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PAHO'S RESPONSE TO MAINTAINING AN EFFECTIVE TECHNICAL COOPERATION AGENDA IN VENEZUELA AND NEIGHBORING MEMBER STATES

Background

1. The Bolivarian Republic of Venezuela, a federal republic with more than 30 million inhabitants, has been facing a sociopolitical and economic situation that has negatively impacted social and health indicators.
2. Outbreaks of diphtheria, measles, and malaria have spread rapidly, affecting many of the country's 23 states and the Capital District simultaneously. Other public health concerns include increases in tuberculosis cases and in maternal and infant mortality (1), as well as issues around mental health and violence prevention.¹ A further concern is the limited access to medicines, adequate nutrition, and adequate care for people with life-threatening acute and chronic conditions, including people living with HIV.
3. There have been intensified population movements both within the country and to other countries, particularly Argentina, Brazil, Chile, Colombia, Ecuador, Guyana, Peru, and Trinidad and Tobago. Since 2017, an estimated 4 million Venezuelans have migrated to other countries, including an estimated 3.3 million who have gone to other Latin America and Caribbean countries: 1.3 million to Colombia, 806,900 to Peru, 288,200 to Chile, 263,000 to Ecuador, 168,400 to Brazil, 145,000 to Argentina, 94,400 to Panama, 40,000 to Trinidad and Tobago, 39,500 to Mexico, and 36,400 to Guyana, among others (figures as of July 2019) (2).
4. Health system fragmentation, combined with the system's diminished capacity to respond to priority needs, including core functions of epidemiological surveillance and the generation of health information, has affected the delivery of priority public health services. This affects in particular those services needed to prevent and reduce the impact of communicable diseases; serve the medical needs of people living with chronic

¹ Also based on Venezuelan Ministry of Popular Power for Health (MPPS), Indicadores básicos 2017 [Basic indicators 2017], unpublished document.

conditions, mental health conditions, or end-stage diseases; and reduce maternal and infant mortality.

5. The health system in Venezuela, while retaining some capacity, is currently under stress due to a combination of factors. These include frequent interruptions in the supply of core public services, such as water and electricity in health facilities; health workforce migration; and shortages of medicines and health supplies, particularly at the secondary and tertiary levels. Frequent nationwide disruption of public services (electricity, water, communications, and transportation), including in the Capital District, has hindered access to essential health services, posing new risks and challenges to the national health system. These factors have affected the overall operation of the health network and its capacity to respond to emergencies and disease outbreaks.

6. In Argentina, migrants with identity documents have access to health services under the same conditions as Argentine citizens. The majority of Venezuelan migrants reside in the city of Buenos Aires and its greater metropolitan area, where there is a relatively well-established health infrastructure.

7. In Brazil, migrants have unrestricted access to health care and medicines. Already, thousands of Venezuelan migrants have been relocated from the state of Roraima to cities in different Brazilian states, ensuring their access to the labor market and to the National Social Security System, and regular access to health care services in the National Health System.

8. In Chile, since 2016, the Ministry of Health has been giving all migrants, especially those in conditions of economic vulnerability and in migratory registry processes, preferential access to services within the national health system in line with the national government's policies, including the Policy on International Migrants' Health in Chile 2017 (3).

9. The government of Colombia has enacted a resolution to provide emergency care to migrants, including childbirth services. Migrants from neighboring countries have the right to receive initial emergency care within the public health network. However, this does not include medicines or diagnostic exams (4). In addition, Venezuelans enrolled in the Administrative Registry for Venezuelan Migrants (RAMV, for its acronym in Spanish) are entitled to certain public health services such as vaccination under the Expanded Immunization Program and prenatal care, among others (5). Local health authorities report that, due to the progressive increase in health care provided to the uninsured migrant population, public hospitals quickly use up their supplies, leaving them unable to provide certain treatments and reducing access to services.

10. The government of Guyana is working with partners to digitalize the current system for the registration and documentation of Venezuelans. However, recent arrivals to the capital have prompted the government to announce that internal movement from border areas to the capital will be discouraged (6).

11. In Ecuador, in response to the increasing influx of Venezuelan migrants, and in accordance with the National Constitution and the Organic Law on Human Mobility, the Ministry of Health has taken action to protect the right of all persons to access comprehensive health care while in Ecuador, regardless of their migratory status.

12. Peru provides health care, regardless of migratory status, to children under 5 years old and to pregnant women. Immunizations and emergency care, as well as detection, diagnosis, and treatment for tuberculosis, HIV, vector-borne diseases, mental health conditions, and anemia, are also provided to all, with an emphasis on vulnerable populations (7, 8, 9, 10).

13. Trinidad and Tobago has received an influx of migrants from Venezuela in recent years. Between 31 May and 14 June 2019, the government of Trinidad and Tobago conducted a registration process to allow Venezuelans to regularize their status in the country in order to live and work in Trinidad and Tobago for up to one year (11).

14. The purpose of this information document is to provide an update on the Pan American Health Organization's response to maintaining an effective technical cooperation agenda in Venezuela and neighboring Member States, from November 2016 to July 2019.

Situation Analysis

Venezuela

15. Malaria transmission remains high in 2019, with 214,021 cases reported as of 29 June 2019 (EW 26) (12), a 7% increase compared to the same period in 2018 (199,688 cases). The states of Bolívar (n=133,078), Sucre (n=38,947), and Amazonas (n=20,401) have reported the highest number of cases since the start of 2019, and 85% of the 56,817 relapse cases were reported in Bolívar state. In the eight years from 2010 to 2018, malaria cases increased by 797% (from 45,155), and autochthonous transmission expanded from 12 to 19 states. In 2018, Venezuela reported 404,924 confirmed malaria cases, more than 50% of the total cases reported in the Region. This represents a continuation of the epidemic situation recorded since 2015, with cases rising from 136,402 in 2015 to 240,613 in 2016 to 411,586 (13)² in 2017. The increase in cases since 2015 is linked mainly to the migration of infected people from the mining areas of Bolívar state to other areas of the country with malaria-prone ecosystems, shortages or unaffordability of antimalarial drugs, and weakened vector control programs. The progression of the transmission due to *Plasmodium falciparum* and *Plasmodium vivax* between 2010 and 2017 is noteworthy, having reached municipalities in which malaria had not been reported in decades (14). In 2018, *P. vivax* caused the highest incidence, accounting for 75.9% of cases nationally; *P. falciparum* caused 17.7%; *P. malariae*, 0.002%; and mixed *P. falciparum* and *P. vivax* infection, 6%. Reported malaria deaths increased markedly in 2017, with a reduction in

² Number updated by Venezuelan MPPS in 2018 Annual Country Report on Malaria Situation, submitted to PAHO/WHO in May 2019. The last report to the 56th Directing Council indicated that 406,289 cases were reported in 2017.

2018 (105 deaths in 2016, 333 deaths in 2017, and 257 deaths in 2018) (13). In 2019, as of 12 August, 67 suspected malaria deaths (currently under investigation) have been reported, representing a decrease from the same period in 2018 (188 deaths). The export of sporadic cases to countries without malaria poses a challenge for the early detection and prevention of complications associated with the disease. Other important risks include the increase in malaria cases in border areas of neighboring countries, potential emergence of drug-resistant strains, reintroduction of local transmission in previously malaria-free areas, and inadequate treatment with continued increase in malaria-related mortality (12, 14, 15).

16. The measles outbreak that started in July 2017, with cases reported in all 23 states and the Capital District in Venezuela, has been progressively controlled. In 2019, up to 20 July, no deaths have been reported. In the same period, there have been 417 confirmed cases, representing a marked reduction of 91.5% compared to the same period in 2018 (4,920 cases). Confirmed cases were reported in Zulia (229), Anzoátegui (145), Carabobo (17), the Capital District (7), Miranda (4), Monagas (4), Nueva Esparta (3), Cojedes (2), Yaracuy (2), Aragua (1), Sucre (1), Amazonas (1), and Bolívar (1). Between 1 July 2017, when the first case of measles was confirmed, and 20 July 2019, there were 6,923 confirmed cases (727 in 2017, 5,779 in 2018 (16),³ and 417 in 2019). The average national incidence rate during 2017-2019 is 22 cases per 100,000 population, with the highest cumulative incidence of cases reported in Delta Amacuro, the Capital District, Amazonas, Bolívar, Vargas, and Miranda. Of the total 81 deaths reported, two were in 2017 in Bolívar and 79 were in 2018 (37 in Delta Amacuro, 27 in Amazonas, 9 in Miranda, 4 in the Capital District, 1 in Bolívar, and 1 in Vargas) (17). Since 2018, Argentina, Brazil, Colombia, Canada, Chile, Ecuador, Peru, and the United States of America have also reported cases in which the D8 genotype⁴ associated with the outbreak in Venezuela was identified. This genotype and lineage is now circulating as endemic in both Venezuela and Brazil.⁵ The spread of the virus is explained by many factors, including: *a*) insufficient vaccination coverage, leaving pockets of susceptible population; *b*) inadequate surveillance systems; *c*) delayed implementation of control measures; *d*) low capacity for isolation and adequate case management; and *e*) high population movement across borders during the incubation or communicable period of the virus.

