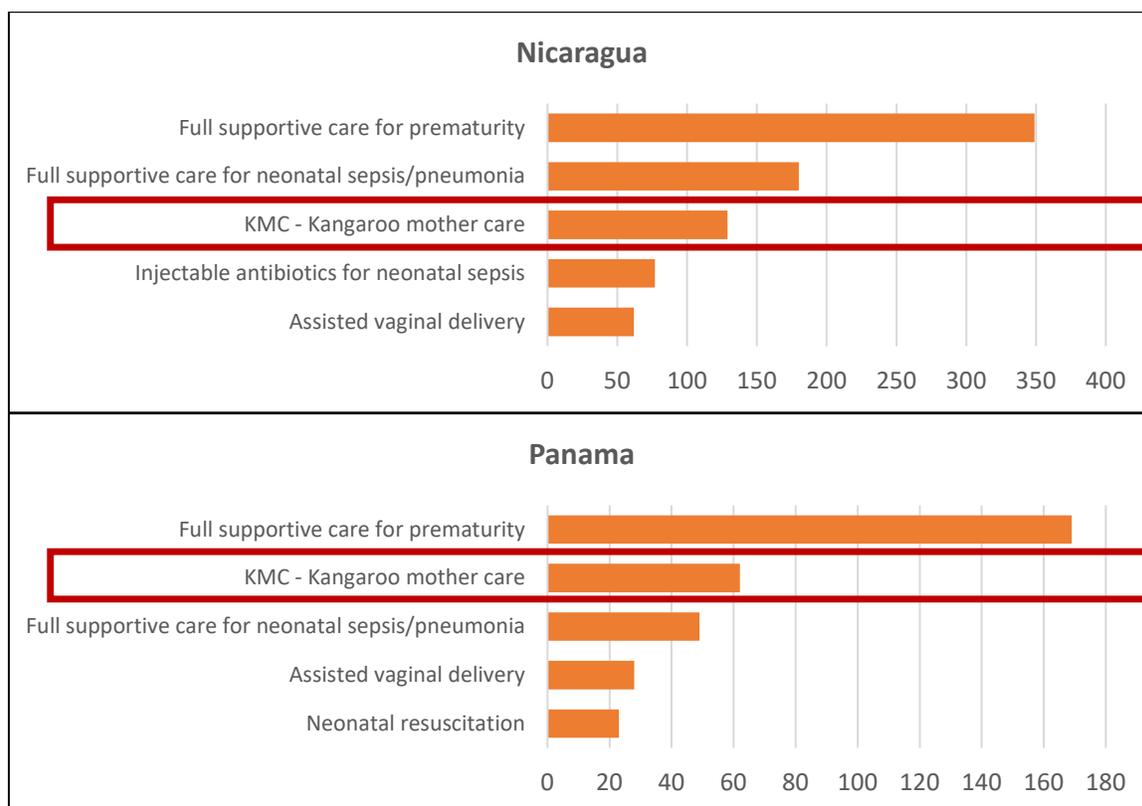
Modeling Example for Neonatal Mortality Rate

The kangaroo care method (KCM)³ has been highly effective in reducing neonatal deaths among premature infants. Figure A.3 presents the interventions with highest potential impact in reducing neonatal mortality in six Central American countries. The KCM ranks second in El Salvador, Honduras, Mexico, and Panama, while occupying third place in Nicaragua and fourth in Guatemala.

³ This method consists of holding an infant that involves skin-to-skin contact, placing the baby against the mother's or father's bare chest.

Figure A.3: Central America Subregion – Potential Neonatal Deaths Averted





Source: Lives Saved Tool (LiST/Spectrum Modelling Tool).

Table A.1 shows the results from the Lives Saved Tool within the Spectrum modelling Tool (LiST/Spectrum model), where the KCM was hypothetically set to cover at least 50% of the premature newborns at each country from the year 2022. It is observed that 454 newborn deaths could be averted by 2025.

Table A.1. Potential Impact of the Intervention to Provide 50% of Premature Newborns with the Kangaroo Care Method

<i>Additional Neonatal Lives Saved*</i>		
Country	2022-2025	2022-2030
<i>Belize</i>	5	12
<i>Costa Rica</i>	8	19
<i>El Salvador</i>	22	44
<i>Honduras</i>	114	223
<i>Mexico</i>	266	573
<i>Nicaragua</i>	21	39
<i>Panama</i>	17	41
Total	454	950

* Numbers have been rounded.

Source: LiST/Spectrum Modelling Tool

Key Takeaways and Recommendations:

- Although the Region of the Americas is on track for this indicator, careful attention should focus on countries and areas at subnational level that are above the regional average and identify programmatic areas for improvement.
- The Region has a history of promoting cost-effective interventions such as the KCM and supporting countries and territories in implementing it. The KCM is supported widely by evidence-based data and is likely one of the most cost-effective ways to reduce neonatal mortality in the Region. In particular, the Central America Subregion reported country-level successful experiences and results.
- Other inventions and policies should be identified, as appropriate for the national context, to accelerate reductions in neonatal mortality.

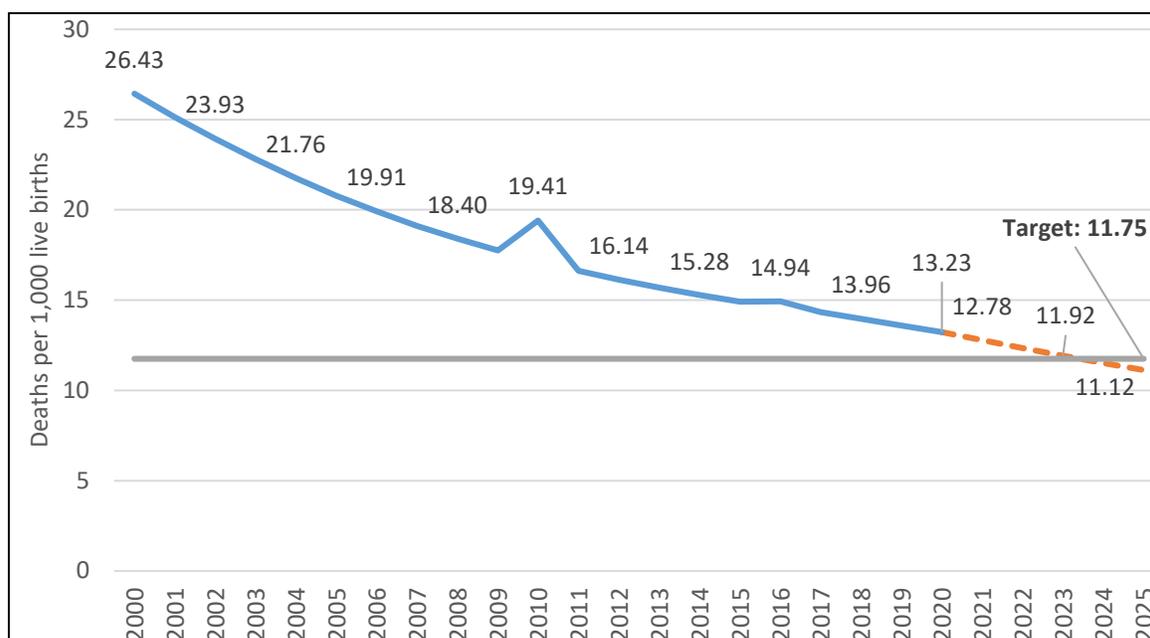
Impact Indicator 4: Under-5 mortality rate

Baseline 2017	Target	2022 Status	Rating
14.3 deaths per 1,000 live births*	11.75 deaths per 1,000 live births**	12.3 deaths 1,000 per live births	On track

* Baseline updated based on UN IGME, 2021 (2020 data).

**Considering the updated baseline information and the nature of the original Strategic Plan 2020-2025 target, PASB proposes to update the target.

Analysis: Using the latest available under-5 mortality rate (U5MR) produced by UN IGME for countries of the Americas in 2021, it is observed that in 2020 there were 13.2 deaths per 1,000 live births. As shown in Figure A.4, the U5MR projection for 2025 is 11.1 deaths per 1,000 live births. This shows a projected reduction of 15.9% for the regional U5MR between 2020 and 2025, thereby indicating that the Region is on track to achieve the target for this indicator.

Figure A.4. Under-5 Mortality Rate, the Americas, 2000-2025

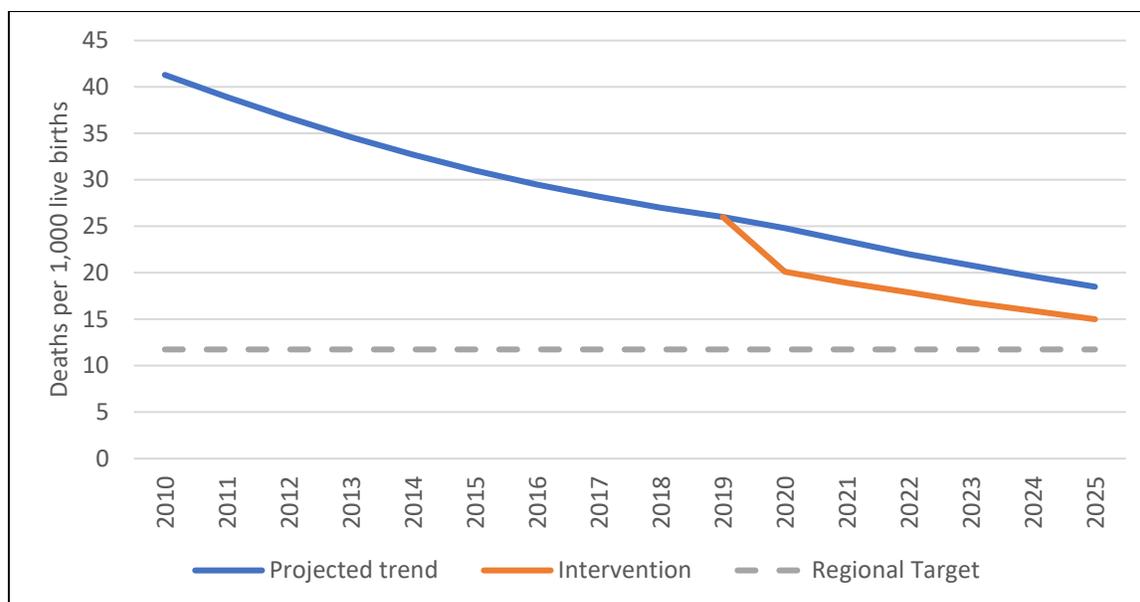
Source: UN IGME, 2021 (2020 data).

Modeling Example for Under-5 Mortality

In most countries in the Region, the largest share of under-5 mortality is associated with infectious diarrheas and pneumonias. Improving vaccination coverage against *Streptococcus pneumoniae* (pneumococcus) to 90% of the population, along with making antibiotics available and integrated case management for neonatal pneumonia, can have a significant impact on driving down the U5M rate. In the case of diarrheas, expanding access to oral rehydration salts and zinc to 90% of the population could generate an additional and significant impact on the mortality.

Figure A.5 presents a hypothetical case for the Plurinational State of Bolivia, where these interventions are modeled as a package. This intervention can change the trend for this indicator, with a change in the projection for 2025 from 18.5 deaths per 1,000 live births to 15.0 per live births. This reduction could place the country on trajectory to reach the regional goal between 2025 and 2030. Furthermore, over 18,500 deaths among the children under five years of age could be avoided.

Figure A.5: Potential Impact of the Interventions on the Under-5 Mortality Rate in the Plurinational State of Bolivia (2010-2025)



Note: The Spectrum modeling tool was applied.

Key Takeaways and Recommendations:

- For countries like the Plurinational State of Bolivia, infectious diarrheas and pneumonias still play a significant role as causes driving the U5MR.
- Increased vaccination coverage and access to cost-effective medical products, such as antibiotics, oral rehydration salts, and zinc can prevent a significant number of fatal cases of these two common infectious diseases.
- From the point of view of health services, integrated case management for neonatal pneumonia, with an equitable approach, is also considered an impactful and cost-effective strategy.

Impact Indicator 5: Proportion of children under 5 who are developmentally on track in health, learning, and psychosocial well-being

Baseline 2010-2016	Target 2025	2022 Status	Rating
84.5%*	90%	Not measured due to the limited availability of data **	Not rated

* No regional value could be estimated. This baseline represents the median value for 15 countries with surveys in the period from 2010 to 2016. The range was from 71% to 97%.

**Household surveys were not conducted due to the pandemic, but an increasing number of countries are planning surveys in 2022 and 2023. The definition of this SDG indicator has changed, and future reports will take these changes into account.

Analysis: This impact indicator (SDG 4.2.1)⁴ measures the progress toward ensuring that all girls and boys are achieving physical, mental, emotional, cognitive, and social wellbeing during early childhood. The indicator reflects the cumulative effect of social, economic, and environmental conditions in which children live from pregnancy through the first five years of life. The public health importance of early childhood development lies on the recognition that the first years of life set the foundation for a healthy trajectory throughout childhood and adolescence. It is a determinant of adult physical and mental health, and is the basis for lifelong learning, positive social relationships, and economic potential. As this indicator is under revision and subject to the availability of data, it cannot be rated at this time.

The Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs)⁵ reviewed existing methodologies and standards for every SDG indicator and classified the SDG 4.2.1 as Tier III indicator in 2016.⁶ At the time, no internationally established methodology or standards were available for the indicator. As a transitional measure, the recommendation was to use the early childhood development index (ECDI) to report progress on the indicator. The index includes four domains: literacy-numeracy, physical, socio-emotional, and learning. The data for all these domains are collected through the Multiple Indicator Cluster Surveys (MICS), which has a standard module on early childhood development.⁷ Some Demographic and Health Surveys (DHS) and other national household surveys have also included the standard or modified MICS module on early childhood development. The United Nations Children’s Fund (UNICEF) keeps an up-to-date global registry of the MICS planning and execution and creates public databases and reports. This database repository is the main source of data to report on the progress on the indicator.

Some countries in the Region have conducted population-level surveys using a set of instruments and measures of early childhood development that are different from ECDI. Results from these surveys cannot be compared or aggregated to those where ECDI was used. In that regard, progress reporting will include a separate section describing the methodology and overall results of these distinct surveys by country and year.

⁴ [UNICEF is the custodian of SDG 4.2.1](#) and as such is responsible for: developing internationally agreed standards and methodologies and supporting their adoption; strengthening national statistical capacities and reporting mechanisms; establishing mechanisms for compilation and verification of national data; computing regional and global aggregates; and maintaining global databases and submitting internationally comparable estimates to the UN Statistics Division for inclusion in the SDG global database.