17. The diphtheria outbreak that began in Venezuela in June/July 2016 (EW 26) is ongoing. From the beginning of the outbreak to 3 August 2019, a total of 2,956 suspected diphtheria cases were reported, including 287 deaths (324 cases and 17 deaths in 2016, 1,040 cases and 103 deaths in 2017, 1,208 cases and 151 deaths in 2018, and 384 cases and 16 deaths in 2019; 1,720 of the cases were confirmed). In 2016, cases were reported in five states (Anzoátegui, Bolívar, Delta Amacuro, Monagas, and Sucre), while in 2017 and 2018,

³ According to data previously provided by the Venezuelan MPPS and published by PAHO/WHO in the Epidemiological Update of 18 June 2019, 7,790 suspected cases had rash onset in 2018, and 5,670 cases were confirmed for that year; in addition, 79 deaths were reported (2 in 2017 and 77 in 2018). The current figures for 2018 (8,005 suspected cases, 5,779 confirmed cases, and 79 deaths) were updated by the MPPS according to information recently received with new records found in the federal units.

⁴ Lineage MVi/HuluLangat.MYS/26.11.

⁵ WHO MeaNS, Measles Nucleotide Surveillance database. Available from: http://www.who-measles.org/Public/Data_Mnt/recordsList.php

22 states and the Capital District reported confirmed cases. In 2019, 23 states have reported cases up to 3 July (18).

18. Venezuela, with the support of the Pan American Sanitary Bureau (PASB) and other partners, launched a combined measles and diphtheria immunization campaign, focusing specifically on nine states and progressively expanding to the entire country. Between April 2018 and June 2019, 8.8 million children aged 6 months to 15 years and 460,844 persons over age 15 were vaccinated against measles in all states. The campaign achieved 100% coverage nationwide. As of June 2019, 5.1 million children between 7 and 15 years of age had been vaccinated against diphtheria, and most states had achieved vaccination coverage above 95%. Exceptions are three states, Anzoátegui, Bolívar, and Táchira, where vaccination activities continue in an effort to exceed 95% coverage. In addition, departments that have reached $\geq 95\%$ coverage are conducting field monitoring to ensure there are no remaining pockets of unvaccinated children (19).

19. In 2019, up to 3 August, 352 maternal deaths were reported (98.87 deaths per 100,000 live births); this is 17% fewer than reported for the same period in 2018 (426). Of the total, 258 deaths were due to direct causes and the remaining 94 were due to indirect causes. An average of 11 deaths per week were reported during this period; 96.9% were intrahospital deaths.⁶ Maternal mortality is a very good proxy for measuring the capacity of the health system.

20. Between 30 December 2018 and 29 June 2019, 714,536 cases of diarrhea were reported in the country, with 171 deaths.⁷ The highest incidence rates were reported among children under 1 year of age (746 cases per 100,000 population) and in Anzoátegui state. In the week of 23 June 2019 (EW 26), four states (Carabobo, Guárico, Portuguesa, and Sucre) were at the epidemic threshold for cases among children <1 year; two states (Guárico and Portuguesa) were at the epidemic threshold for cases among children aged 1-4 years; and four states (Cojedes, Guárico, Monagas, and Portuguesa) were at the epidemic threshold for cases among persons ≥ 5 years. According to data from the national survey of living conditions (Encuesta Nacional de Condiciones de Vida—ENCOVI 2018), only 29% of the population had water supply in their homes every day in 2018, compared to 45% in 2017. The percentage of people receiving water every 15 days increased from 10% in 2017 to 14% in 2018 (20). In terms of sanitation coverage, according to the WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP), only 24% of sanitation systems are adequately managed, and open defecation is practiced in rural areas (21). Health promotion strategies and interventions are not actively implemented in vulnerable areas, further complicating the health situation.

21. New HIV infections are estimated to have increased by 24% from 2010 to 2016, with 6,500 new infections during 2016 in a total of 120,000 persons living with HIV (22). Since 2017, official HIV surveillance data have been unavailable as shortages in diagnostics have significantly affected the capacity to detect new cases of HIV infection.

⁶ Venezuelan MPPS, National Epidemiology Directorate.

⁷ Information provided by the Venezuelan MPPS, shared via internal communication from PAHO/WHO Representative Office in Venezuela, received 7 August 2019.

During 2018, the national HIV/AIDS program reported episodes of stock-outs of antiretroviral medicines, affecting up to 84% of registered persons with HIV receiving care in the public sector (23). Nevertheless, since Venezuela received additional antiretroviral medicines in early 2019, the country has been transitioning to dolutegravir-based regimens, which could benefit up to 85% of persons registered for HIV care. By end July 2019, 29,550 people with HIV had transitioned to these new treatment regimens (53% of the estimated population eligible for dolutegravir-based treatment).⁸ However, there is still limited availability of antiretroviral medicines for alternative regimens, for pregnant women and children, and for prevention and treatment of opportunistic infections.

22. Newly detected tuberculosis (TB) cases increased between 2014 (6,063) and 2017 (10,185). Preliminary information for 2018 indicates 10,574 new cases, an incidence rate of 33.2 per 100,000 population, representing an increase of 2.5% with respect to 2017 (24). Half of the cases are in the Capital District and four other states, and 11 states have a TB incidence above the national average. Prisoners (16.9%) and indigenous people (5.6%) are most affected.⁹ Co-morbidities account for almost 10% of cases (4.1% TB/HIV and 4% TB/diabetes), with a rising trend for TB/diabetes. Additionally, between 2014 and 2017, the number of drug-resistant TB cases increased from 39 to 81, then decreased to 43¹⁰ in 2018. The shortage of laboratory supplies and functional laboratories performing smear microscopy, Xpert MTB/RIF, and drug susceptibility testing has affected TB diagnosis, which may explain the decrease from 2017 to 2018. Considering these challenges, the country may find it difficult to reach the targets established in the End TB Strategy.

23. In 2016, noncommunicable diseases (NCDs)—principally cardiovascular diseases, diabetes, cancer, and chronic respiratory diseases—were responsible for approximately 125,800 deaths, representing 70% of all deaths in Venezuela (25). This is lower than the regional average of 81% (26). Also in 2016, an estimated 17% of adults had elevated blood pressure and an estimated 9% had elevated blood glucose/diabetes, requiring essential medicines and care to treat their conditions and prevent premature death due to NCDs (25). Homicide is also a major concern, with an estimated 49.2 deaths per 100,000 population from this cause in Venezuela in 2016. This rate is almost three times higher than the regional average of 17.9 per 100,000, and more than seven times the global average of 6.4 per 100,000 (27). Beyond these deaths, many more women, men, boys, and girls in Venezuela, including health workers, suffer injuries and experience physical and mental ill-health as the result of violence. It is necessary to increase the capacity for emergency health response and to train health care workers in strategies to prevent violence and respond to the needs of victims of violence. It is also necessary to promote healthy lifestyles and reduce exposure to risk factors that are harmful to health.

24. The Venezuelan health system continues to operate, but with significant challenges. The system has a network of 292 hospitals (levels I through IV); a network of 323 health facilities for ambulatory specialized care; a community-based network (Red de Atención Comunal) with 17,029 points of care, including popular health posts, dental offices,

⁸ Data reported by the Ministry of Health to PAHO and UNAIDS in August 2019.

⁹ MPPS, National Tuberculosis Control Program 2018.

¹⁰ MPPS, National Tuberculosis Control Program 2019.

comprehensive diagnostic centers, popular optical clinics, and comprehensive rehabilitation centers; as well as a transversal emergency network (28). Misión Barrio Adentro, established in 2003, has significantly expanded primary care services to the population. In 2005, Barrio Adentro II and III began simultaneously and helped strengthen the specialized outpatient centers and the hospital network, respectively. In 2006, Barrio Adentro IV was promoted to develop new highly specialized centers, such as the Latin American Children’s Cardiology Hospital (29). In 2017, the government launched Barrio Adentro 100%, aiming for 100% coverage of the program. This initiative led to important investments in health infrastructure and technology at both the hospital and primary care levels and in human resources development (202 projects for rehabilitation, maintenance, and equipment for 80 centers).¹¹ As part of the National Training Program for Comprehensive Community Medicine created in 2008, 23,990 “comprehensive community doctors” (médicos integrales comunitarios) graduated in seven cohorts from 2011 to August 2018. Additionally, 12,269 doctors received credentials in comprehensive general medicine. This model of medical training has been reinforced by the creation of the University of Health Sciences in 2014. On 23-24 August 2018, the government convened the first National Revolutionary Congress for Health to discuss the development of the National Health Plan 2019-2025, aiming to transform the health system to address current challenges. The new plan will replace the National Health Plan 2014-2019.

25. Nevertheless, there has been a progressive loss of operational capacity in the national health system over the past six years, and this has become more acute since 2017, affecting the delivery of health care and access to medicines without charge at the point of service. Many hospitals are operating in challenging conditions and are unable to ensure a supply of basic support services. In 2018, the Venezuelan Medical Federation estimated that approximately 22,000 physicians had migrated out of the country. This figure represents approximately one-third of the country’s 66,138 physicians in 2014. The migration of physicians has predominately affected certain specialty areas (neonatology, anesthesiology, oncology, nephrology, and intensive and emergency care). Similarly, an estimated 6,000 bioanalysts and laboratory technicians have reportedly left the country, and the Venezuelan Federation of Nursing Schools estimates that between 3,000 and 5,000 nurses have also migrated.

26. Immediate action is required to address short-term priorities in order to ensure operational capacity within health services and access to medicines and health technologies, and to rationalize existing resources while mobilizing additional resources. This is necessary in order to address disease outbreaks and increase the system’s capacity to provide comprehensive care for priority conditions, physical and mental health, and emergencies. In the medium term, opportunities exist to transform the health system to reduce fragmentation and segmentation, stem the migration of health workers, ensure sustainability, and improve resilience.

¹¹ MPPS, unpublished presentation, 13 June 2018.

Neighboring Countries

27. In 2019, as of 13 June, **Argentina** reported five confirmed measles cases. Three were imported (one each from Hong Kong, Brazil, and Russia) and two were import-related.¹² Between 11 March and 29 December 2018, 14 measles cases were confirmed, with an equal number of males and females, all of them residents of the city and province of Buenos Aires. The ages ranged from 5 months to 26 years, with a median age of 7 months. Two cases were imported (with travel history to Asia), one was import-related, and 11 were related to an importation of unknown origin. Nine of the 11 cases were identified as genotype D8, associated with the outbreak in Venezuela (30). The Argentine government is facilitating integration of Venezuelan health professionals into the health workforce.

28. In 2018, **Brazil** reported 193,811 malaria cases, of which 4,860 (2.5%) were imported from Venezuela, representing 74% of all imported malaria cases in the country (6,604). This compares to 193,917 cases reported in 2017, of which 2,577 (34% due to *P. falciparum*)¹³ were imported from Venezuela, representing 55% of all imported malaria cases in Brazil (4,681). The majority of imported cases from Venezuela were reported in Roraima. In 2018, Roraima reported 23,368 malaria cases, including 5,213 imported cases, of which 85% (4,478) were from Venezuela (31% due to *P. falciparum*). The remaining 15% of imported cases in Roraima were from other Brazilian states and six other countries (Colombia, French Guiana, Guyana, Nigeria, Panama, and Suriname).

29. Between January and 30 June 2019, 9,652 malaria cases were reported in Roraima, including 1,434 (14.8%) imported cases, of which 80% (1,152) were from Venezuela (16% due to *P. falciparum*).¹⁴ The remaining 20% were from other Brazilian states and four other countries and territories (French Guiana, Guyana, Saint Helena, and Suriname). In Roraima, this represents a 64.7% reduction in imported cases from Venezuela compared to the same period in 2018 (3,268).¹⁵ The border between Venezuela and Brazil was closed between February and May 2019.

30. In March 2019, the Ministry of Health of Brazil announced that the country had reestablished endemic transmission of measles on 19 February 2019, due to ongoing transmission of the same genotype D8 for more than 12 months, mainly in the state of Pará. The measles outbreak started in the week of 4 February 2018 (EW 6) in Roraima State, then spread to Amazonas state and subsequently to nine additional states. In 2019, up to 8 August, 1,045 measles cases were confirmed in nine states: Amazonas (4), Bahia (1), Minas Gerais (4), Pará (53), Rio de Janeiro (13), Roraima (1), Santa Catarina (3), São Paulo (965), and Sergipe (1). Three of these states currently have active outbreaks: Bahia, Rio de Janeiro, and São Paulo (32). Most of the suspected (88.7%) and confirmed cases (92.1%)

¹² Argentinian IHR National Focal Point, unpublished communication, 13 June 2019.

¹³ The Brazilian Ministry of Health retrospectively updated the figures previously reported to the 56th Directing Council (2,576 malaria cases, 35% *P. falciparum*).

¹⁴ Data should be considered preliminary due to delays in reporting.

¹⁵ Brazilian Ministry of Health, Malaria Epidemiological Information System (Sivep-Malaria), accessed 6 August 2019. Preliminary data subject to change.

in São Paulo state were reported from the municipality of São Paulo. The state has an incidence rate of 1.2 per 100,000 population, compared to the cumulative national incidence rate of 5.4 per 100,000 population. No deaths have been reported since the start of 2019. Between 4 February and 29 December 2018, 10,326 cases were confirmed, with a national incidence rate of 5.0 per 100,000 population, in the states of Amazonas (9,803), Bahia (3), Federal District (1), Pará (79), Pernambuco (4), Rio de Janeiro (20), Rio Grande do Sul (46), Rondônia (2), Roraima (361), São Paulo (3), and Sergipe (4). Twelve deaths were reported in 2018 (five Venezuelan children and seven Brazilian children and adults). Four of these were reported in Roraima, six in Amazonas, and two in Pará. During 2018 and 2019, in Amazonas, Roraima, and Pará states, the identified genotype was D8, similar to that reported in Venezuela and other countries of the Region. A different D8 genotype was identified in cases in São Paulo, Santa Catarina, Rio de Janeiro, and Minas Gerais. Additionally, one case from Rio Grande do Sul had genotype B3, with a history of travel to Europe.¹⁶ Nine of the 11 states that had confirmed cases of measles in 2018 have interrupted transmission in 2019 for more than 12 weeks since the last case (range between 13 and 32 weeks). Dates of rash onset of the last confirmed cases were 25 July 2019 in São Paulo, 6 July 2019 in Rio de Janeiro, and 3 July 2019 in Bahia (31).

31. In 2019, up to 27 July, there have been no confirmed cases of diphtheria in Brazil (32). In 2017, five cases of diphtheria were confirmed in four Brazilian states, including a fatal case imported from Venezuela (33). The one diphtheria case confirmed in 2018 did not have an epidemiological link to Venezuela.

32. In 2018, responding to the growing demand for health services in Roraima, the Ministry of Health programmed specific additional funds for upgrading of health units, strengthening and expansion of hospital care, strengthening of primary health care, and acquisition of vaccines. The municipalities of Pacaraima and Boa Vista will receive support for primary health care and to expand hospital care (34).

33. Between 3 June 2018 and 26 January 2019, **Chile** reported 27 measles cases (23 in 2018 and four in 2019). Nine were imported and 18 were import-related; 14 required hospitalization, with no deaths reported; 54% of confirmed cases were male and 57% were children under 1 year old (below the minimum age required for the first dose of measles vaccine). Eighteen cases were confirmed as infected by the D8 genotype that is also circulating in Venezuela, while one case was confirmed with a D8 genotype of a different lineage. Six of the nine imported cases were from Venezuela and the other three from Argentina, Colombia, and Germany.¹⁷

34. In **Colombia**, 175 confirmed measles cases were reported in 2019 as of 27 July in the departments of Atlántico, Cesar, Córdoba, Cundinamarca, La Guajira, and Norte de Santander, and in the districts of Barranquilla, Cartagena, and Bogotá (17). Of the 175 confirmed cases, 56 (32%) were imported from Venezuela and 103 (58.9%) were import-

¹⁶ Brazilian IHR National Focal Point, personal communication to PAHO/WHO, 17 June 2019.