⁵ [The Inter-agency and Expert Group on SDG Indicators](#) was created in March 2015 by the United Nations Statistical Commission and was tasked with developing and implementing the global indicator framework for the Goals and targets of the 2030 Agenda. It is composed of Member States. Regional and international agencies participate as observers. It is currently chaired by Japan, and members from this Region are Brazil, Grenada, Trinidad and Tobago, Colombia, and the Dominican Republic.

⁶ United Nations Statistics Division. Tier Classification for Global SDG Indicators (as of 9 June 2022). Available at: <https://unstats.un.org/sdgs/iaeg-sdgs/tier-classification/>.

⁷ The [Multiple Indicator Cluster Surveys \(MICS\)](#) was developed by UNICEF in the mid-1990s and collects data from women and men aged 15 to 49 years, mothers or caretakers of all children under 5 years of age, and a randomly selected child aged 5-17. The sample size varies but is around 12,000 households and results provide information on WASH, child nutrition, immunization, education, development, child protection, and women’s sexual and reproductive health.

Key Takeaways and Recommendations:

- Using the ECDI measurement, four countries and territories (Barbados, Saint Lucia, Trinidad and Tobago, and Turks and Caicos) have achieved the 90% target for 2025.
- The new method to measure this indicator was presented and approved by the IAEG-SDGs in February 2022. Accordingly, the description of the SDG 4.2.1 has changed, and it is currently: “*Proportion of children aged 24–59 months who are developmentally on track in health, learning and psychosocial well-being*”.
- The original indicator referred to *all children less than five years of age*. For the children not included in the Early Childhood Development Index 2030 (ECDI2030), WHO and a large number of partners have created the Global Scale for Early Development (GSED),⁸ which is a set of internationally standardized and validated measurement instruments used to assess early childhood development for children aged 3 years and younger. These measures are culturally neutral, easy to administer, open access, and acceptable and understandable to caregivers and children. As part of the GSED launch in 2022, information will be shared on the application of ECDI2030 and GSED.
- Five countries are planning to have a new survey in 2022 or 2023 (Jamaica, Nicaragua, Paraguay, Saint Lucia, and Trinidad and Tobago).

Impact Indicator 6: Maternal mortality ratio (maternal deaths per 100,000 live births)

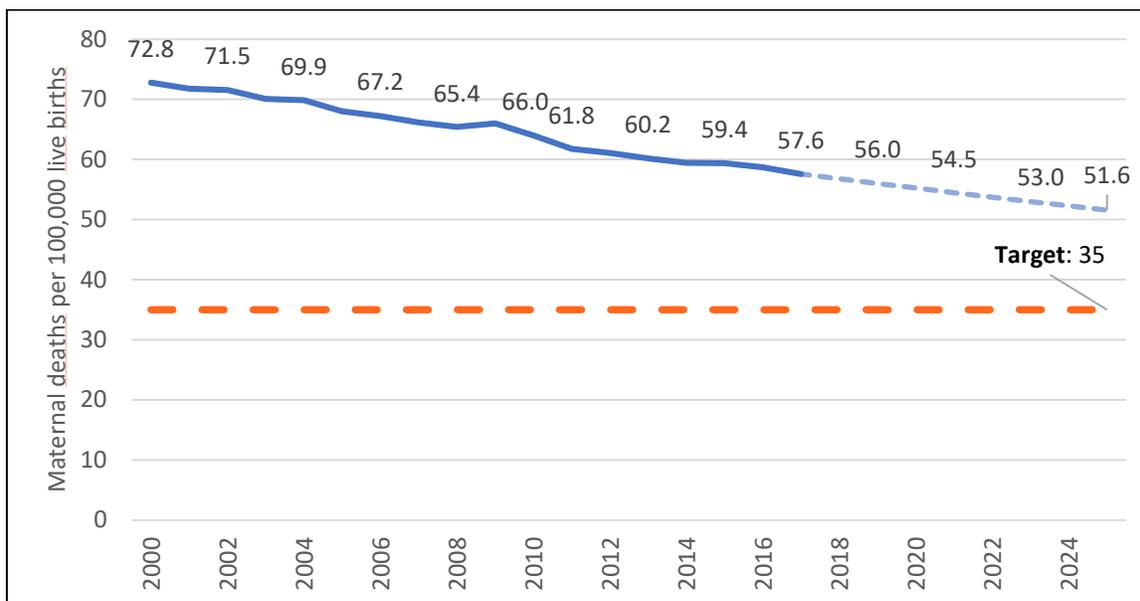
Baseline 2015	Target 2025	2022 Status	Rating
59.37 deaths per 100,000 live births*	35 deaths per 100,000 live births	53.7 deaths per 100,000 live births	In trouble

* Baseline updated.

Source: United Nations Maternal Mortality Estimation Inter-Agency Group (MMEIG), 2019

Analysis: Using the latest available maternal mortality ratio (MMR) produced by the Maternal Mortality Estimation Inter-Agency Group (MMEIG), it is estimated that in 2020 there were 55.24 maternal deaths per 100,000 live births in the Americas. As shown in Figure A.6, the projected estimate for 2025 is 51.56 maternal deaths per 100,000 live births; therefore, a projected reduction of 6.7% for the regional MMR between 2020 and 2025. This indicates that the Region is not likely to achieve the target for this indicator.

⁸ More information available at: <https://www.who.int/teams/mental-health-and-substance-use/data-research/global-scale-for-early-development>

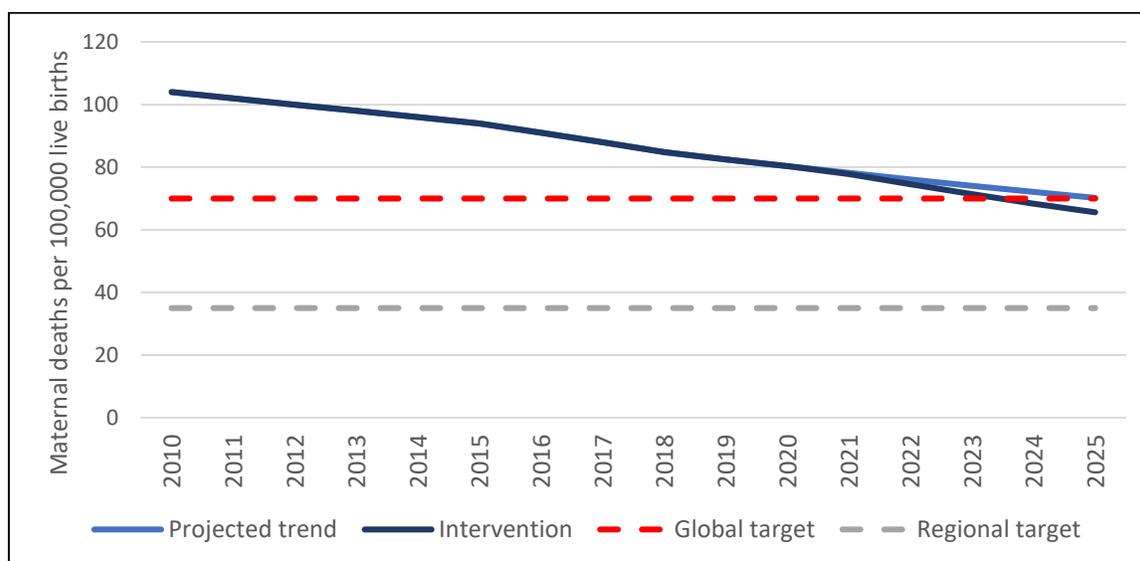
Figure A.6. Maternal Mortality Ratio, the Americas, 2000-2025

Source: United Nations Maternal Mortality Estimation Inter-Agency Group (MMEIG), 2019

Modeling Example for Maternal Mortality Ratio

Depending on the epidemiological profile for the country or territory, different interventions potentially account for different rates of impact in reducing the number of maternal deaths. For example, almost 30% of all maternal deaths in Peru are caused by sepsis. In this case, increasing access to parenteral antibiotics and blood to cover 85% and 20% of the population respectively could reduce the MMR from 70.2 maternal deaths per 100,000 live births, to 65.6 maternal deaths per 100,000 live births, as shown in Figure A.7. This reduction would allow the country to reach the global SDG target of 70 maternal deaths per 100,000 live births.

Figure A.7: Potential Impact of Increasing Coverage of Antibiotics and Blood on Maternal Mortality Ratio in Peru (2010-2025)



Source: The Spectrum model was applied.

Key Takeaways and Recommendations:

- Interventions, with a focus on vulnerable populations, should be identified to target programs at subnational levels that address the need for those areas and implement policies to improve the quality of antenatal, delivery, and postnatal care.
- For several countries, such as Peru, infections and sepsis are key contributors to maternal mortality.
- Expanding access to parenteral antibiotics and blood is a reliable and cost-effective measure that can prevent a large number of fatal cases of maternal sepsis.
- Considering this indicator was already not on track before the pandemic and that additional information is needed to fully assess its impact, a comprehensive review of the 2025 target should be conducted as soon as such information becomes available. Member States will be consulted on any necessary actions in this regard.

Impact Indicator 7: Rate of mortality amenable to health care (deaths per 100,000 population)

Baseline 2018	Target 2025	2022 Status	Rating
137.0 deaths per 100,000 population *	117.2 deaths per 100,000 population **	125.8 deaths per 100,000 population ***	On track

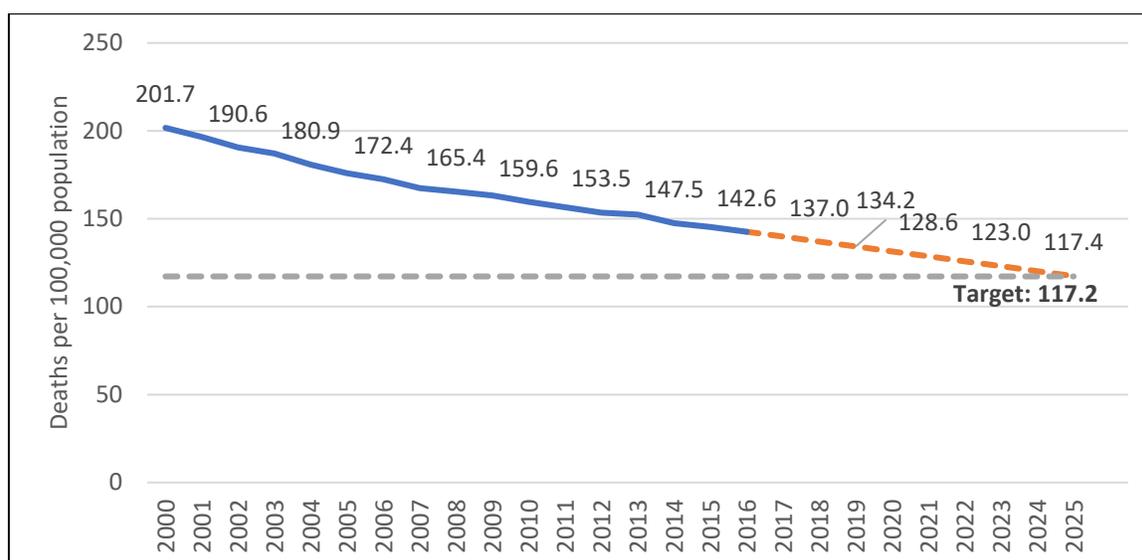
* Corrected Regional Mortality database; 2018.

** Updated with the current data from the Corrected Regional Mortality database; 2018.

*** Forecasted from the Corrected Regional Mortality database; 2018.

Analysis: Based on the latest available data from the corrected PAHO Regional Mortality Database (2018), the baseline age-adjusted mortality amenable to health care (MAHR) rate was estimated at 137.0 deaths per 100,000 population for 2018. As shown in Figure A.8, the current forecast for 2025 is 117.4 deaths per 100,000 population,⁹ showing an annual average reduction of 2.2% between 2018 and 2025. To reach the target, the Region must maintain an annual reduction of 2.2%. This indicates that the Region is on track to reach the target of this indicator.

Figure A.8 Age-adjusted Rate of Mortality from Amenable to Health Care Causes (Deaths per 100,000 Population)



Source: ENLACE: Data Portal on Noncommunicable Diseases, Mental Health, and External Causes, PAHO. Forecast based on Global Health Estimates 2019, WHO, 2020

Key Takeaways and Recommendations:

- While the Region can be assessed as being on track to achieve the target, it is important to acknowledge that the impact of the COVID-19 pandemic on the performance of the MAHR is yet to be known.
- Reducing the level of amenable mortality requires a comprehensive and systemic approach that addresses the particularities of each country in terms of inequalities in the social determinants, promotes the prevention and control of outcomes such as noncommunicable diseases (NCDs), improving their timely diagnosis and treatment,

⁹ Forecast has been conducted applying the methodology proposed in this publication: Sanhueza A, Espinosa I, Mujica OJ, da Silva Jr. JB. Leaving no one behind: a methodology for setting health inequality reduction targets for Sustainable Development Goal 3. *Rev Panam Salud Publica.* 2021;45:e63. <https://doi.org/10.26633/RPSP.2021.63>. Available at: <https://www.paho.org/journal/en/articles/leaving-no-one-behind-methodology-setting-health-inequality-reduction-targets-sustainable>

as well as addressing differences across sociodemographic variables, such as sex, age, and ethnicity.

- Strengthening health systems and their ability to deliver primary healthcare services and ensuring access to essential medicines is critical to reducing MAHR. Likewise, efforts to fortify health system resilience proactively prepares countries for health emergencies.

Impact Indicator 8: Proportion of adults 65+ who are care-dependent

Baseline 2010	Target 2025	2022 Status	Rating
~8.0%	6.5%	Indicator revision recommended to improve measurability and accuracy. Technical working group is investigating methodologies for this.	Not rated

Analysis: Because of the impact and burden of dependency on care on health systems, particularly for the older population, it is crucial to start monitoring this indicator even though there is not yet a simple and straightforward method to measure care dependence. Many countries do not collect information that enables the measurement for this impact indicator. The fact that countries in the Region are experiencing a very fast demographic and epidemiological transition emphasizes the need to measure this indicator to provide information and promote action targeting long-term care. At the same time, given these rapid changes, the baseline and target percentages may need to be adjusted. The performance of this indicator cannot be rated, as it is currently being refined.

In response to the challenges of measuring this indicator, in 2021 PAHO established a technical group¹⁰ of experts to support the development of an improved indicator, and to discuss the best methods for measuring the indicator and mapping available data sources. Based on the Washington Group on Disability Statistics model, which considers evaluating daily living activities and the level of difficulty required to perform them, the technical group has reviewed potential studies and databases that will be used to provide an estimate of care.

¹⁰The technical group is comprised of: WHO Collaborating Centers representatives from the INGER/Mexico; CITED/Cuba; Sealy Center on Aging – UTMB Galveston/USA; Agencies: representatives of the Inter-American Development Bank and United Nations Population Fund (UNFPA); and researchers from Member States (Brazil, Chile, Costa Rica, and United States of America).

Key Takeaways and Recommendations:

- Although older persons comprise a diverse population, the aging process is accompanied by a greater risk of developing multiple chronic conditions and decline in functional abilities. Therefore, older adults are at increased risk of dependency. The growing proportion of older persons in the Region implies a substantial increase in the demand for care services that countries will have to address in the coming decades. This explains the need to further investigate and adapt the baseline and proposed target.
- The proposed methods of evaluation and preliminary results will be shared with the technical group in the second half of 2022 to revise results achieved for measuring care dependency from available studies and discuss potential ways to better present and monitor the impact indicator.

Impact Indicator 9: Unconditional probability of dying between ages 30 and 70 years from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases

Baseline 2016	Target 2025	2022 Status	Rating
14.62%*	11.7 (20% relative reduction)	13.73%**	In trouble

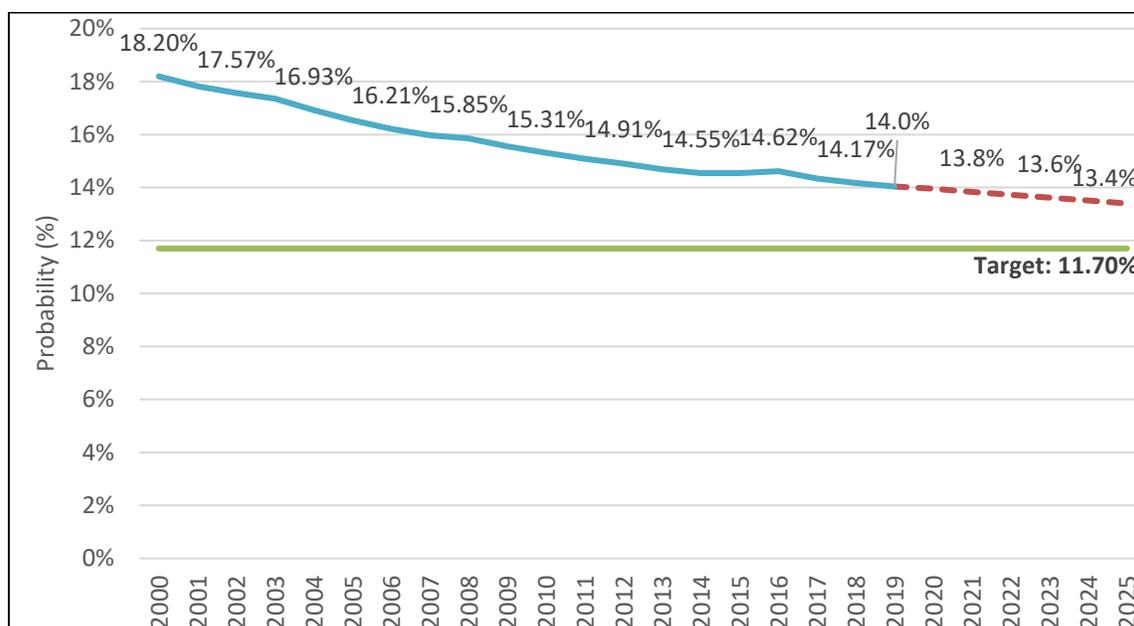
* Baseline updated with data from: ENLACE: Data Portal on Noncommunicable Diseases, Mental Health, and External Causes, PAHO. Projection based on Global Health Estimates 2019, WHO, 2020.

** Calculated by exponential smoothing for the 2010-2019 period.

Analysis: Using the latest available estimates¹¹, the probability of dying between ages 30 and 70 years from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases in 2019 was 14%. As shown in Figure A.9, the projection for 2025 is 13.4%. This shows a projected regional reduction of 7.6% between 2019 and 2025. To reach the 2025 target, an annual reduction of 2.7% is required, and the current rate is 2.0%, indicating that the Region is not likely to achieve the target.

¹¹ Global Health Estimates 2019 (GHE 2020): Deaths by Cause, Age, Sex, by Country and by Region, 2000-2019. Geneva, World Health Organization; 2020. Available at: <https://www.who.int/data/gho/data/themes/mortality-and-global-health-estimates>

Figure A.9: Unconditional Probability of Dying between Ages 30 and 70 Years from Cardiovascular Diseases, Cancer, Diabetes, or Chronic Respiratory Diseases



Source: Global Health Estimates 2019 (GHE 2020): Deaths by Cause, Age, Sex, by Country and by Region, 2000-2019. Geneva, World Health Organization; 2020.

Key Takeaways and Recommendations:

- Interventions must be strengthened to address risk factors and to prevent NCDs and diagnose and treat complications mainly due to cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases.
- Similar to amenable mortality, reducing premature mortality requires a comprehensive and systemic approach that addresses the particularities of each country in terms of inequalities in the social determinants, promotes the prevention and control of outcomes such as NCDs, improving their timely diagnosis and treatment, as well as addressing differences by gender and other variables.

Impact Indicator 10: Mortality rate due to cervical cancer

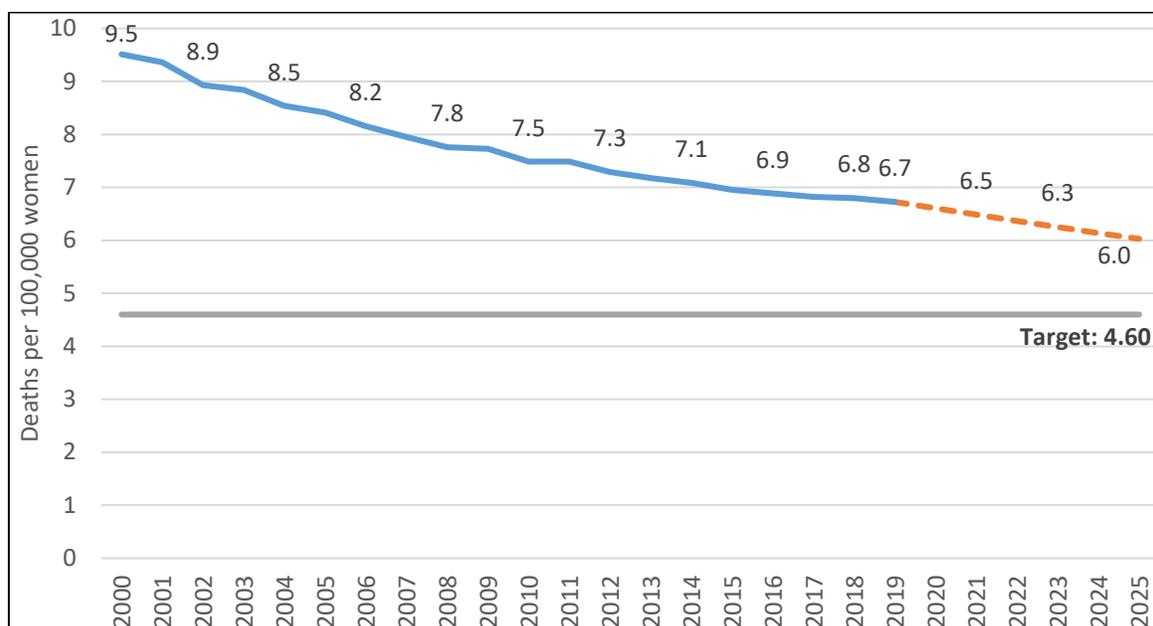
Baseline 2018	Target 2025	2022 Status	Rating
6.79 deaths per 100,000 women*	4.6 deaths per 100,000 women	6.36 deaths per 100,000 women **	In trouble

* Baseline updated with data from: Global Health Estimates 2019 (GHE 2020): Deaths by Cause, Age, Sex, by Country and by Region, 2000-2019. Geneva, World Health Organization; 2020.

** Calculated by exponential smoothing for the 2010-2019 period.

Analysis: Using the latest available estimates,¹² the rate of deaths due to cervical cancer in 2019 was 6.72 deaths per 100,000 women. As shown in Figure A.10, the projection for 2025 is 6.02 deaths per 100,000 women. This shows a projected regional reduction of 10.4% between 2019 and 2025. To reach the 2025 target, an annual reduction of 8.66% is required, and the current rate is 1.82%, indicating that the Region is not likely to reach the target.

Figure A.10. Mortality Rate due to Cervical Cancer



Source: ENLACE: Data Portal on Noncommunicable Diseases, Mental Health, and External Causes, PAHO. Forecast based on Global Health Estimates 2019, WHO, 2020.

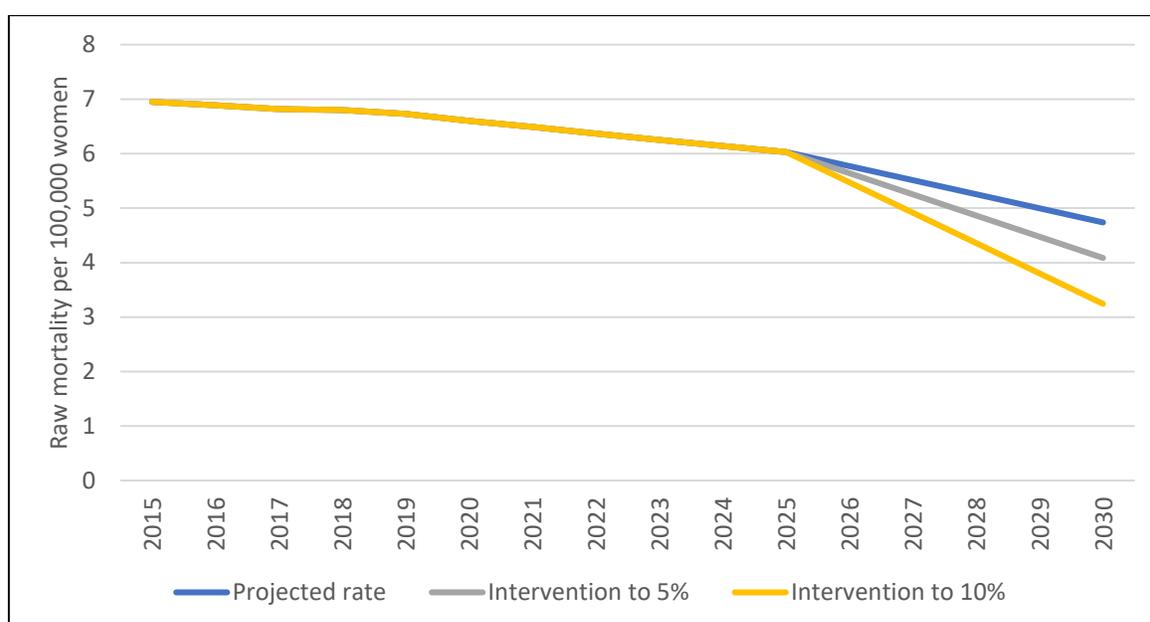
Modeling Example for Cervical Cancer

Cervical cancer incidence and mortality present varying trends across countries and territories in the Region. The Global strategy to accelerate the elimination of cervical cancer as a public health problem set a threshold of less than four cases per 100,000 women-years to eliminate the disease, and defined three targets to achieve that goal: *a*) to achieve full human papillomavirus (HPV) vaccination in 90% of girls by 15 years old, *b*) to achieve screening in 70% of women with a high performance test by age 35, and again by age 45, and *c*) to effectively treat at least 90% of women identified with cervical cancer. In terms of screening, a large body of literature supports the introduction of HPV testing as a cost-effective approach either instead of or in addition to the traditional cytological strategies.

¹² Global Health Estimates 2019 (GHE 2020): Deaths by Cause, Age, Sex, by Country and by Region, 2000-2019. Geneva, World Health Organization; 2020. Available at: <https://www.who.int/data/gho/data/themes/mortality-and-global-health-estimates>

Figure A.11 presents two hypothetical scenarios for Brazil where 5% and 10% of the women who have not received cytology-based screening undergo HPV testing. Even though increased screening might result in a transient increase in the registered incidence of cancer due to higher early detection, and no changes in mortality are expected in the short term (i.e., before 2025), the mortality rate due to cervical cancer could be reduced by the year 2030 from a projected rate of 4.73 per 100,000 women to 4.1 or 3.3 deaths per 100,000 women. However, reaching this goal depends on whether the coverage of the intervention reaches 5% or 10% of women who are not screened.

Figure A.11: Potential Impact of Increased Screening with HPV Testing on Cervical Cancer Mortality in Brazil (2015-2030)



Source: ENLACE: Data Portal on Noncommunicable Diseases, Mental Health, and External Causes, PAHO. Forecast based on Global Health Estimates 2019, WHO, 2020

Key Takeaways and Recommendations:

- In several countries in the Region, wide proportions of high-risk women are not covered by cervical cancer screening. Interventions should be strengthened to prevent complications due to HPV infections. Depending on the incidence of HPV and population risks, HPV testing can identify approximately 12.3 C.I.N2 and 10.3 C.I.N3¹³ cases per thousand procedures.
- The early identification of pre-neoplastic conditions in association with HPV infection, and timely linkage to effective treatment would reduce cervical cancer mortality and the burden of disease.

¹³ Cervical intraepithelial neoplasia.

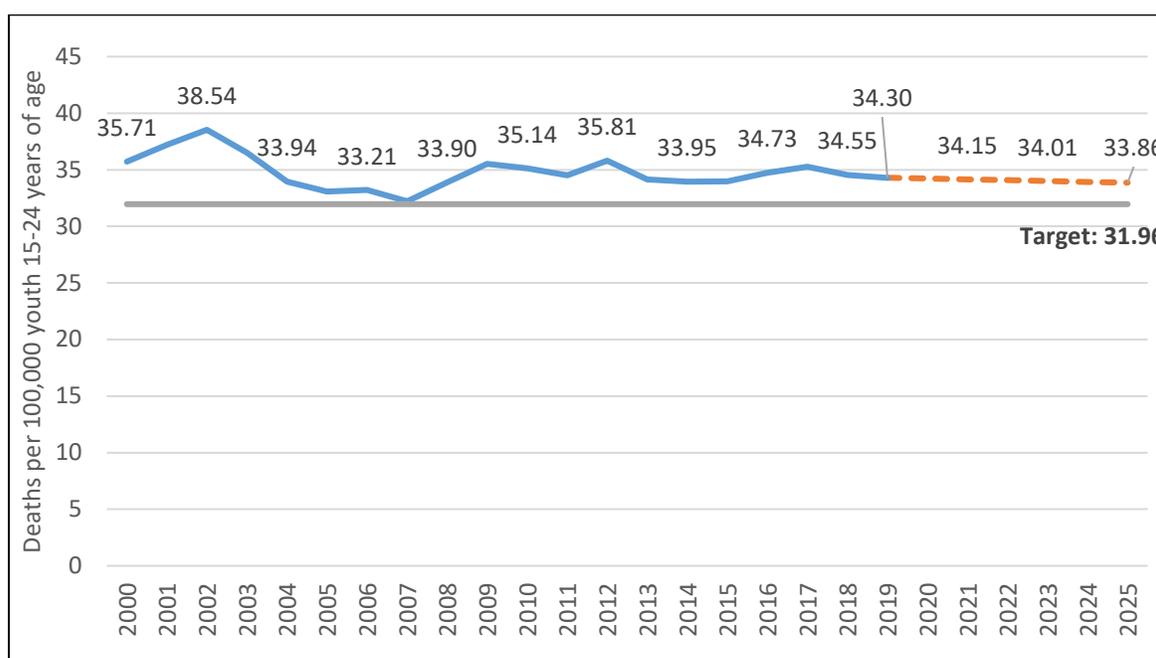
Impact Indicator 11: Mortality rate due to homicide among youths 15-24 years of age

Baseline 2015	Target 2025	2022 Status	Rating
33.98 deaths per 100,000 youth 15-24 years of age	31.96 deaths per 100,000 youth 15-24 years of age	34.07 deaths per 100,000 youth 15-24 years of age (projected value)	In trouble

* Baseline updated with data from: Global Health Estimates 2019 (GHE 2020): Deaths by Cause, Age, Sex, by Country and by Region, 2000-2019. Geneva, World Health Organization; 2020.