¹⁷ Chilean Ministry of Health, Office of Cooperation and International Affairs, email communication, 13 2019.

related (37 from Venezuela and 66 from Colombia). The source of infection for the other 16 cases (9.1%) remains under investigation (35). A total of 383 measles cases were confirmed in the country between 4 March 2018 and 27 July 2019, in 14 departments and four districts: 208 (30)¹⁸ with dates of rash onset in 2018, and 175 in 2019. During this period, 10,305 suspected measles cases were reported, including one death in a 3-month-old Colombian male of the Wayúu indigenous ethnic group, from Uribia in La Guajira. Genotyping performed on samples for 112 cases indicated genotype D8 lineage, similar to the one circulating in Venezuela and other countries in the Region (17). In the first 24 epidemiological weeks of 2019, there were 23 suspected diphtheria cases, four of which were classified as probable and the remainder dismissed (36). Between 31 December 2017 and 29 December 2018, Colombia confirmed eight cases of diphtheria (four in La Guajira, two in Norte de Santander, and two from Venezuela), including three deaths. Confirmed cases were males ranging in age from 3 to 37 years, six of them Venezuelan citizens (37).

35. Colombia reported 51,462 malaria cases between 30 December 2018 and 3 August 2019, including 50,561 cases of uncomplicated malaria and 901 complicated cases (38). Of the total, 1,381 (2.68%) were imported, with 1,343 from Venezuela; the latter included 139 *P. falciparum*, 1,179 *P. vivax*, and 25 mixed infections. This represents a 41% increase in imported malaria cases from Venezuela compared to the same period in 2018 (1,007 imported malaria cases, of which 952 were from Venezuela). In 2018, 1,825 imported malaria cases were reported in Colombia, of which 95% were from Venezuela. This represents a more than fivefold increase since 2014 (39). The departments of Arauca, Caquetá, and Norte de Santander reported an increase in malaria cases higher than the 2012-2017 average (40).

36. In **Ecuador**, between 25 March and 29 December 2018, 19 confirmed measles cases were reported, of which 11 were imported (all Venezuelans) and eight were import-related.¹⁹ The cases were reported in Quito (12 cases), Cuenca (1), Riobamba (1), and Tulcán (5).²⁰ As of 8 August 2019, 101,150 persons under 15 years of age from Venezuela were screened for measles vaccine history at the border with Colombia and 45,118 doses of measles, mumps, and rubella (MMR) and measles-rubella (MR) vaccines were administered (41). As of 25 May 2019, 17 cases of malaria had been reported in Venezuelan migrants, representing 34% of imported cases (50 in total) and 1.8% of total malaria cases in the country. The Ministry of Health estimated that in 2017, 36,544 persons were living with HIV in the country and 19,545 received antiretroviral treatment.²¹ Between January and April 2019, the Ministry of Health reported that 176 migrant persons living with HIV received care in comprehensive care units in 19 of the country's 24 provinces, mainly in Pichincha (78 persons, 44.6%), Guayas (39 persons, 22%), and El Oro (10 persons, 6%). These provinces are officially part of the migration corridor,²² or

¹⁸ The PAHO/WHO Epidemiological Update of 17 May 2019 reported 209 cases with rash onset in 2018; however, one case has been reclassified.

¹⁹ Numbers differ from previous report due to result of epidemiological investigations conducted.

²⁰ Ecuadoran Ministry of Public Health, Report by the National Directorate of Immunizations Strategy.

²¹ Ecuadoran Ministry of Public Health website, page on HIV. Available from: <https://www.salud.gob.ec/vih/>

²² The humanitarian/migration corridor was established by the national government for the safe, free, and

they adjoin it. However, since the national government does not have an HIV patient registry that disaggregates data by nationality, and has not yet conducted epidemiological tracing for HIV, no direct link has been established between the national HIV incidence and human migration. As a result of the peaks in HIV incidence, the Ministry of Health has started an HIV patient data registry to ensure access to essential health services.

37. In **Guyana**, between January and April 2019, 153 malaria cases were reported in Region VII in Kaikan, near the border with Venezuela, an almost 900% increase compared to 2017 (17 cases). The increase was mainly driven by imported cases (86 from Venezuela in 2019, compared to four cases in 2017).²³ In 2018, there was an approximately 13% increase in malaria cases at the national level compared to 2017, due mainly to cases in Region 1 (Barima-Waini), a region bordering Venezuela, where malaria cases have been increasing since 2017. Guyana continues to be free from measles, diphtheria, and rubella.

38. **Peru** reported two confirmed cases of imported measles in 2019, as of 20 May, with a source of infection outside of the Americas (30). Between 18 February and 29 December 2018, 42 confirmed cases of measles were reported, with ages ranging from 4 months to 51 years (median 18 months). No deaths were reported. Cases were from Amazonas, Callao, Cusco, Ica, La Libertad, Lima, Piura, and Puno (30). Of the confirmed cases, 24 were associated with the genotype D8 circulating in other countries in the Region, by molecular epidemiology or epidemiological link to a laboratory-confirmed case where genotype D8 was identified. As of EW 18 of 2018, one diphtheria case was identified and contained at the northwest border with Ecuador in Amazonas department. No additional cases of diphtheria have been reported in the country since then (41). In 2019, up to 27 July (EW 30), 12,553 malaria cases were notified, 60% less than in the same period in 2018 (31,189) (42). Peruvian health authorities reported 16 imported malaria cases as of 11 May 2019, six of them imported from Venezuela. In 2018, 36 malaria cases were reported in the Tumbes region, where no malaria cases had been reported since 2012. This area is now at high risk for the reintroduction of *P. vivax* malaria. Nineteen of these cases were imported from Venezuela (43).

39. In Peru, by the end of December 2018, a total of 120,389 HIV infections were notified, 43,072 of them receiving treatment (44). By the same date, the HIV Prevention and Control Office (DPVIH/MINSA) had a registry of 1,338 Venezuelan citizens receiving HIV treatment, 90% in the Lima/Callao area. A local activist organization in Peru (Asociación Illary) that reports HIV data to the Ministry of Health documented 16 deaths of Venezuelan migrants associated with interrupted treatment of advanced HIV disease in health facilities in the country (45).

40. A nutritional needs assessment conducted in March 2019 by health partners within the framework of the Regional Inter-Agency Coordination Platform for Refugees and Migrants from Venezuela (R4V) reported that among the children under 5 years old who

orderly transit of Venezuelan migrants on the northern border of Ecuador toward Huaquillas on the border with Peru. <https://www.ministeriointerior.gob.ec/ecuador-activa-corredor-humanitario-para-garantizar-el-transito-seguro-de-migrantes-venezolanos/>

²³ Guyanese Ministry of Health, unpublished report.

entered Peru through the binational centers for border health care services (Centros Binacionales de Atención en Frontera, CEBAF), 3% were acutely malnourished, 18% had chronic malnutrition, and 25% had anemia (6).

41. **Trinidad and Tobago** has reported no confirmed measles or diphtheria cases. However, the Ministry of Health reported an increase in imported malaria cases from Venezuela. In 2019, as of 31 May, there were 17 malaria cases (one from Ghana, one from Guyana, one from Uganda, 13 from Venezuela, and one local case). Between 2006 and 2017, an average of 15 cases were reported each year. Twelve cases were confirmed in 2017 (eight from Venezuela, one from Guyana, one from India, and two from Nigeria) and 40 in 2018 (38 imported cases: 33 from Venezuela, 4 from Guyana, and 1 from Ghana).²⁴ In 2018, the Ministry of Health reported that there was no malaria outbreak in Trinidad and Tobago, indicating that the majority of confirmed cases in Trinidad and Tobago were imported from neighboring countries.²⁵

42. The **indigenous populations** living in border areas of Venezuela are highly vulnerable to epidemic-prone diseases. Of special concern are the Warao people living in border areas between Venezuela and Guyana, who are now migrating to northern Brazil; the Wayúu people, living in the border areas between Venezuela and Colombia; and the Yanomami people, living in remote locations along the border between Venezuela and Brazil (46, 47). One of the highest HIV prevalence rates in indigenous populations in the Region of the Americas is among the Warao in Venezuela (9.5%) (48). This population also has among the highest levels of tuberculosis. Between 31 December 2018 and 29 December 2019, a total of 541 measles cases were confirmed in indigenous communities in Venezuela, 61% of them in the state of Delta Amacuro, among the Warao ethnic group.²⁶ Additionally, 62 deaths were reported, of which 35 were in Delta Amacuro (all in the Warao ethnic group) and 27 were in Amazonas (26 in the Sanema and 1 in the Yanomami ethnic groups). In 2019, Venezuelan authorities have not reported any measles cases in the indigenous communities (17). In 2019, as of 17 May, 183 suspected measles cases were reported among indigenous populations in Brazil, of which 145 were confirmed in Roraima state and two (both fatal) in Pará state. The majority of confirmed cases in Roraima are in the Auaris indigenous health district, which borders Venezuela (30).

Response of the Pan American Sanitary Bureau

43. In response to the evolving situation in Venezuela, PASB has been involved in intensified technical cooperation with the Ministry of Health, international partners, and local nongovernmental organizations (NGOs) to enhance health systems management; improve the prevention and control of communicable and noncommunicable diseases;

²⁴ Trinidad and Tobago Ministry of Health, unpublished data.

²⁵ Trinidad and Tobago Ministry of Health, press note, “No malaria outbreak in Trinidad and Tobago,” 28 August 2018. Available from: <http://www.health.gov.tt/news/newsitem.aspx?id=866>

²⁶ The difference with respect to that reported in previous Epidemiological Updates is due to the retrospective adjustments made by the national authorities based on the review, consolidation, and investigation of cases in indigenous populations.

reduce maternal and neonatal mortality; improve emergency management; and purchase medicines, vaccines, laboratory reagents, and other supplies for health programs, both directly and through the PAHO Regional Revolving Fund for Strategic Public Health Supplies (the Strategic Fund)²⁷ and PAHO Revolving Fund for Vaccine Procurement (the Revolving Fund).²⁸ To maximize this technical cooperation, the following support has been provided since December 2017: an active incident management system at Headquarters level and in the PAHO/WHO Representative Offices in Brazil, Colombia, Ecuador, Peru, and Venezuela; release of funds from the PAHO Emergency Disaster Fund and the PAHO Epidemic Emergency Fund; the activation of special internal administrative procedures to facilitate fast and agile technical cooperation with the targeted countries; and enhanced partnerships and resource mobilization.

44. PASB received financial contributions from the following partners to support its technical cooperation agenda in Venezuela and neighboring Member States: Canada, European Union, Japan, New Zealand, Switzerland, United States of America, Spain, Global Fund to Fight AIDS, Tuberculosis and Malaria, Measles and Rubella Initiative, Task Force for Global Health, UN Central Emergency Response Fund, UN Foundation, Vaccine Ambassadors, and WHO Contingency Fund for Emergencies.

45. PASB quickly scaled up its technical cooperation with Venezuela and neighboring countries. Targeting various public health issues, since November 2016 PASB has deployed multidisciplinary technical field missions, involving the mobilization of over 120 personnel. The in-country mission teams and the field offices include personnel with expertise spanning several technical areas: emergency management, entomology and vector control, surveillance, epidemiology, health and laboratory services, health services management, immunization, cold chain, infection prevention and control, antenatal care, maternal and neonatal health and post-abortion care, sexual and reproductive health, clinical management, public health, coordination and logistics, administration, and risk communication. In addition to its established presence on the ground through the PAHO/WHO Representative Offices, PASB has completed more than 100 technical cooperation missions at national and subnational levels to Venezuela, Colombia, Brazil, Guyana, Ecuador, and Peru.

46. PASB is supporting the Venezuelan Ministry of Popular Power for Health (Ministerio del Poder Popular para la Salud, MPPS) in the implementation of its National Rapid Response Plan to halt the measles and diphtheria outbreaks. The plan is aimed at interrupting transmission of these diseases and includes universal mass vaccination for children aged 6 months to 15 years against measles and 7 to 15 years against diphtheria, together with extensive contact tracing and associated laboratory work. It is underpinned by the mobilization of national, regional, and municipal rapid response teams. In addition to the rapid response plan, Venezuela, with support from PASB, is also implementing a

²⁷ The PAHO Strategic Fund was created in 2000 by the Organization as a mechanism to improve equitable access to safe, efficacious, and quality medicines and supplies in the Americas.

²⁸ The PAHO Revolving Fund provides countries and territories with guarantees of quality, safe, and adequate supplies of vaccines and related products, and lower prices.

national plan to increase vaccination coverage in indigenous communities, municipalities with low coverage, and difficult-to-reach areas. The vaccination campaign from April 2018 to June 2019 achieved 100% coverage for measles nationwide, with coverage above 95% for diphtheria in most states. According to MPPS data, as of June 2019, 8.8 million children have been vaccinated against measles and 5.1 million against diphtheria.²⁹ MPPS reported that during Vaccination Week in the Americas 2019, more than 381,000 children were immunized in Venezuela. Six types of vaccines to protect the population against 11 diseases were made available, 7,124 vaccination posts were in operation, and 231 indigenous communities received vaccinations. These intensified activities are planned to continue until 30 June 2019 (49). Additionally, as part of the polio risk mitigation plan, there is an ongoing national polio campaign in the country. As of 27 August 2019, the official end of the polio campaign, 3,041,508 children 2 months to 5 years of age were vaccinated, achieving 96% coverage.³⁰

47. To date, with PASB's support, more than 13,000 health workers, including 4,811 vaccinators, have been trained in measles and diphtheria outbreak response in 23 states and the Capital District. Additionally, in collaboration with national and local immunization programs in the country, PASB has been facilitating the purchase of vaccines through the PAHO Revolving Fund, paid for primarily by Venezuela. The following supplies and vaccines have been purchased since 2017: pentavalent vaccine; inactivated polio vaccine (IPV) and oral polio vaccine (bOPV); diphtheria-tetanus (DT) vaccine for the immunization campaign; diphtheria antitoxin immunoglobulin; MMR and MR vaccines; doses of yellow fever vaccine; and human tetanus immunoglobulin. In 2017, the combined total of these vaccines and associated syringes procured was 33 million doses/units, which increased to 43 million doses/units in 2018. Already in 2019, 4 million doses/units have been procured and delivered to the country. To facilitate national immunization efforts and reach more communities nationwide, PASB also supported the strengthening of: *a*) the vaccine cold chain by acquiring additional supplies, including 36.7 million syringes and safety boxes, water packs, vaccine carriers, thermometers, refrigerators, and cold boxes; *b*) laboratory capacity for diphtheria and measles diagnosis, including flocced swabs, cotton swabs, dry tubes, Amies transport medium, Remel M4RT transport medium, blood extraction syringes, kits for measles IgM/IgG, kits for rubella IgM/IgG, kits of primers/probes for RNA detection of measles and rubella, and five sets of primers for diphtheria diagnosis; and *c*) laboratory diagnosis for poliovirus through provision of reagents and supplies for viral isolation and intratypic characterization. Together with WHO, UNICEF, and the Measles and Rubella Initiative (MRI), PASB has also implemented alternative support mechanisms to ensure continued access to the MMR vaccine and to supplies for a nationwide mass campaign to interrupt measles transmission. Accordingly, during 2018 the MRI provided an additional 3.52 million doses of MR vaccine, 2.74 million syringes, and 26,000 safety boxes for the first phase of the measles outbreak response.

²⁹ MPPS communication, 10 June 2019.

³⁰ MPPS, Directorate of Immunizations.

48. In support of the MPPS, PASB has deployed 54 international and national consultants to all states to strengthen the coordination capacity of the regional health directorates and support immunization-related activities. Since May 2018, PASB has been supporting the monthly mobilization of between 19,000 and 31,000³¹ vaccinators to implement nationwide immunization activities. PASB has also facilitated the availability of vehicles for the vaccination brigades (regular fleet of approximately 60 vehicles and up to 100 at peak levels). In addition to the immunization efforts, PASB has implemented actions for outbreak prevention and control at the community level through the provision of essential health kits for the management of measles and diphtheria to health care workers and community leaders. These supplies, complemented by training, have empowered communities as first responders for the early detection and control of suspected cases. Specialized training workshops have been held at comprehensive diagnosis centers (CDIs) and reference hospitals on the clinical management of diphtheria and measles cases. To strengthen community awareness, 5,000 manuals on clinical epidemiological diphtheria management, 2,500 posters on pediatric clinical management of diphtheria, 2,500 posters on clinical management of diphtheria in adults, and epidemiological surveillance sheets for measles and diphtheria have been distributed to the regional health directorates in the prioritized states, CDIs, and reference hospitals. An online course on measles has been made available through the PAHO virtual campus, and at the end of 2018, an on-site training on cell culture and viral isolation of poliovirus was provided to laboratory staff of the National Institute of Health.

49. PASB has been exploring alternative support mechanisms to ensure continuity in access to antiretroviral drugs (ARVs) and other essential medicines in Venezuela, along with key partners, other United Nations agencies, and specific civil society groups. The country participates in the PAHO Strategic Fund, which it has used to procure ARVs, TB medicines, and antimalarials with its own funds. After a reduction in the level of procurement for Venezuela in 2016, PASB, in coordination with MPPS, increased its support for the procurement of high-priority medicines such as immunosuppressant drugs, medicines for maternal and child health care, medicines for high-prevalence chronic diseases, and reagents for diagnostics and blood. These medicines are provided to the health services networks of both the MPPS and the Social Security Institute. PASB has also provided technical support in the rational selection of medicines to optimize available resources, and in the analysis of supply options for strategic public health supplies. In 2018, PASB supported the acquisition of US\$ 2.1 million of essential medicines through the Strategic Fund, including immunosuppressive medicines, ARVs, antimalarials, anti-tuberculosis medicines, insulin and other medicines used for diabetes, antihypertensives, thyroid hormones, and rapid tests for diagnostics, as well as essential medications to prevent and/or address the main maternal and perinatal causes of severe morbidity and mortality. However, the volumes purchased do not cover the current needs of the country's national health system.