Analysis: Using the latest available data from WHO for the homicide rate among youth aged 15-24, it is observed that in 2019 there were 34.30 deaths per 100,000 of that population age. In 2022, the rate is estimated at 34.07 deaths per 100,000 youth aged 15-24. As shown in Figure A.12, the projected rate for 2025 is 33.86 deaths per 100,000 youth aged 15-24. This shows a projected reduction of 5.2% for the regional estimate between 2020 and 2025, indicating that the Region is not likely to achieve the target.

Figure A.12. Mortality Rate due to Homicide among Youths 15-24 Years of Age, 2000-2025



Source: WHO Global Health Estimates, 2020 (2019 data).

Key Takeaways and Recommendations:

- Interventions to reduce violence and homicide among youth require a comprehensive approach to address the social determinants of violence and inequalities, especially through a community-related approach that focuses on social protections.

- There is evidence that improving social, economic, employment, and educational status and opportunities for youth mitigates the risk of exposure to violence.
- The Region must strengthen the evidence base on guidance and mitigation strategies for reducing violence in various settings, as countries have different profiles.

Impact Indicator 12: Proportion of ever-partnered women and girls aged 15-49 years subjected to physical and/or sexual violence by a current or former intimate partner in the previous 12 months

Baseline 2018	Target 2025	2022 Status	Rating
7%*	7% (No increase)	Not measured due to limited availability of data	Not rated

* Data were published by WHO in 2021 following review of available data and a consultation of Member States in 2020 (see further details below).

Source: WHO, on behalf of the United Nations Inter-Agency Working Group on Violence Against Women Estimation and Data (VAW-IAWGED). Violence Against Women Prevalence Estimates, 2018. Global, regional, and national prevalence estimates for intimate partner violence against women and global and regional prevalence estimates for non-partner sexual violence against women. Geneva: WHO: 2021.

Analysis: Violence against women and girls is a major public health and human rights challenge in the Region of the Americas. This indicator measures changes in the levels of recent intimate partner violence against women and girls within marriage or marriage-like relationships, with a focus on the last 12 months. The indicator is limited to physical and/or sexual violence (specifically, SDG 5.2.1, sub-indicator 4) because of a lack of internationally comparable measures and definitions of psychological violence by intimate partners. Additionally, there are no updated data to provide an estimate for 2022. Therefore, the indicator performance cannot be rated at this time.

This indicator is specifically based on WHO global, regional, and national estimates¹⁴ of violence against women, developed on behalf of the United Nations Inter-Agency Working Group on Violence Against Women Estimation and Data (VAW-IAWGED). The VAW-IAWGED was formed in 2017 of representatives from WHO, UN-Women, UNICEF, the United Nations Population Fund (UNFPA), the United Nations Office on Drugs and Crime (UNODC) and the United Nations Statistics Division (UNSD) to improve the measurement of violence against women and strengthen its global monitoring and reporting, including of the relevant SDG indicators. The work of VAW-IAWGED has been supported by a Technical Advisory Group (TAG)—an independent panel of external academic and technical experts and national statistics office representatives—in the production of the estimates.

¹⁴ More information available at:

https://srhr.org/vaw-data/data?region=Americas®ion_class=WHO&violence_type=ipv&violence_time=lifetime&age_group=15_49

Key Takeaways and Recommendations:

- Most of the data for this indicator are from surveys. It is important to note that surveys that collect these estimates are not always carried out at regular intervals. Suggested measurement frequency is every five years, given that this indicator is not likely to show significant changes within shorter intervals of time.
- The Region should also consider alternative methods for estimating progress for this indicator and tracking progress over time within the span of the Strategic Plan period, given the periodicity of surveys.

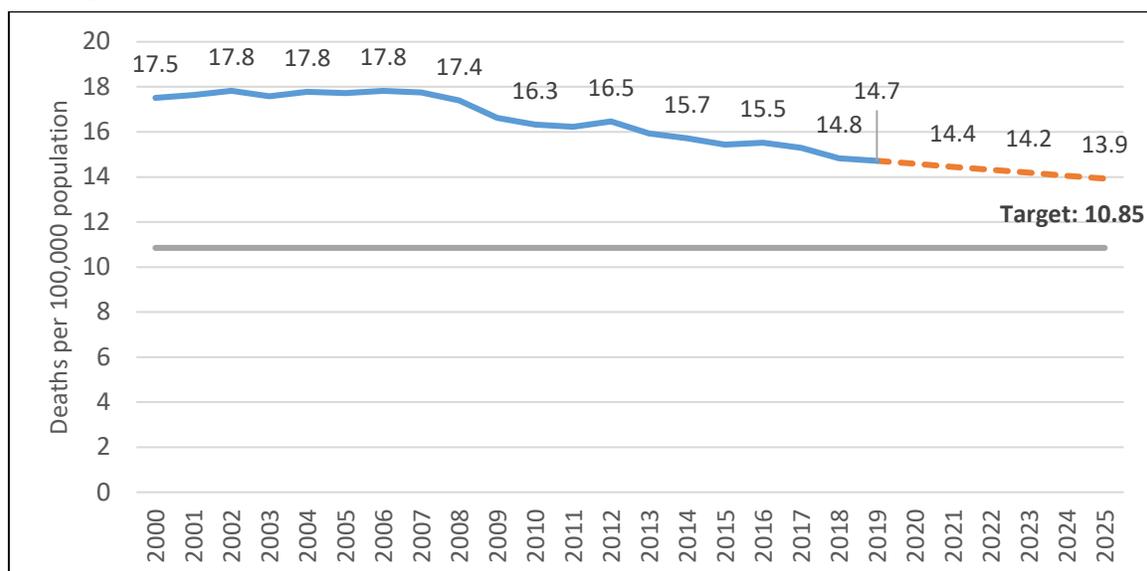
Impact Indicator 13: Number of deaths due to road traffic injuries

Baseline 2016*	Target 2025	2022 Status	Rating
Number of deaths: 154,000 Mortality Rate: 15.5 deaths per 100,000 population**	Number of deaths: 123,000 Mortality Rate: 10.85 deaths per 100,000 population **	Number of deaths: 142,000 Mortality Rate: 14.31 deaths per 100,000 population**	At risk

* Baseline updated with data from: Global Health Estimates 2019 (GHE 2020): Deaths by Cause, Age, Sex, by Country and by Region, 2000-2019. Geneva, World Health Organization; 2020.

**The number of deaths was converted to mortality rate, as WHO now reports the number and mortality rate for this indicator, which allows for comparability across countries.

Analysis: In addition to the number of deaths due to road traffic injuries, the mortality rate for this indicator is included as a standard method to allow comparability across countries in the region and considers population size. This approach is consistent with how WHO currently reports the number and rate for deaths due to road traffic injuries. Observing the latest available data from WHO in 2019, the mortality rate was 14.7 deaths per 100,000 population. As shown in Figure A.13, the projected mortality rate for 2025 is 13.9 deaths per 100,000 population. This shows a projected reduction of 20.5% for the regional estimate between 2020 and 2025. This indicates that the Region is at risk of not achieving the target for this indicator.

Figure A.13. Mortality due to Road Traffic Injuries, the Americas, 2000-2025

Source: Global Health Estimates 2019 (GHE 2020): Deaths by Cause, Age, Sex, by Country and by Region, 2000-2019. Geneva, World Health Organization; 2020.

Key Takeaways and Recommendations:

- Reducing mortality due to road traffic injuries requires a coordinated, multisectoral approach that involves improvements in road safety, road and city designs, and life-saving emergency care, and traffic laws and enforcement.
- Strengthening data collection, monitoring and evaluation, and reporting within country information systems is essential to improve mortality estimates for this indicator, especially as data come from multiple sectors.

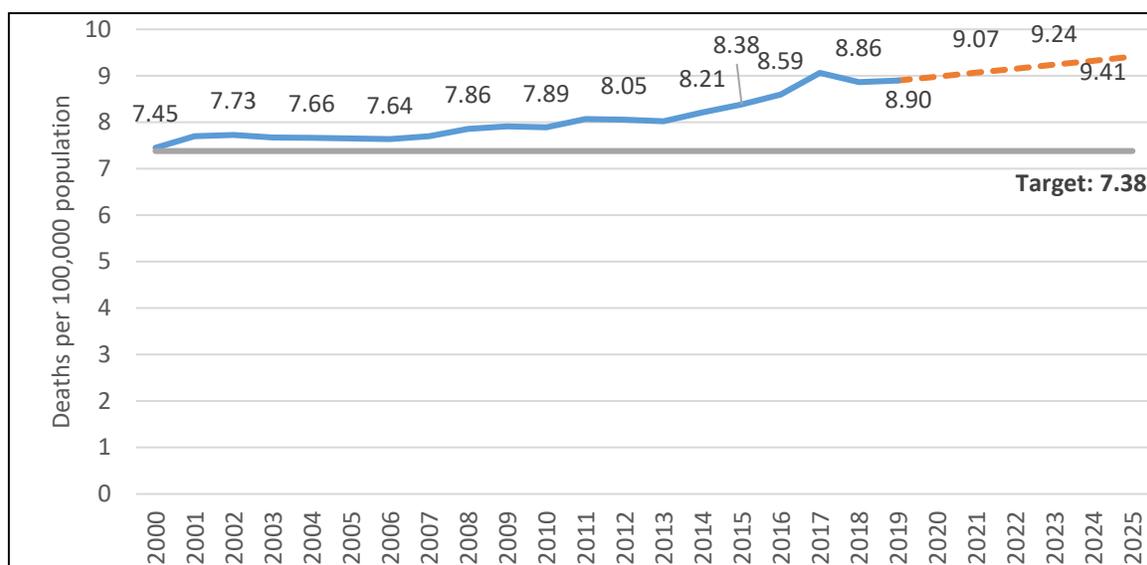
Impact Indicator 14: Mortality rate due to suicide

Baseline 2015	Target 2025	2022 Status	Rating
8.38 deaths per 100,000 population*	7.54 deaths per 100,000 population**	9.15 deaths per 100,000 (projected value)	In trouble

* Baseline updated with data from: Global Health Estimates 2019 (GHE 2020): Deaths by Cause, Age, Sex, by Country and by Region, 2000-2019. Geneva, World Health Organization; 2020.

**The target in the approved Strategic Plan was a 10% reduction. Since the baseline is updated, the target has been revised.

Analysis: Using the latest available data from WHO for the suicide mortality rate, it is observed that in 2019 there were 8.9 deaths per 100,000 population. The suicide rate has steadily increased over the last two decades. As shown in Figure A.14, the projected 2025 suicide rate for the Region is 9.4 deaths per 100,000 population. This shows a projected increase of 26.3% for the period between 2020 and 2025. This indicates that this indicator is in trouble and the Region is not likely to achieve the target.

Figure A.14. Mortality rate due to suicide, the Americas, 2000-2025

Source: Global Health Estimates 2019 (GHE 2020): Deaths by Cause, Age, Sex, by Country and by Region, 2000-2019. Geneva, World Health Organization; 2020.

Key Takeaways and Recommendations:

- The Region must strengthen the data quality on suicide and suicide attempts, starting with developing and implementing national suicide prevention efforts.
- The strongest risk factor for suicide is a previous suicide attempt.
- An example of a best practice for addressing the suicide mortality rate is observed in Belize, where efforts were made to develop a National Suicide Prevention Plan. The Belize Health Information System is a real-time and up-to-date digital health information system that also gathers data on mental health issues, including suicide, and has a built-in alert system for suicide attempts that allows for follow up and enables the understanding of suicide patterns in the country.
- Coordination must be strengthened, as addressing suicide requires a comprehensive, multisectoral approach that also considers targeted approaches for vulnerable groups, as suicide rates are high in these populations.
- Considering this indicator was already not on track before the pandemic and that additional information is needed to fully assess its impact, a comprehensive review of the 2025 target should be conducted as soon as such information becomes available. Member States will be consulted on any necessary actions in this regard.

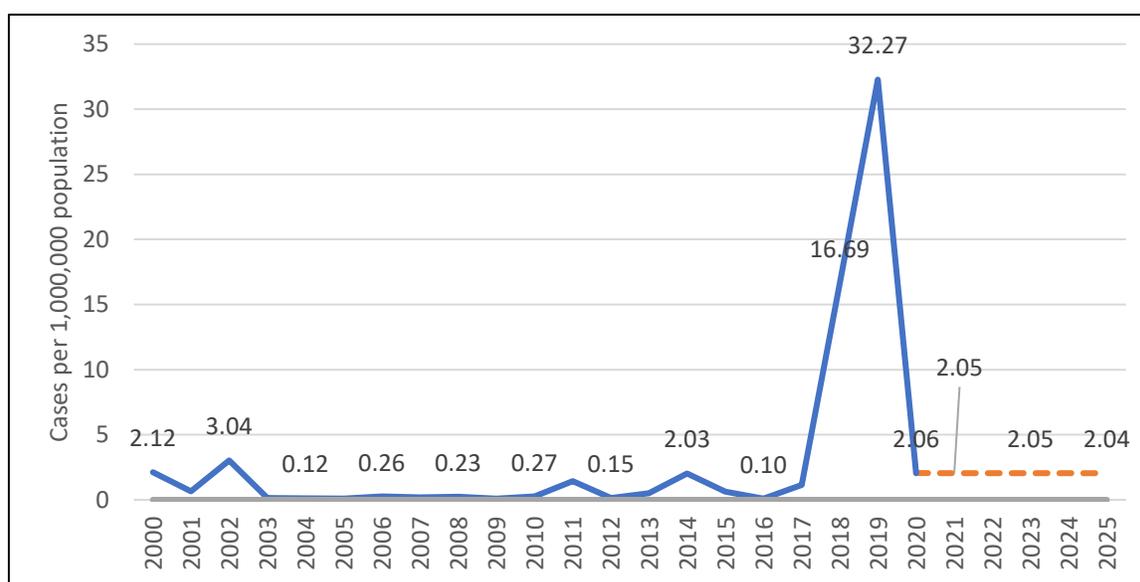
Impact Indicator 15: Measles incidence rate

Baseline 2018	Target 2025	2022 Status	Rating
16.7 cases per 1,000,000 population*	0.00 cases per 1,000,000 population	2.05 cases per 1,000,000 population (projected value)	At risk

*Baseline data for this indicator was updated using 2018 data from the WHO Global Health Observatory.