50. PASB has also supported direct procurement of essential medicines and supplies for the country through channels outside the PAHO Revolving Fund and Strategic Fund.

³¹ 800 to 1,400 people a day, six days a week.

By the end of 2018, 80 Interagency Emergency Health Kits (IEHKs) were provided in order to benefit 800,000 patients in emergency services and in communities. Other medicines and supplies were also distributed, including 150,000 envelopes of oral rehydration salts; 16,000 ampoules of oxytocin postpartum treatment; 1,100 adrenaline treatments; 4,000 bottles trimethoprim/sulfamethoxazole treatments for children's urinary and respiratory infections; 12,000 tablets of carbamazepine anxiolytic treatments; 800,000 mebendazole antiparasitic tablets; 500,000 metformin tablets for diabetes; 20,000 metronidazole antimicrobial tablets; 1,900 treatments against influenza; 28,000 tacrolimus immunosuppressant tablets; and 500 liters of benzyl benzoate for scabies, among others.

51. In collaboration with MPPS, UNAIDS, civil society, and other partners, PASB led the development of a master plan to strengthen the response to HIV, TB, and malaria from a public health perspective (23). The plan was finalized in July 2018 and has been instrumental in defining priorities and facilitating the coordination of international technical cooperation with the actors involved in the response to HIV, TB, and malaria. Considering the ongoing stock-out of reagents for HIV viral load monitoring, PASB has mobilized technical support and resources to implement a population-based survey to estimate treatment response in people with HIV who have transitioned to the new dolutegravir-based regimens. Additionally, with support of the Global Fund and other partners, PASB supported the purchase of antiretrovirals, namely 705,312 bottles of a fixed-dose combination of tenofovir, lamivudine, and dolutegravir (TLD) through the Strategic Fund. PASB, in coordination with the government and partners, supported the purchase and donation of first- and second-line anti-TB drugs, covering more than 80% of the estimated funding for anti-TB drug needs for the first year of the master plan. With funding from partners, PASB has also facilitated the donation of two GeneXpert machines with cartridges for rapid molecular diagnosis and other laboratory equipment (one centrifuge and one biosafety cabinet) for the National Reference Laboratory. Brazil and private sector partners also donated important quantities of antiretrovirals to Venezuela. There is ongoing coordination with MPPS and partners to address remaining gaps in the master plan (50).

52. Since April 2017, PASB has scaled up support to MPPS in order to strengthen services in high-priority level III and IV hospitals in major cities, including Caracas, in 19 states. Some 58 facilities are now being supported, up from the 25 targeted in April 2017. Activities include staff training on hospital safety and prevention of health care-associated infections, implementation of hardware and software for use of the Logistics Support System (LSS/SUMA) to manage health supplies, and evaluations of essential capabilities, including warehousing of supplies in these hospitals. In addition, 1,767 basic and complementary units of IEHK, each of which provides medicines and medical devices for 10,000 people for approximately three months, have been distributed to 24 hospitals in 16 states (Amazonas, Anzoátegui, Apure, Aragua, Bolívar, Carabobo, Delta Amacuro, Capital District, Lara, Mérida, Miranda, Monagas, Sucre, Táchira, Vargas, and Zulia). Additionally, the following are presently being distributed: 254 NCD Kits modules, 71 Basic IEHKs, 128 Reproductive Health Kits, and 25 Malaria Kits, as well as 64,660 units of insulin, 212,360 units of antibiotics, and 13 items of emergency care equipment (crash carts, electrocardiographs, ultrasound, infusion pumps, defibrillators, and

nebulizers). Furthermore, 12 of the 24 hospitals in eight states (reference hospitals in Anzoátegui, Apure, Bolívar, Capital District, Miranda, Táchira, Vargas, and Zulia) are receiving support to strengthen emergency room response capacities and have been provided with essential supplies and equipment, such as 17 trauma kits and four surgical supply kits, as well as on-site training in triage, patient flows, infection control, and emergency room management. Warehouses that supply these emergency rooms are being strengthened through the procurement of equipment and provision of training to improve safety and security conditions.

53. In coordination with MPPS, PASB has also been monitoring and reporting on the operational status of vital lines (water, electricity, medical gases, supplies and medicines, food, and waste) and essential services (emergency, operating room, ICU, delivery room, x-ray, ultrasound, laboratory, sterilization, blood bank, morgue) in 71 hospitals in 23 states on a regular basis through the mobile “collect tool.” The available information from a sample of hospitals as of July 2019 shows that some critical units operate intermittently (59% of emergency rooms, 52% of operating rooms, and 17% of intensive therapy units) and that there is a shortage of medicines commonly used in emergency rooms (19%) and operating rooms (28%). This situation is made worse by cuts in the water and energy supply in the country (51).

54. PASB is also working with MPPS to strengthen the national primary health care network, prioritizing 25 comprehensive community health areas (ASICs), 25 comprehensive diagnostic centers, and 452 community health centers. Cuban medical cooperation has been present for many years in all these areas. With PASB’s support, equipment, medicines, and supplies have been provided, and professionals from many states have been trained in essential methodologies to improve obstetric and other medical services, the detection and treatment of mental health problems, and the management of diphtheria and measles cases. Over 301 Basic IEHKs have been delivered to address basic health care needs at the primary care level for approximately 301,000 people over three months. These were provided to 14 ASICs in Amazonas, Anzoátegui, Aragua, Bolívar, Capital District, Carabobo, Delta Amacuro, Lara, Monagas, Sucre, Táchira, and Zulia; to 12 MPPS institutions; and to nine NGOs (Acción Solidaria, Acoana, AVESSOC, Aviación para la Salud, Caritas Venezuela, Fe y Alegría, Misioneras de Madre Laura, Proyecto Esperanza, Fundación Proyecto Maniapure). Customized kits with basic health care supplies and equipment (thermometers, stethoscopes, tensiometer, basic medicines, and stationery) have also been provided to community leaders and comprehensive community doctors.

55. Since 2016, recognizing the challenges that malaria presents, PASB, in coordination with the Venezuelan government, has supported the purchase and/or donation of essential supplies for malaria treatment and control (antimalarial drugs, rapid diagnostic tests, and insecticidal mosquito nets) as well as essential supplies and reagents to strengthen diagnostic capabilities and supplies for the management of complicated malaria. Since 2017, PASB has supported the purchase and/or donation of 508,400 rapid diagnostic tests (RDT), 214,800 long-lasting insecticidal nets (LLIN), 226,000 artesunate vials for the treatment of severe malaria cases, as well as various antimalarials for the treatment of uncomplicated malaria cases (365,600 treatments of artemether-lumefantrine, 5,771,700

tablets of chloroquine, 250,000 tablets of primaquine 5 mg, and 9,605,000 tablets of primaquine 15 mg).

56. PASB has also provided priority guidelines, communication materials, tools, and training for health workers. Approximately 700 health care workers have been trained in case management of uncomplicated malaria in Anzoátegui, Aragua, Bolívar, Carabobo, Delta Amacuro, Mérida, Monagas, Sucre, and Zulia states; 300 doctors and nurses have been trained in management of artesunate in severe malaria; and 100 health workers have been trained in malaria detection and surveillance in Sucre and Delta Amacuro. In addition, two workshops were held for certification of microscopists and training in quality assurance in microscopy, with 26 microscopists certified. In 2018, PASB supported MPPS in finalizing and launching the Action Plan for Malaria Control 2018-2021, and helped implement a plan for prevention and management of malaria in pregnancy in municipalities in Bolívar (Callao, Sifontes, Heres, Caroni), Anzoátegui (San Cristóbal, El Carmen, Puerto La Cruz), Zulia (Machiques de Perijá, Jesús María Semprún, Mara, Sucre), and Sucre. To date, a 40% reduction in cases of maternal mortality attributable to malaria has been reported compared to the same period in 2018. PASB also provided technical support at national and local levels for the organization and implementation of malaria control actions, including distribution of 200,000 long-lasting insecticidal nets to the states with the highest malaria transmission rates (Amazonas, Anzoátegui, Bolívar, Carabobo, and Sucre), and for the development of projects and protocols for malaria surveillance and response. Since the beginning of 2019, PASB has provided technical support on the response to malaria outbreaks in four states (Carabobo, Mérida, Nueva Esparta, and Zulia). Support was also provided for information management, which has been enhanced with the standardization of epidemiological surveillance databases for malaria. Ten situation rooms have been set up (seven located in the Regional Directorates of Amazonas, Apure, Bolívar, Capital District, Carabobo, Miranda, and Monagas; one in the Vice Ministry of Public Health Networks; one in the General Directorate of Epidemiology; and one in the PAHO/WHO Representative Office). PASB has also supported the strengthening of malaria surveillance actions in border areas of Brazil, Colombia, and Guyana.

57. PASB and Venezuela are collaborating on a comprehensive plan to prevent and control noncommunicable diseases, promote mental health, and prevent violence. Areas of action include increasing the multisector response to NCDs through the creation of interinstitutional committees and plans for physical activity and alcohol reduction; greater access to essential medicines for the treatment of various diseases; management of hypertension and diabetes; provision of basic equipment to primary and specialized care centers; and training to increase health workers' ability to identify and manage people with NCDs and mental health conditions. Data collection and monitoring are ongoing as part of the Global Survey on Violence Against Children and the Global Youth Tobacco Survey. PASB is working with the National Nutrition Institute (INN) on a project to improve the detection and management of acute malnutrition in children who are receiving care in communities and in nutritional recovery centers around the country. Other health interventions are being coordinated with the immunization program, such as provision of vitamin A and antiparasitic agents to children under 5. PASB experts have also supported trainings and have helped update and develop tools and protocols to detect nutritional

deficiencies in order to strengthen the surveillance and management of malnourished children in communities and at the Education and Nutritional Recovery Services (SERNs) in prioritized states. PASB is now procuring 220 kits for severe acute malnutrition with medical complications (SAM/MC kits) to be delivered to the 24 SERNs that support nutritional recovery at their corresponding reference hospitals in all states. These will be used to care for an estimated 11,000 children under 5 who suffer from severe malnutrition with medical complications. The kit includes antibiotics, antifungals, deworming drugs, antimalarials, and anti-scabies medicine, as well as a rehydration mix to treat cases of severe acute malnutrition.

58. Since 2017, PASB has provided systematic support to MPPS to strengthen the management of potentially severe neonatal and maternal complications in the eight jurisdictions with the highest proportion of maternal deaths (Anzoátegui, Aragua, Bolívar, Carabobo, Lara, Miranda, and Zulia states, and the Capital District). PASB, in coordination with national and local health authorities, trained 695 health care workers and professionals in essential interventions to reduce severe maternal and neonatal morbidity and mortality. Through the PAHO Strategic Fund, PASB also supported the purchase of essential medicines, including 103,012 amoxicillin/clavulanic acid tablets, 100,000 doses of dexamethasone, 80,000 misoprostol tablets, 9,000 doses of hydralazine, and 200 vials of pulmonary surfactant, among others. Additionally, PASB, in coordination with MPPS, developed a plan to prioritize the systematic use of immediate postpartum family planning at the same time and location as facility-based childbirth care. “Training of trainers” methodology has been implemented and has already reached 1,280 health professionals (928 specialists and residents in obstetrics and gynecology, 72 comprehensive community doctors, and 280 other members of the basic health team) in 14 prioritized states, increasing local capacities to provide safe postpartum and post-abortion care to vulnerable populations.

59. In addition to this training, 146 women received safe and effective contraceptive methods following delivery or abortion procedures in six hospitals in Caracas. More than 4,500 women in 32 hospitals in 14 prioritized states received intrauterine devices, contraceptive implants, progestin-only injectable contraceptives, and misoprostol and manual vacuum aspiration to treat incomplete abortions. Since September 2018, PASB has been supporting MPPS in the implementation of a work plan to help reduce severe maternal and perinatal mortality and morbidity from a life-course perspective. The plan prioritizes actions in the eight states with highest maternal mortality, which together account for 70.9% of the total maternal deaths reported in 2017: Anzoátegui, Aragua, Bolívar, Carabobo, Capital District, Lara, Miranda, and Zulia. It also includes Amazonas, Delta Amacuro, Guárico, Sucre, Táchira, and Vargas states, which also reported a high proportion of maternal deaths. In total, PASB is helping MPPS reach 14 states with interventions to improve neonatal and maternal health, with an estimated direct beneficiary population of 190,200 women, approximately one-third of the women hospitalized for childbirth or abortion in a year. Within the context of the National Plan for Reduction of Maternal and Neonatal Mortality, equipment and supplies—including 25,000 subdermal contraceptive implants and other essential items, as well as 12 United Nations Population Fund (UNFPA) emergency sexual and reproductive health kits—have been provided to

prioritized hospitals and maternity rooms, enough to care for approximately 180,000 people for three months.

60. In response to the ongoing water shortages since early 2019, PASB has procured 4.5 million aquatabs to treat 121,500,000 liters of drinking water. Of these, 1.1 million have been distributed to hospitals in Anzoátegui, Apure, Bolívar, Delta Amacuro, and Táchira, and almost 3.4 million are being distributed; just under 60,000 are in storage for emerging needs. PASB also procured 4,000 jerry cans, seven small generators, and two 5,000-liter bladder tanks. In response to floods that affected an estimated 35,000 people in 111 municipalities in 2018 (mainly in Amazonas, Apure, Bolívar, and Delta Amacuro), PASB supported the provision of drugs and medical supplies in Amazonas and Bolívar to treat emergency-related health conditions. PASB also distributed 90,000 aquatabs in Bolívar to ensure access to safe water for three weeks for nearly 6,000 people living in shelters.

61. PASB has also provided support in **neighboring countries** (Argentina, Brazil, Chile, Colombia, Ecuador, Guyana, Peru, and Trinidad and Tobago) and has established field offices in border areas and/or deployed additional personnel there. Activities are aimed at strengthening health system response in border areas, vaccination, and epidemiological surveillance at the local and national levels to detect and respond effectively to the needs of Venezuelan migrants and the host population.

62. In **Argentina**, PASB has supported the Ministry of Health and Social Development in strengthening capacities for rapid detection and notification of measles cases in the country. PASB is also working with partners to strengthen disease prevention and response mechanisms. Support is being provided along with other UN agencies for the provision of social services as well as information on how to access the health system in shelters receiving Venezuelan migrants. Together with the International Organization for Migration (IOM) and two Argentine government entities, the National Commission on the Coordination of Social Policies and the Secretariat of Human Rights and Cultural Pluralism, PASB is implementing a study on migrant access to health services in the city of Buenos Aires, as well as an analysis of the legal frameworks in Argentina at provincial and national levels in light of international agreements on the rights of migrants to health services.

63. In **Brazil**, PASB is providing ongoing support to national and local authorities for the control of immuno-preventable diseases, including activities to contain the measles outbreak in affected states. Residents and Venezuelan migrants from 6 months to 49 years of age, mainly children under 15, have been vaccinated against measles. PASB has provided technical cooperation to strengthen vaccination activities, including support for implementation of the action plan for measles outbreak control in Boa Vista (Roraima) until measles was interrupted there; establishment of a vaccination post in Pacaraima (Roraima), on the border with Venezuela, which operated continuously 10 hours a day, seven days a week until it was transferred to the Brazilian Army in August 2018 under “Operation Welcome”; and training for representatives of all states on preparedness for a rapid response to measles outbreaks. As of 18 July 2018, 71,675 vaccines from the national

vaccination program were administered to 127,875 Venezuelan migrants. Until April 2019, when the Brazilian Army took charge of all immunization activities in Roraima following reestablishment of endemic measles transmission, PASB provided support to improve case management and investigation through the implementation of infection prevention and control (IPC) protocols, isolation rooms, hospital screening, contact tracing, training of health professionals, active institutional and community research, and laboratory capacity-building, among other activities. A situation room was established with the support of PASB to coordinate measles response and monitoring at the state level. One of PASB's main areas of technical cooperation in Brazil for the remainder of 2019 will be the strengthening of local capacities in mental health and psychosocial support for Venezuelan migrants and the local host community in Boa Vista. PASB is also helping the country develop a national action plan for the sustainability of measles and rubella elimination

64. In **Chile**, PASB has supported the Ministry of Health in strengthening capacities for rapid detection and reporting of cases in the country. PASB has also provided technical support to the Ministry of Health to train epidemiological field teams within the framework of the International Health Regulations (IHR). Currently, PASB is supporting the Ministry of Health in the development of the National Plan for Migrants' Health, aimed at ensuring a comprehensive health response based on their specific needs.