Analysis: In 2018, the measles incidence rate regional average was 16.7 cases per 1 million population, due to outbreaks in several countries. In 2019, the measles incidence within the Region was at an all-time high of 32.27 cases per 1 million population, primarily due to an outbreak within the Region. As of 2020, the measles incidence was under control at 2.06 cases per 1 million population. As shown in Figure A.15, the projected reduction for measles incidence is expected to remain steady at 2.04 cases until 2025. Disease surveillance and maintaining high immunization rates are critical, as the Region is at risk of increased measles incidence, should there be an outbreak.

Figure A.15. Measles Incidence Rate, the Americas, 2000-2025



Source: WHO, Global Health Observatory.

Key Takeaways and Recommendations:

- As measles continues to circulate globally, and countries in the Region report sporadic outbreaks, active surveillance must be strengthened, and high immunization rates be maintained.
- Because of migration, efforts should be made to strengthen collaboration in data sharing and vaccination efforts, across countries, especially among neighboring countries, as populations tend to move in times of crises.

- Improve immunization surveillance monitoring and evaluation systems within countries to include equity metrics with the aim of achieving greater than 95% coverage of two doses of measles vaccine at national and subnational levels.

Impact Indicator 16: Incidence rate of HIV infections

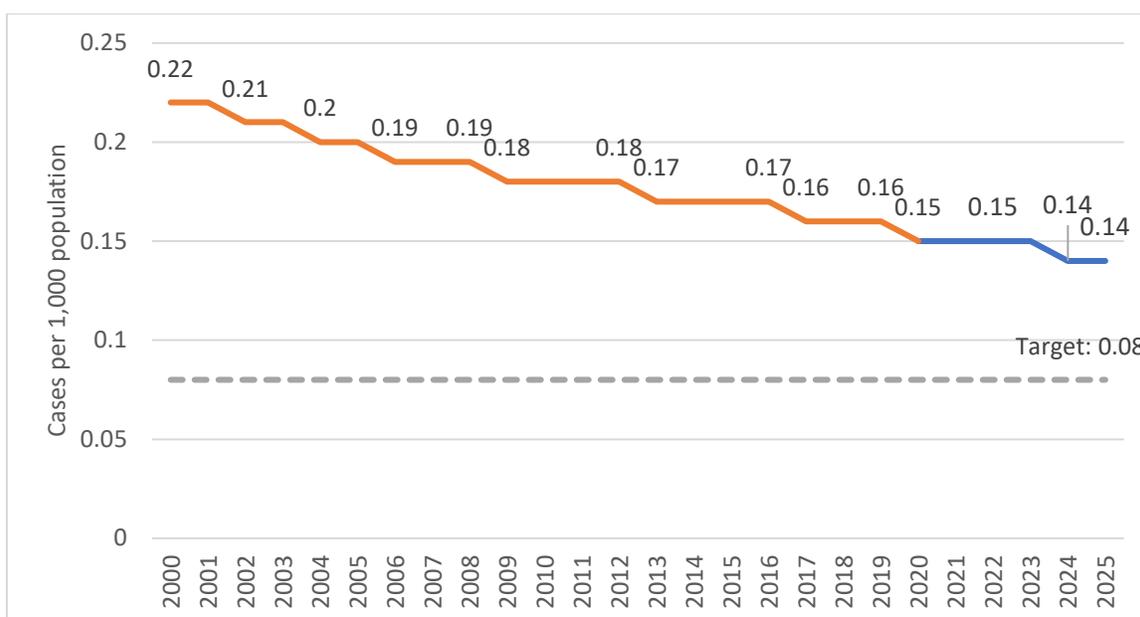
Baseline 2017	Target 2025	2022 Status	Rating
0.16 cases per 1,000 population*	0.08 cases per 1,000 population**	0.15 cases per 1,000 population (projected value)	In trouble

* Baseline data calculation for this indicator was updated using 2020 data from the Source: UNAIDS Spectrum estimates, 2021.

**The target is aligned with the 50% proportional reduction envisaged in the PAHO SP 20-25.

Analysis: In 2020, the UNAIDS regional estimate for the HIV infections incidence rate was 0.15 cases per 1,000 population. Although the rate has steadily decreased since 2000 to 2020, the reduction in the annual percent change is only -1.4%, which is not enough to reach the target. To achieve the target, an annual percent change reduction of -17.3% is required. As shown in Figure A.16, the projected HIV infection incidence rate for 2025 is 0.14 cases per 1,000 population. This indicator is in trouble and more strategic approaches are required to make greater gains to reach the target.

Figure A.16. Incidence Rate for HIV Infections, the Americas, 2000-2025

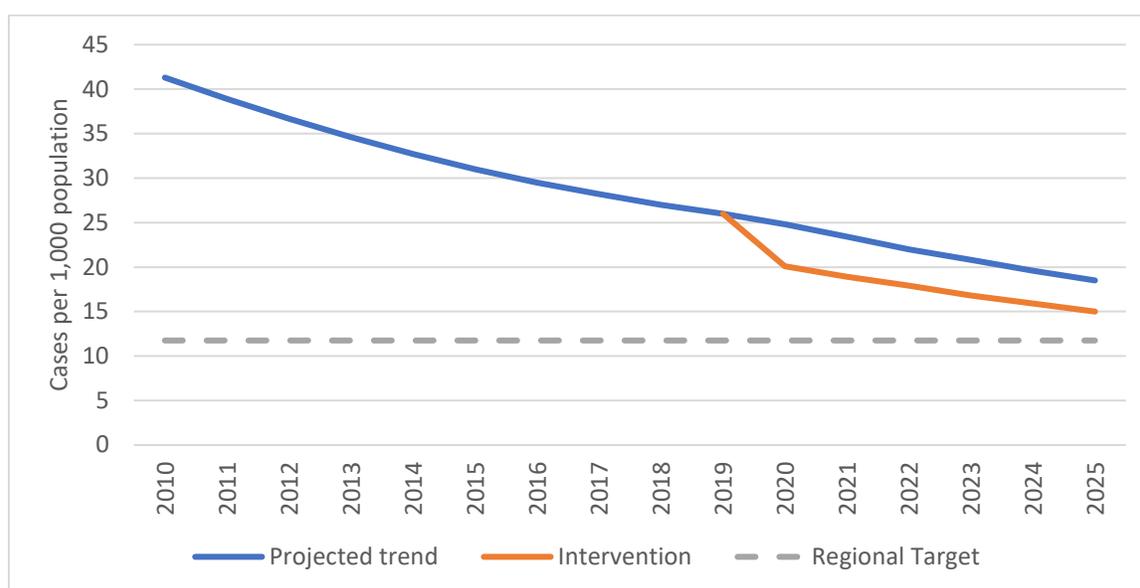


Source: UNAIDS Spectrum estimates, 2021 (2020 data)

Modeling Example for HIV Incidence

The HIV incidence depends on several factors that involve primary prevention, including access to condoms, lubricants, services for other STI, and PrEP (preexposure prophylaxis). Additionally, achieving high antiretroviral (ART) coverage and retention are key measures to slow down transmission and reduce HIV incidence. Figure A.17 presents a hypothetical scenario where ART retention is increased to 90% in Paraguay. Results from the exercise show that an increased retention rate would allow Paraguay to resume the slope that the country observed between 2015 and 2018. If the intervention was successfully applied, Paraguay would reduce HIV incidence from a projected 0.10 per 1,000 non-infected population to 0.079 by 2025. This would avert over 2,400 new HIV cases in the country.

Figure A.17. Potential Impact of Increased ART Coverage on HIV Incidence in Paraguay, 2015-2025



Source: UNAIDS Spectrum estimates, 2021.

Key Takeaways and Recommendations:

- The Region is not on track to achieve the target for reducing new HIV infections and ending AIDS by 2030.
- Countries should prioritize implementing a combination prevention comprehensive and person-centered package including condoms and lubricants, pre-exposure prophylaxis, innovative testing modalities such as HIV self-testing and dual HIV-syphilis testing, integrated management of STIs, and linkage, rapid initiation, and retention in treatment.
- Addressing stigma and discrimination in health services is essential to increase access to HIV prevention and care and reduce new HIV infections.

- Promotion of differentiated service delivery models including community-led services and collaboration with affected communities will enable access and retention in care for the most vulnerable and at-risk populations.

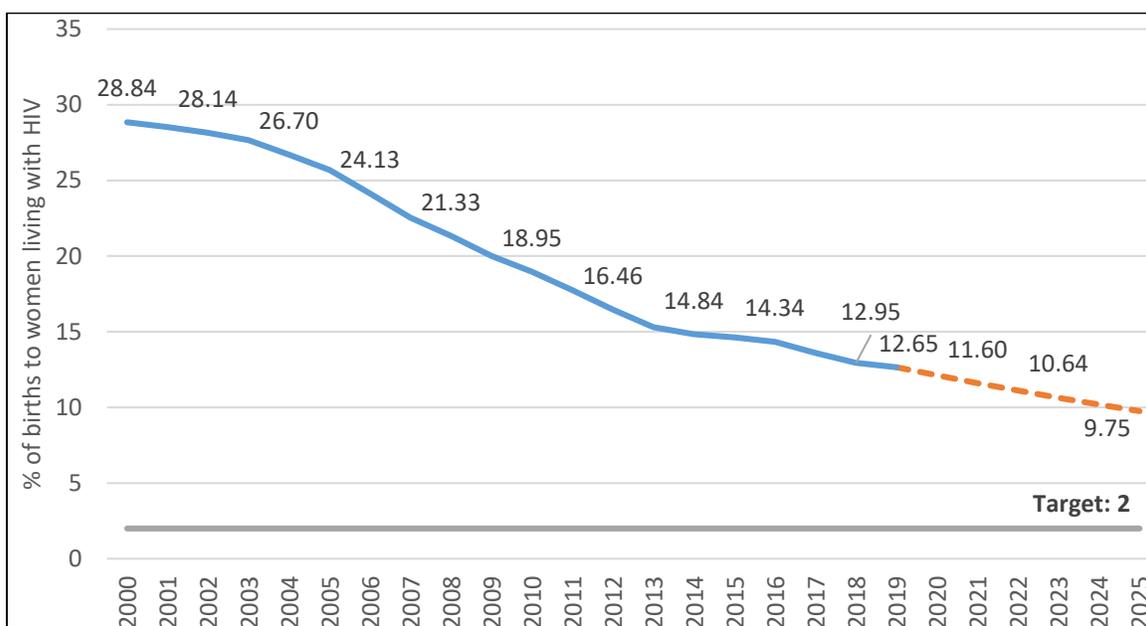
Impact Indicator 17: Rate of mother-to-child transmission of HIV

Baseline 2017	Target 2025	2022 Status	Rating
13.59% of births to women living with HIV*	2.0% of births to women living with HIV	11.11% of births to women living with HIV (projected value)	In trouble

* Baseline data calculation for this indicator was updated using 2019 data from the Source: UNAIDS Spectrum estimates, 2020.

Analysis: As of 2019, UNAIDS estimates that the rate of mother-to-child transmission (MTCT) of HIV is 12.7% of births to mothers living with HIV in the Region. While the rate has steadily decreased over the past two decades, the reduction in the annual percent change (-4.3%) is not enough to reach the target of 2%. To achieve the target, an annual percent change reduction of -24.0% is required. As shown in Figure A.18, the projected rate in 2025 is 9.75%. This indicator is in trouble and more strategic approaches are required to make greater gains to reach the target.

Figure A.18. Mother-to-Child HIV Transmission, the Americas, 2000-2025

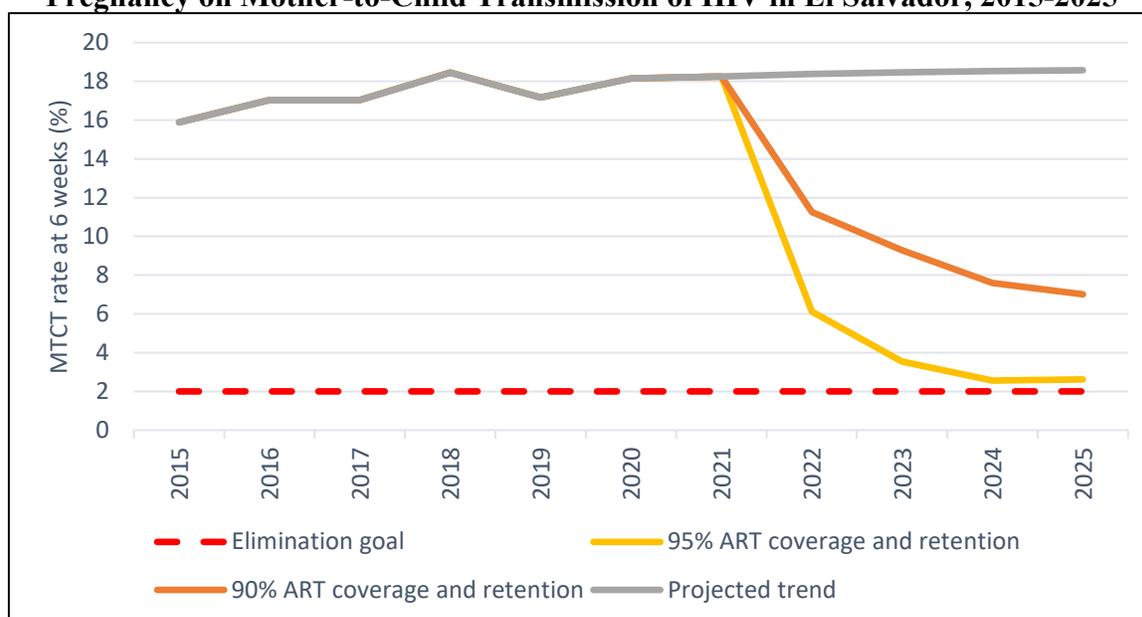


Source: UNAIDS Spectrum estimates, 2020 (2019 data)

Modeling Example for HIV MTCT

Eliminating HIV MTCT requires a transmission rate under 2.0% and a pediatric HIV incidence rate of 0.3 per 1,000 live births. The main interventions to accomplish these targets are to identify and treat all pregnant women prior to the delivery, to achieve high ARTs retention rates, and to avoid or suspend breastfeeding. Figure A.19 presents two hypothetical scenarios for El Salvador where (1) the country achieves an ART coverage of 90% for all pregnant women living with HIV (from a baseline of approximately 47%) and retains at least 90% of those women under effective treatment strategies; and (2) the country achieves an ART coverage of 95% and retains at least 95 % of those women under treatment. If no changes are implemented, the MTCT rate is projected to be more than 18% by 2025. However, increasing the HIV monitoring, and ART treatment and retention could reduce HIV MTCT to 7.46% or 2.62%, respectively, by 2025, depending on the coverage and retention rates.

Figure A.19. Potential Impact of Increased ART Coverage and Retention during Pregnancy on Mother-to-Child Transmission of HIV in El Salvador, 2015-2025



Source: UNAIDS Spectrum estimates, 2021.

Key Takeaways and Recommendations:

- HIV testing and treatment during ANC should be accompanied by interventions to prevent new infections in women during pregnancy and postpartum. This includes partner testing, condom use during pregnancy, risk assessment, and increasing women's knowledge of the risk of HIV transmission during pregnancy and puerperium.
- Strategies for integrated reproductive health and family planning programs and ANC can increase HIV prevention, diagnosis, and treatment, improve surveillance and monitoring, and lead to a reduction in MTCT.

- Strengthening monitoring for pregnant women with HIV and their exposed infants is important to assess the Region’s progress toward eliminating HIV MTCT and generate quality estimates.

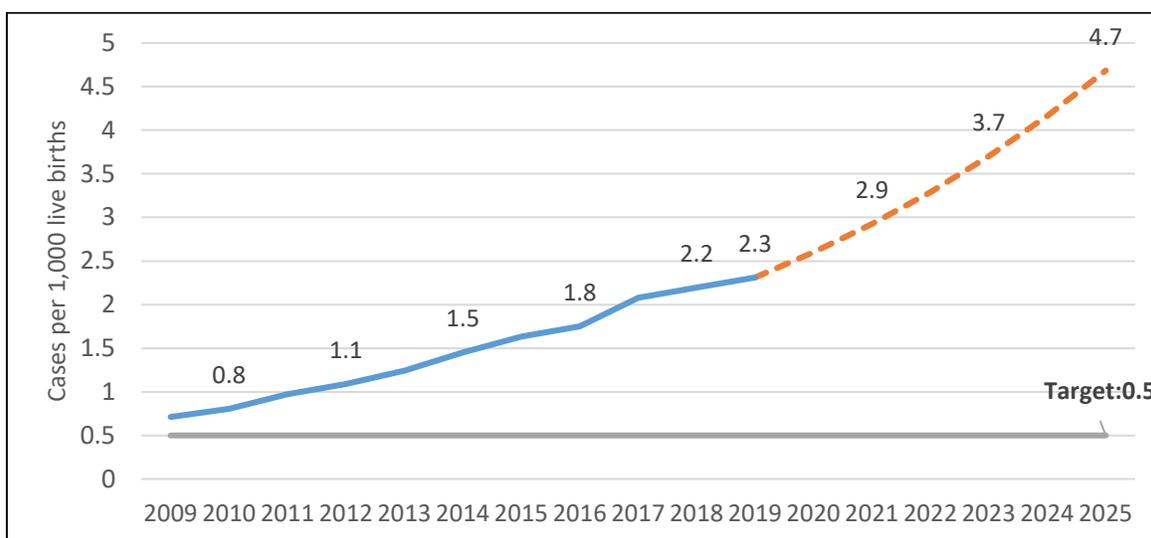
Impact Indicator 18: Incidence rate of congenital syphilis (including stillbirths)

Baseline 2017	Target 2025	2022 Status	Rating
2.1 cases per 1,000 live births*	0.5 cases per 1,000 live births	3.3 cases per 1,000 live births	In trouble

* Baseline data calculation for this indicator was updated using 2019 data from the Source: UNAIDS Spectrum estimates, 2020.

Analysis: As of 2019, UNAIDS estimates that 2.3 infants are born with congenital syphilis per 1,000 live births within the Region. The regional trend has been on a consistent increase since 2010. As shown in Figure A.20, current projections indicate that this indicator is in trouble, as the rate will increase to 4.68 cases per 1,000 live births by 2025.

Figure A.20. Incidence Rate of Congenital Syphilis (including Stillbirths), the Americas, 2009-2025

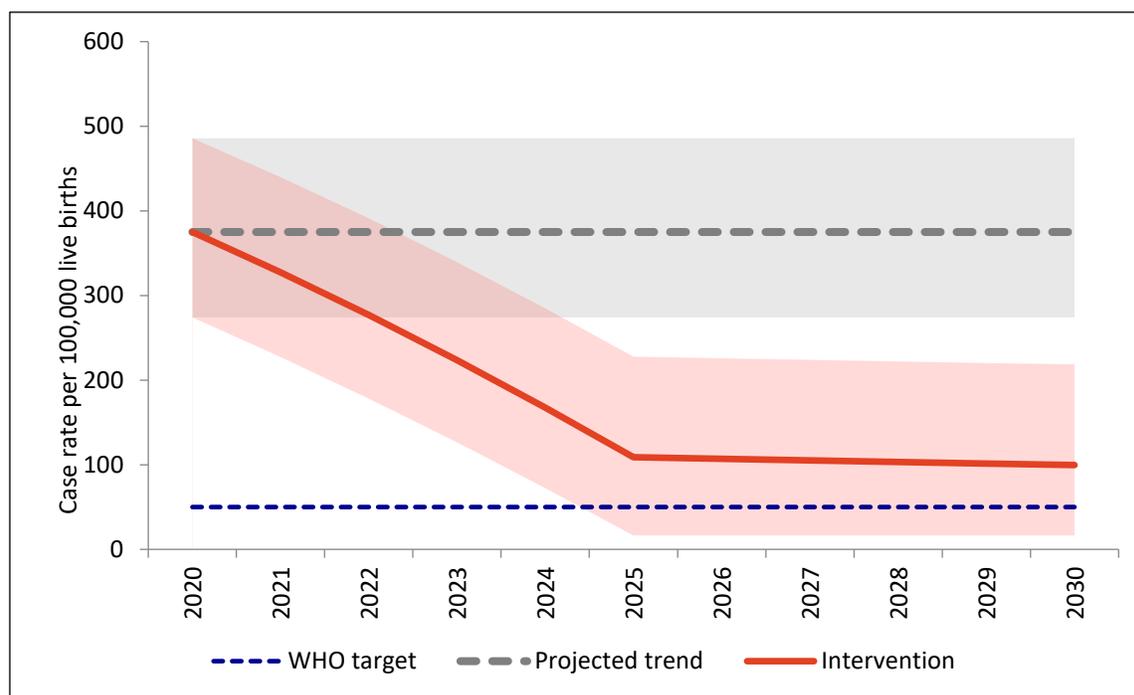


Source: UNAIDS Global AIDS Monitoring (GAM) reporting.

Modeling Example for Congenital Syphilis

The elimination of congenital syphilis relies extensively on the quantity and quality of antenatal care (ANC). In addition to accessing the health services for ANC, pregnant women should be screened for syphilis, and positive cases must be treated to avoid or reduce the likelihood of stillbirth, neonatal death, low birth weight, and other clinical presentations of the disease. Several countries in the Region report high ANC coverage. However, there is room for improvement in both detection and treatment. In the example for Colombia, shown in Figure A.21, the detection rate during pregnancy was modeled from 74% (2020) to 95% in 2025, and the treatment rate was modeled from 75% to 95%. Results show a reduction of approximately 70% in the incidence rate of congenital syphilis (from 375 per 100,000 births, to 109 per 100,000 births), which would also imply averting 1,849 congenital syphilis cases (including 441 stillbirths, and 148 neonatal deaths).

Figure A.21. Potential Impact of Increased Detection and Treatment of Syphilis during Pregnancy in Colombia, 2020-2025



Source: UNAIDS Spectrum estimates, 2021.

Key Takeaways and Recommendations:

- Achieving congenital syphilis elimination relies on improving maternal health services, especially the quality of ANC.
- Countries in the Region should scale up timely detection and syphilis treatment during ANC and implement interventions to decrease syphilis prevalence among the general population, especially among women of childbearing age.

Impact Indicator 19: Mortality rate due to chronic viral hepatitis

Baseline 2017	Target 2025	2022 Status	Rating
9.73 deaths per 100,000 population *	5.35 deaths per 100,000 population **	10.32 deaths per 100,000 population ***	In trouble

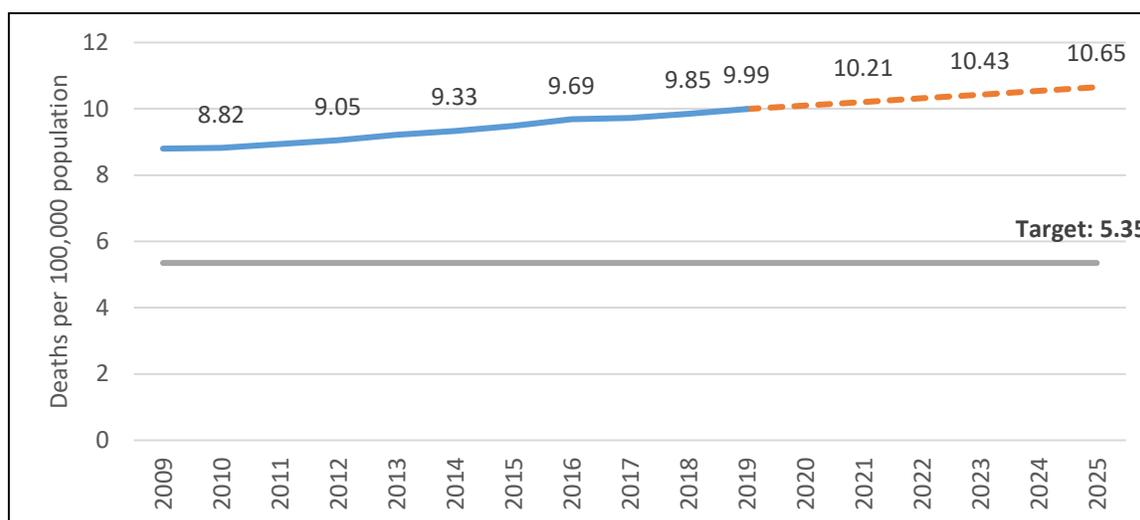
* Updated from the latest available data from Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019 (GBD 2019) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2020.

** Updated from the latest available data.

*** Forecasted from the latest available data; 2019.

Analysis: Based on the latest available data from the Global Burden of Disease Study 2019 (GBD 2019), the baseline age-adjusted mortality rate due to chronic viral hepatitis was estimated at 9.7 deaths per 100,000 population for 2017. As shown in Figure A.22, the current forecast for 2025 is 10.65 deaths per 100,000 population¹⁵, showing an annual average increase of 1.15% between 2017 and 2025. To reach the target, an annual reduction of 5.13% is needed. The Region is in trouble for achieving the target for this indicator.

Figure A.22. Mortality Rate due to Chronic Viral Hepatitis, the Americas, 2009-2025



Source: Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019 (GBD 2019) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2020.

¹⁵ Forecast was conducted applying the methodology proposed in the publication *Sanhueza A, Espinosa I, Mujica OJ, da Silva Jr. JB. Leaving no one behind: a methodology for setting health inequality reduction targets for Sustainable Development Goal 3. Rev Panam Salud Publica. 2021;45:e63. <https://doi.org/10.26633/RPSP.2021.63>. Available at: <https://www.paho.org/journal/en/articles/leaving-no-one-behind-methodology-setting-health-inequality-reduction-targets-sustainable>*

Key Takeaways and Recommendations:

- Despite the Region’s increasing political commitment and adoption of policies to address viral hepatitis, access to diagnosis and treatment remains a major gap threatening the achievement of the 2030 elimination targets.
- Effective treatments to prevent the progress of liver diseases are available. New direct-action antivirals can cure more than 95% of chronic hepatitis C infections, and prices are constantly being reduced, particularly with the support of regional procurement mechanisms such as the PAHO Strategic Fund.
- Hepatitis B does not yet have a cure available, but there are effective medicines to prevent progression to liver cancer and liver cirrhosis. In addition, a vaccine against hepatitis B is available to prevent new infections.
- To reverse the rise in mortality, countries should develop and implement strategies to improve access to hepatitis services of quality, focusing on scaling up diagnosis and treatment of chronic viral hepatitis and securing the allocation of domestic resources to finance national responses.

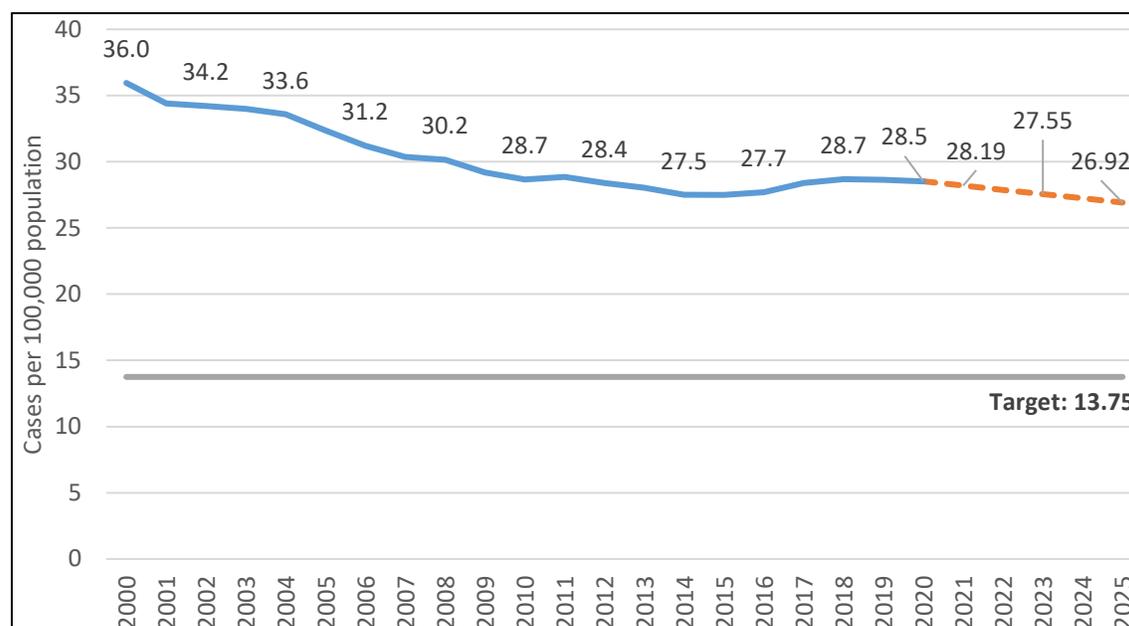
Impact Indicator 20: Incidence rate of tuberculosis

Baseline 2015	Target 2025	2022 Status	Rating
27.5 cases per 100,000 population*	13.75 cases per 100,000 population**	27.9 cases per 100,000 population (projected value)	In trouble

*Source: WHO Global Tuberculosis Database, 2021 (2020 data).

**The target is aligned with the 50% proportional reduction envisaged in the PAHO SP20-25.

Analysis: The most recently available data from the WHO Tuberculosis (TB) Program estimates that there were 28.5 TB cases per 100,000 population in the Region in 2020. There are 27.9 cases per 100,000 estimated for 2022. Trends in Figure A.23 below show that TB incidence has plateaued within the past decade. However, greater reductions in annual percent changes are required for the Region to decrease TB incidence (-6.75%) toward the target. With the projected TB incidence rate for 2025 being 26.9 cases per 100,000 population, this indicator is in trouble.

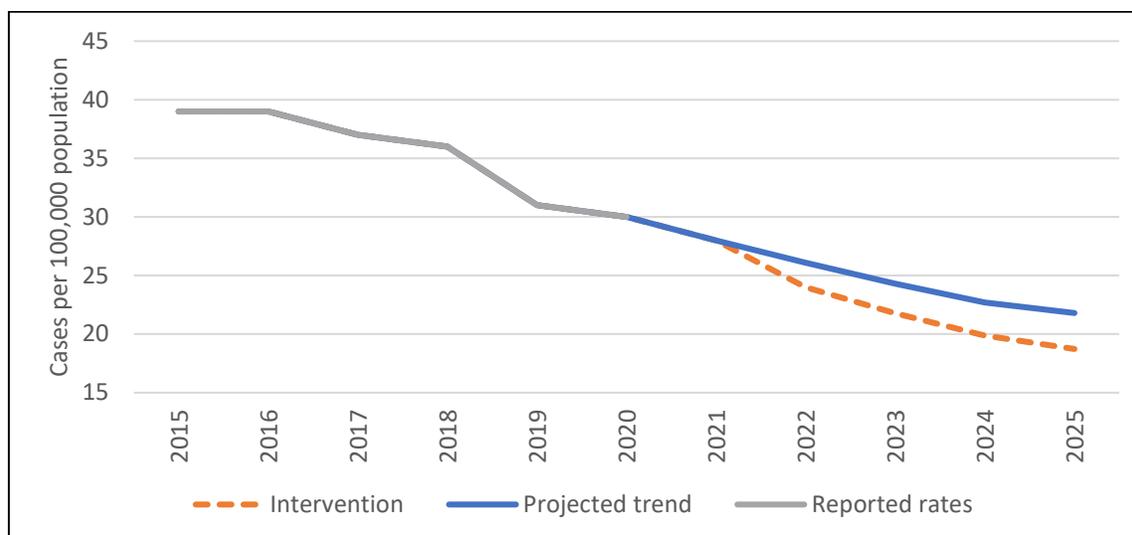
Figure A.23. Incidence of Tuberculosis, the Americas, 2000-2025

Source: WHO Global Tuberculosis Database, 2021 (2020 data).

Modeling Example for Tuberculosis in Honduras

Almost 90% of the tuberculosis cases in the Region are concentrated in 12 countries, which report incidence rates above 45 cases per 100,00 population. Among the cost-effective policy interventions that reduce the burden of disease, successfully linking people to TB health services after diagnosing positive or suspected cases is key. Additionally, reducing the number of people living with HIV who have not been treated with ARTs is critical in reducing TB incidence and multi-drug-resistant TB. As shown in Figure A.24, the model for Honduras reflects the hypothetical scenario in which referring people to health services increases from 65% to 80%, and HIV treatment coverage with ARTs increases from 54% to 90%. Projections under a scenario where there is no change estimate the TB incidence rate for Honduras to be 21.3 per 100,000 by 2025. The model estimates an additional reduction of 3.5 percentage points to 17.8 new cases per 100,000 population. This impact translates to more than 1,100 averted new cases between 2022 and 2025.

Figure A.24. Potential Impact of Increased Patient Linkages to Services and ART Coverage on TB Incidence in Honduras, 2015-2025



Source: TB Impact modelling tool / Spectrum

Key Takeaways and Recommendations:

- Strategies and analytical tools should be developed to support countries and territories in conducting analyses to better understand and address the challenges related to reducing TB and the multiple factors associated with the risks of transmission, which include considering the social determinants of health.
- Additional efforts, such as community outreach, must be made to identify cases and refer people to treatment, especially among populations at risk for TB infections.
- Improving diagnostic services, monitoring, reporting, and follow-up is critical to reducing TB incidence.
- Considering this indicator was already not on track before the pandemic and that additional information is needed to fully assess its impact, a comprehensive review of the 2025 target should be conducted as soon as such information becomes available. Member States will be consulted on any necessary actions in this regard.

Impact Indicator 21: Incidence rate of malaria

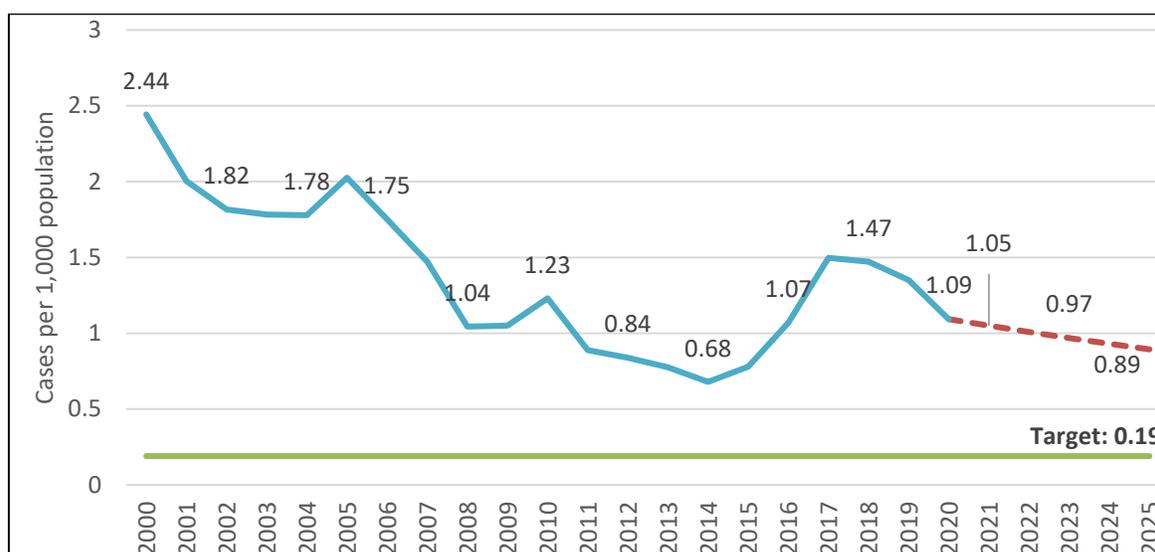
Baseline 2015	Target 2025	2022 Status	Rating
0.78 cases per 1,000 population*	0.19 cases per 1,000 population**	1.01 cases per 1,000 population (projected value)	At risk

*Source: WHO Global Malaria Database, 2021 (2020 data).

**The target is aligned with the 75% proportional reduction envisaged in the PAHO SP 20-25.

Analysis: The most recently available data estimates that the regional malaria incidence was 1.09 cases per 1,000 population in 2020. As malaria within the Region is endemic to specific areas and the numbers are small when compared with other WHO regions, the pattern fluctuates, however, showing an overall decrease in the trend over the last two decades. As shown in Figure A.25, the projection for 2025 is 0.89 cases per 1,000 population. The indicator is at risk of not achieving the 2025 target of 0.19 cases per 1,000 population.

Figure A.25. Malaria Incidence Rate, the Americas, 2000-2025



Source: WHO Global Health Observatory, 2021 (2020 data).

Key Takeaways and Recommendations:

- Country ownership and leadership, with community involvement and participation, are essential to accelerating progress on malaria elimination. Effective, data-driven, and problem-solving approaches are also needed to control malaria at local level, based on addressing gaps in prevention, early detection, and treatment.
- Malaria elimination and the prevention of its reestablishment requires identifying and assessing malaria foci to organize malaria interventions according to specific characteristics. There is a need to address contextual specificities and accelerate elimination not just in countries that are deemed very close to malaria elimination, but also including high-burden countries, understanding that all countries can accelerate efforts toward elimination.
- Countries should reinforce their capacities in malaria-endemic areas and strengthen primary health care toward resilient health systems, as a mechanism to deliver malaria services to affected groups such as indigenous peoples, migrants, miners, and hard-to-reach populations.

- Passive case detection is the backbone of malaria surveillance. Therefore, it is critical to ensure the involvement of the community and the health services.
- There is a need for intersectoral action against malaria, including government and nongovernment actors, especially actions by productive sectors such as the one driving formal and informal gold-mining labor, which contributes significantly to the persistence of malaria transmission.

Impact Indicator 22: Number of endemic countries in 2015 that maintain or achieve elimination of malaria

Baseline 2018	Target 2025	2022 Status	Rating
3 out of 21 countries and territories that were endemic in 2015	6 out of 21 countries and territories that were endemic in 2015	4 out of 21 countries and territories that were endemic in 2015	On track

Analysis: This indicator measures the progress toward malaria elimination and reflects compliance with the PAHO/WHO malaria elimination recommendations and the installed capacities that the countries have developed. The WHO Global Technical Strategy for Malaria 2016-2030 (GTS) emphasizes elimination as the goal in the fight against malaria for all countries, regardless of the burden of disease, and promotes strategic and operational changes in the different components of the response to malaria.

This indicator measures the non-occurrence of indigenous cases of malaria during the last year and is measured with respect to the countries that were considered endemic in 2015 (21 countries). Three of these (Argentina, El Salvador, and Paraguay) had already met the indicator in the baseline year. El Salvador was certified as malaria-free in 2021, and in the same year Belize had completed three years without malaria transmission, which places the country in the process toward certification by WHO. Therefore, this indicator is on track. By 2022, with Belize’s achievement of reporting zero malaria cases since 2019, four of the 21 endemic countries in 2015 have met the indicator, thus advancing toward the goal of six countries by 2025.

By the end of 2020, 10 countries had met the criteria established by WHO for the countries with the potential to eliminate malaria by 2025, for which they were invited to be part of the E-2025 initiative. Costa Rica, Dominican Republic, French Guiana, Mexico, and Suriname are the endemic countries with the lowest number of cases in the region, all below 300 cases in 2021. Other E-2025 countries with more than 1,000 cases per year (Ecuador, Honduras, and Panama) faced outbreaks in 2020-2021, with significant challenges in rural indigenous populations, but maintain national and local goals toward elimination.

Key Takeaways and Recommendations:

- As evidenced by the performance of the indicator on the incidence of malaria, the regional elimination of the disease still faces great challenges, especially in the Amazon region, due to social and environmental determinants and the high dispersion of the problem in endemic areas. Nonetheless, the achievements of the countries of the region and of other continents show that it is a possible goal with coordinated action by the affected countries and communities and the coordination of external support.
- Countries must have a clear political and strategic framework for malaria elimination, with adequate resource allocation and the active participation of the health sector, community, and all other relevant actors.
- In the daily work of local health teams, operational changes should be introduced to accelerate elimination. Intervention based on early detection, treatment, investigation, and response should be implemented as a programmatic approach.
- Countries that are close to elimination or preparing for certification need a comprehensive, multisectoral plan to prevent onward transmission from any imported cases and to respond immediately to cases, whether introduced or indigenous, to prevent transmission restoration.

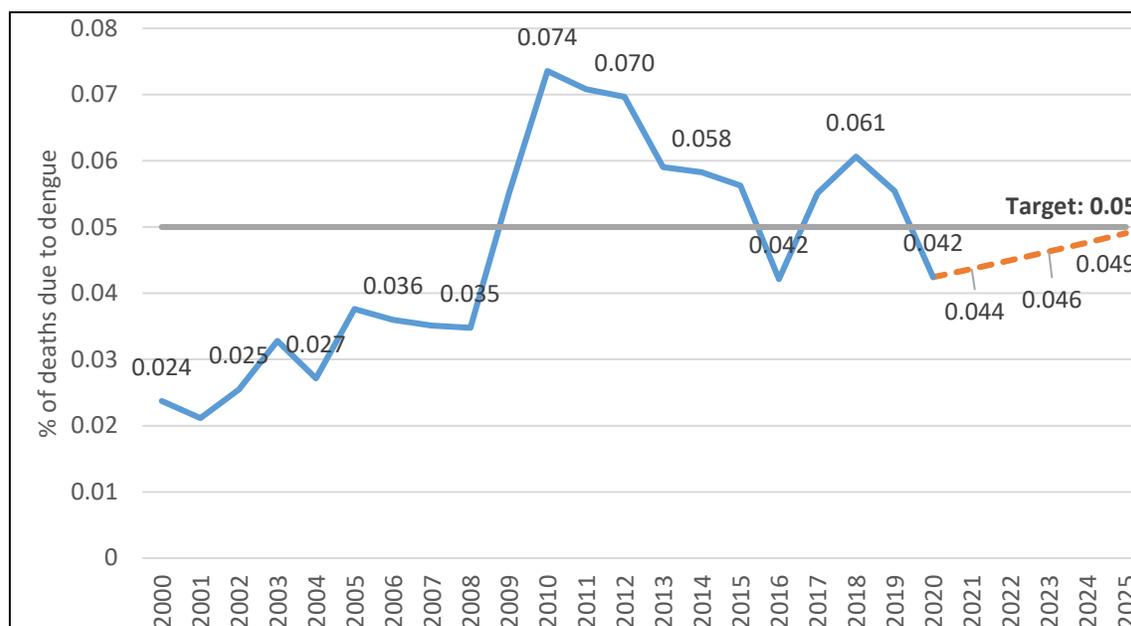
Impact Indicator 23: Case-fatality rate due to dengue

Baseline 2012-2018	Target 2025	2022 Status	Rating
0.056% of deaths due to dengue*	0.05% of deaths due to dengue	0.045% of deaths due to dengue (projected value)	On track

*Source: Country epidemiological data reported to PAHO, 2021 (2020 data).

Analysis: In 2020, the regional case-fatality rate (CFR) was 0.04% of all dengue cases and the projection for 2022 remains the same. As dengue within the Region is endemic in most of the countries and territories and the efforts in the Region have been successful in keeping this indicator on track, the target is projected to reach 0.049% of deaths by 2025, as shown in Figure A.26. It is important to protect the gains made to date and continue to reduce deaths due to dengue.

Figure A.26. Case-fatality Rate due to Dengue, the Americas, 2000-2025



Source: Country epidemiological data reported to PAHO, 2021 (2020 data).

Notes: To account for annual variations, a 6-year average using data for 2012-2018 calculated.

Key Takeaways and Recommendations:

- Strengthen clinical training for dengue management and identification of early predictors of severity at first level of care.
- Develop strategies and analytical tools to support countries and territories to conduct analyses to identify specific causes for the current rise in the trend.
- Improving information systems to report and monitor cases and evaluate program performance is key to providing greater insight on the management of dengue.

Impact Indicator 24: Elimination of neglected infectious diseases in countries and territories

NIDs	Baseline 2019	Baseline Countries and Territories	Target 2025	Rating (2022 status)
Trachoma	1 out of 5	Mexico	3 out of 5	At risk (Guatemala)
Chagas' disease	17 out of 21	Entire territory: Belize, Brazil, Chile, El Salvador, Guatemala, Guyana, Honduras, Nicaragua, Paraguay, Uruguay Part of territory: Argentina, Bolivia (Plurinational State of), Colombia, Costa Rica, Mexico, Panama, Peru	21 out of 21	At risk (Ecuador, French Guiana, Suriname, and Venezuela [Bolivarian Republic of])

NIDs	Baseline 2019	Baseline Countries and Territories	Target 2025	Rating (2022 status)
Dog-mediated human rabies	32 out of 35	Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Brazil, Canada, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Sint Maarten, Suriname, Trinidad and Tobago, United States of America, Uruguay, and Venezuela (Bolivarian Republic of).	35 out of 35	On track Bolivia (Plurinational State of), Cuba, and Haiti continue reporting cases. Cases are also reported in only a few areas in eight countries (Argentina, Brazil, Colombia, Guatemala, Honduras, Nicaragua, Peru, and Venezuela [Bolivarian Republic of]), with risk of resurgence, mainly in border areas. Efforts are underway that could lead to the elimination of dog mediated human rabies being achieved by 2025.
Leprosy	17 out of 23	Argentina, Belize, Colombia, Costa Rica, Cuba, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Peru, Saint Lucia, Suriname, Trinidad and Tobago, Uruguay	23 out of 23	At risk (Bolivia (Plurinational State of), Dominican Republic, Ecuador, Guyana, Paraguay, Venezuela [Bolivarian Republic of])
Human taeniasis/ cysticercosis	0 out of 16	No endemic countries in baseline*	3 out of 16	On track (Colombia, Honduras, Mexico)
Lymphatic filariasis	3 out of 7	Costa Rica, Suriname, Trinidad and Tobago	5 out of 7	On track (Brazil, Dominican Republic)
Onchocerciasis	4 out of 6	Colombia, Ecuador, Mexico, Guatemala	6 out of 6	At risk (Brazil, Venezuela [Bolivarian Republic of])
Schistosomiasis	3 out of 10	Antigua and Barbuda, Saint Lucia, and Suriname	5 out of 10	At risk (Dominican Republic, Puerto Rico)

Analysis: Neglected infectious diseases (NIDs) impose a large burden on the lives of the impoverished and marginalized populations across the globe and in the Region of the Americas. Despite considerable achievements in the 2011-2020 decade, such as the elimination of onchocerciasis transmission in four countries (Colombia, Ecuador, Guatemala, and Mexico), lymphatic filariasis in three countries (Costa Rica, Suriname, and Trinidad and Tobago), trachoma and rabies as a public health problem in one country

(Mexico), and the interruption of vector-borne domestic transmission of Chagas' disease by its main vector in 17 countries, significant challenges remain. The rating for this indicator, as assessed according to how well countries are performing as they work to eliminate a specific disease, is noted in the above table.

Key Takeaways and Recommendations:

- The WHO NTD Roadmap 2021-2030,¹⁶ “Ending the Neglect to attain the Sustainable Development Goals”, establishes the goal of eliminating several of these diseases through the implementation of integrated intervention. Three pillars support efforts to achieve the targets: *a)* accelerate programmatic action, *b)* intensify cross-cutting approaches, and *c)* change operating models and culture to facilitate country ownership.
- Integrated intersectoral policies and interventions are critical for addressing social and health inequities and the sustainable elimination of NIDs. The NID burden of disease is related to poverty and income inequality, and disproportionately affects vulnerable communities, including specific ethnic groups. As such, NIDs impose a significant social and financial burden on poor and marginalized groups, with the potential to lead to catastrophic out-of-pocket health expenses.
- NIDs can have negative social consequences. Chronic sequelae potentially lead to stigmatization and discrimination for people with NIDs and their families, which can have an impact on their mental health. This marginalization also has an economic toll.

Impact Indicator 25: Number of bloodstream infections per 1,000 patients per year caused by carbapenem-resistant organisms

Baseline 2019	Target 2025	2022 Status	Rating
1.185* infections per 1,000 patients	1.067** infections per 1,000 patients	In progress (building capacity in AMR surveillance in countries and recruiting countries to submit isolate-level AMR data to PAHO to ensure measurement is accurate and representative)	Not rated

* The baseline indicator is calculated based on the isolate-level AMR data submitted in 2019 by two Member States in the Region: Argentina and Costa Rica.

**The target for 2025 is to reduce the number of bloodstream infections per 1,000 patients per year by 10% from the baseline.

¹⁶ World Health Organization. Ending the neglect to attain the Sustainable Development Goals: A road map for neglected tropical diseases 2021–2030. Geneva: World Health Organization; 2020 Available at: <https://www.who.int/publications/i/item/9789240010352>

Analysis:

This indicator measures the reduction of bloodstream infections caused by multidrug-resistant microorganisms that have no adequate antimicrobial treatment. These infections caused by carbapenem-resistant Gram-negative bacteria, including *Enterobacteriaceae*, *Pseudomonas aeruginosa*, and *Acinetobacter baumannii*, are often endemic and outbreak-related. They have been extensively spread in the Region and caused severe infections, with lethality above 50%.

To measure this indicator, the total number of bloodstream infections caused by carbapenem-resistant *Enterobacteriaceae*, *Pseudomonas aeruginosa*, and *Acinetobacter baumannii* in hospitalized patients from selected sentinel sites in Member States were divided by the total number of patients admitted annually to those sentinel hospitals. Imipenem and Meropenem were chosen to illustrate resistance to carbapenems. Member countries follow the Clinical & Laboratory Standards Institute (CLSI), the international guidelines for antimicrobial susceptibility testing, to define carbapenem resistance.

The indicator is measured based on the isolate-level AMR data collected annually through the enhanced surveillance initiative launched in the Region of the Americas. The initiative, coordinated through the national AMR focal points, has enabled countries to report carbapenem-resistant pathogens isolated from blood cultures.

Since the launch of the enhanced surveillance initiative in 2019, six countries have enrolled in the initiative. At the end of each reporting year, countries are invited to report two sets of data to PAHO: *a*) National AMR data from bloodstream infections; and *b*) Hospital questionnaires containing hospital capacity, annual discharges, etc.

As of 2022, four out of six countries (Argentina, Colombia, Costa Rica, and Panama) have submitted isolate-level AMR data to PAHO. PAHO has received a total of 17,245 positive strains. Argentina contributed to the majority of the strains (N=10,419) from its 72 sentinel hospitals. Colombia and Costa Rica submitted data of an average of 2,275 strains per year. Guatemala and Paraguay are in the process of submitting data to PAHO, and their indicators will be measured upon receiving the data.

Key Takeaways and Recommendations:

- As of 2022, twenty countries have submitted aggregated AMR data to PAHO. Not all countries in the Region have the capacity to monitor AMR in bloodstream infections; therefore, there is limited country capacity to report on this indicator.
- To strengthen the surveillance capacity and reduce the infections caused by multidrug-resistance bacteria, PAHO has been working closely with all countries in the Americas to promote the appropriate and rational use of antimicrobials, strengthen infection prevention and control practices, support research development, as well as continue building laboratory capacity for AMR detection and monitoring.¹⁷

¹⁷ Pan American Health Organization. Plan of Action on Antimicrobial Resistance, CD54/12 Rev.1, 2015. Available at: <https://www.paho.org/en/documents/cd5412-plan-action-antimicrobial-resistance-2015>

- While this indicator provides valuable insights into the impact of AMR on human health, it is limited in reflecting whether countries have increased efforts to address AMR from a multisectoral *One Health* perspective.

Impact Indicator 26: Mortality rate attributed to household and ambient air pollution

Baseline 2016	Target 2025	2022 Status	Rating
32.2 deaths per 100,000 population*	30.6 deaths per 100,000 population**	In process of updating (by WHO, estimates expected in late 2022)	Not rated

* The baseline was updated to include mortality attributable to both ambient and household air pollution, as per the indicator technical note in the Compendium of Impact Indicators, PAHO Strategic Plan 2020-2025. The baseline is based on 2016 data from WHO Estimates Source: WHO Global Health Observatory. Indicator 3.9.1 Mortality rate attributed to household and ambient air pollution (per 100 000 population).

**The target is aligned with the 5% proportional reduction envisaged in the PAHO Strategic Plan 2020-2025.

Analysis: The Inter-Agency and Expert Group on Sustainable Development Goals Indicators identified WHO as the custodian agency responsible for compiling information and reporting for this indicator. WHO is currently conducting country consultations to update the indicator. New estimates are expected by the second half of 2022.

The mortality attributable to the joint effects of household and ambient air pollution can be expressed as either the number of deaths or the mortality rate. Evidence from epidemiological studies has shown that exposure to air pollution is linked, among other things, to the important diseases considered in this estimate: acute respiratory infections (estimated for all ages); cerebrovascular diseases in adults (estimated above 25 years); ischemic heart diseases in adults (estimated above 25 years); chronic obstructive pulmonary disease in adults (estimated above 25 years); and lung cancer in adults (estimated above 25 years).

Key Takeaways and Recommendations:

- Progress on this indicator relies on reducing the exposure to household and ambient air pollution. Despite regional progress, nearly 74 million people still rely on polluting fuels for cooking and heating, and nine out of 10 people live in cities that exceed WHO Air Quality Guidelines.
- To achieve 2025 target it is fundamental to: *a)* implement PAHO Elimination Initiative on Polluting Fuels for Cooking and Heating and accelerate a regional clean household energy transition; and *b)* update air quality objectives at national and subnational levels in countries and territories and implement action to achieve protective values based on 2021 WHO Air Quality Guidelines.
- It is necessary to increase the investment in air quality monitoring networks to track progress of actions to abate air pollution in the Region.

Impact Indicator 27: Mortality rate attributed to unsafe water, unsafe sanitation, lack of hygiene

Baseline 2019	Target 2025	2022 Status	Rating
1.15 deaths per 100,000 population*	0.92 deaths per 100,000 population**	WHO is in the process of updating this (estimates expected in late 2022)	Not rated

* Baseline based on 2016 data from WHO Estimates Source: WHO Global Health Observatory. Indicator 3.9.1 Mortality rate attributed to unsafe WASH services (per 100, 000 population).

**The target is aligned with the 20% proportional reduction envisaged in the PAHO Strategic Plan 2020-2025.

Analysis: The Inter-Agency and Expert Group on Sustainable Development Goals Indicators identified WHO as the custodian agency responsible for compilation and reporting for this indicator. WHO is conducting a country consultation to update the indicator. New estimates are expected in late 2022.

Attributable diarrhea deaths are calculated by first combining information on the increased (or relative) risk of a disease resulting from exposure, with information on how widespread the exposure is in the population. The indicator calculates the percentage of the population with exposure to unsafe water, sanitation, and lack of hygiene (WASH). This allows calculation of the population attributable fraction, which is the fraction of disease observed in a given population that can be attributed to the exposure to lack of access to improved water, sanitation, and hygiene. Applying this fraction to the total deaths from diarrhea gives the number of diarrhea deaths caused by inadequate water, sanitation, and hygiene. Deaths from protein-energy malnutrition attributable to inadequate water, sanitation and hygiene are estimated by evaluating the impacts of repeated infectious diarrhea episodes on nutritional status, particularly stunting. All deaths from intestinal nematode infections are attributed to inadequate water, sanitation, and hygiene due to their transmission pathway. The included diseases are the WASH attributable portions of diarrhea.

Key Takeaways and Recommendations:

- In the Americas, despite regional progress, approximately 160 million people still lack safely managed water and 431 million people do not have safely managed sanitation, according to the methodology of SDG 6, targets 6.1 and 6.2 determined by the WHO.
- To achieve the regional target for this indicator, it is essential to: *a)* promote the Climate-Resilient Water and Sanitation Security Framework Initiative, and the Open Defecation Elimination Strategy; *b)* promote the monitoring of water quality for human consumption at national and subnational levels; and *c)* promote the monitoring of financial accounts for water and sanitation to guarantee the sustainability of services and subsequent impact on health.

Impact Indicator 28: Mortality rate due to disasters per 100,000 population

Baseline 2019	Target 2025	2022 Status	Rating
TBD*	At least a 10% reduction from baseline value	In process of updating	Not rated

* Baseline will be calculated based on WHO 2019 disaster-related mortality data and PAHO Public Health Emergency data.

Analysis: This indicator measures the number of people whose deaths were directly related to disasters, per 100,000 population. For the purposes of this indicator, a disaster means a Grade 2 or 3 emergency as defined in the WHO Emergency Response Framework, as follows:

- Grade 2 emergency: A single or multiple country event with moderate public health consequences that requires a moderate PAHO/WHO Country Office response and/or moderate international WHO response.
- Grade 3 emergency: A single or multiple country event with substantial public health consequences that requires a substantial PAHO/WHO Country Office response and/or substantial international WHO response.

The WHO Mortality Database and reported data from countries and territories are used to measure the mortality rate due to disasters for the Americas Region. Data from these two sources are required because deaths due to disasters that correspond to the appropriate International Classification of Diseases (ICD) codes are underreported for countries within the WHO Mortality Database. Disaster data reported directly from countries to the PAHO Department of Health Emergencies include the number of deaths due to specific disaster events. This information provides a more accurate and timelier estimate of the number of deaths due to disasters. However, it is suspected that there may be an underestimation of the mortality rate due to disasters within country mortality databases, as ICD codes due to disasters are not always recorded on death certificates as the main or underlying cause of death. Because of the complexity associated with measuring this indicator, the baseline is not yet established, and the indicator cannot be rated at this time.

Key Takeaways and Recommendations

- There is a need to define a methodology for measuring and monitoring this indicator to estimate a baseline and consistently monitor this indicator on a regular basis.
- Both at the global and regional levels and in countries, there has been a recognition of the challenges associated with measuring this indicator. Proposals for alternative methods for measuring the impact that disasters have on population health and wellbeing are under review.