65. In **Colombia**, PASB is working with health authorities and partners to strengthen capacities at entry points in Arauca, Barranquilla, Cartagena, La Guajira, Nariño, Norte de Santander, and Vichada for immediate care and for immunization, detection, and follow-up of measles contacts, active case-finding in institutions and in the community, and vaccination of susceptible persons. From January 2017 to April 2019, Colombia administered 1,067,469³² vaccines of various types from the national vaccination program to 426,987³³ registered Venezuelan migrants. In addition, 4,465 migrants received mental health care in La Guajira, Norte de Santander, and Vichada through coordinated efforts by the local health system and PASB. PASB has also supported national and local authorities in: *a*) training health care workers for rapid response to imported measles cases, case management (including complicated malaria), effective vaccination strategies, nutritional screening of children under 5 years old, and management of the LSS/SUMA logistics system for supply management; *b*) stepping up epidemiological surveillance and health information reporting; *c*) strengthening diagnostic capacity by acquiring reagents for the National Health Institute and providing a virologist for expert support to the measles screening process (supporting the transportation of biologicals, as well as purchasing malaria rapid tests for health institutions); *d*) facilitating the establishment of vaccination posts in the departments of Arauca, La Guajira, and Norte de Santander, and supporting a surge in human resource capacity through the hiring of 200 vaccinators in Cartagena (70), Barranquilla (30), La Guajira (70), and Norte de Santander (30), to combat the measles outbreak; *e*) implementation of hospital contingency plans; *f*) coordination of binational actions with Ecuador to develop joint actions to strengthen the response capacity of health

³² Expanded Program on Immunization, Ministry of Health and Social Protection, reports by vaccinators stationed along border areas, April 2019.

³³ Estimates by PAHO based on EPI data of April 2019.

services, improve the health information system, share best practices and lessons learned, and promote regional and local strategic partnerships to improve health care among Venezuelan migrants; and *g*) increasing the health care delivery capacity of local health institutions through the provision of basic emergency health kits, kits for obstetric emergencies, nutrient supplements, personal protection equipment, and communications equipment. With respect to these supplies, 180 post-exposure prophylaxis (PEP) kits and 53 basic medicine kits were procured and distributed to 28 local health institutions in La Guajira, Norte de Santander, and Arauca; 80 nutritional supplement packs were delivered in La Guajira and Norte de Santander to improve the nutritional condition of children at risk, including malnourished Yupka indigenous children; and 74 kits for emergency delivery and obstetrics, along with supplies and equipment for pediatric emergency rooms, were provided to hospitals in the departments of La Guajira, Arauca, and Norte de Santander. Working with partners, PASB is also providing support for extra-institutional health care delivery, such as mobile health units and the distribution of personal and family protection kits to reduce health risks, thus improving the capacity for immediate response and expanded services through the delivery of supplies and medicines to prioritized public health institutions. In this regard, as of April 2019, one mobile unit and three fixed care units were operating in Arauca to provide direct clinical care to 3,740 people, dental care to 126 people, and sexual and reproductive health care to 101 women.

66. In **Ecuador**, PASB has provided ongoing support to national counterparts to strengthen control and response for emerging and reemerging diseases, including measles, malaria, and diphtheria, within the IHR framework, and to ensure timely access to health services. PASB is working closely with the Ministry of Health on initiatives to improve epidemiological surveillance and field investigation, vaccination coverage, water and sanitation, and basic health care access for migrant populations, with emphasis on priority care for children under 5 years of age, pregnant women, elderly people, people with disabilities, and indigenous populations in the border area with Colombia. Capacity to deliver health care in the migration corridor along the northern and southern borders of the country (Rumichaca, San Miguel, Mira, Mascarilla, El Chaco, Ambato, Riobamba, and Huaquillas) has been enhanced with PASB's support. This includes providing experts for vaccination activities and procuring essential medicines and medical supplies, renewable supplies, and personal protection equipment for health personnel. It also includes conducting training activities, including: *a*) training on rapid response to imported measles cases in order to activate rapid response teams at different levels of the health system and provide on-site technical assistance to nine health areas; *b*) development of skills in epidemiological surveillance; *c*) training for health care workers in the management of obstetric and neonatal emergencies; *d*) rapid training on mental health and psychosocial first response for 120 health care workers in the cities of Tulcán, Huaquillas, Ibarra, and Ambato; and *e*) training on water quality monitoring to improve the capacity of local government staff and water service providers in the provinces and border areas. Thanks to the support of PASB and partners, in coordination with national authorities, between January 2018 and April 2019, 307,517 persons received medical attention; 89,320 migrants under 15 years of age were screened for their vaccination status, and 26,050 were vaccinated; while an additional 22,078 migrants received health care services in PASB-supported facilities that provided medicines and essential health supplies.

67. In **Guyana**, PASB has been working closely with the Ministry of Public Health to monitor the condition of migrants and strengthen epidemiological surveillance, information management, detection, verification, risk assessments, and alerts on events related to epidemic-prone diseases, as well as early warning and outbreak response. This includes support for a syndromic surveillance system for acute respiratory illness, rash with fever, and undifferentiated fever in Regions 1 and 7. PASB experts are also working with national authorities to conduct risk communication activities, assess immunization coverage and laboratory capacities to identify potential health needs in areas with migrants, and strengthen the immunization program, which includes vaccinating migrants on arrival. PASB has also been providing support for malaria outbreak response in Kaikan, an area along the border with Venezuela.

68. In **Peru**, PASB has been providing ongoing technical support to national counterparts to strengthen epidemiological field investigation and respond to local and imported measles cases. This includes mobilization of national experts to support an ongoing follow-up vaccination campaign aimed at vaccination of all children aged 1 to 10 years at the national level. PAHO is an active member of the interagency group for migrants and refugees (Grupo de Trabajo sobre Personas Refugiadas y Migrantes, GTRM), and is supporting Ministry of Health resource mobilization efforts to enhance the surge capacity of health services, particularly in areas with the greatest influx of migrants. With a view to ensuring an uninterrupted continuum of care and support for the most at-risk populations, in coordination with the Health Directorate of Tumbes, PASB has coordinated the health sector response in locations with transiting migrants through joint operations with the UN Refugee Agency (UNHCR) and the Peruvian Red Cross. PASB also supported the procurement and distribution of essential medical supplies and equipment for the Sagaro/Tumbes Regional Hospital emergency rooms (clinical beds, multi-parameter patient monitors for the intensive care unit, stethoscopes, oximeters, tensiometers, and renewable supplies), and laboratory supplies and reagents to improve epidemiological surveillance in the reference laboratories of Tumbes and Iquitos. PASB mobilized a pediatric specialist to meet the high demand for maternal and child care, as well as a nurse to support health care in the emergency rooms and maintain triage and clinical records in the hospital. It also deployed personnel to provide 24-hour vaccination service at the point of entry in Tumbes (at the CEBAF), procured and delivered additional cold chain equipment to the CEBAF, and conducted a national workshop on rapid response to imported measles case. PASB trained 96 members of rapid response teams, in Tumbes (22), Piura (10), Iquitos (43), and the tri-national border region shared by Peru, Colombia, and Brazil (21), on early detection and response to outbreaks within the framework of the IHR; deployed an expert to support health authorities in Tumbes with the development of a regional health sector plan for outbreak response; and conducted an interagency training on coordination and response in Tumbes. Thanks to the support of PASB and partners, in coordination with the national authorities, between August 2018 and March 2019, 133,999 adults and 2,882 children from Venezuela were vaccinated, and between May 2018 and March 2019, 12,366 medical consultations were provided to at-risk populations at the CEBAF-National Red Cross health post.³⁴ Between January 2018 and February 2019,

³⁴ Peruvian Ministry of Health, Regional Health Directorate of Tumbes.

health facilities in Tumbes reported providing 44,893 medical consultations to Venezuelans.

69. Since the start of 2019, PASB has supported **Trinidad and Tobago** in the purchase of antimalarial medicines and is presently procuring 500 malaria rapid diagnostic test kits for the country. Since 2018, concerted technical support has been provided to strengthen the Expanded Program on Immunization (EPI) in light of potential risk of introduction of measles, including support for planning an upcoming measles vaccination campaign. Training is also being provided on case detection of vaccine-preventable diseases, particularly those not commonly seen in the country, such as measles.

70. In compliance with the International Health Regulations, PASB has disseminated daily reports on potential public health emergencies of international concern, as well as monthly updated epidemiological reports and alerts to Member States on diphtheria and measles.³⁵ These have included notifications of the increased number of cases in Venezuela and recommendations to: *a*) implement a high-quality surveillance system sensitive enough to provide timely detection of any suspected cases; and *b*) prevent the introduction and spread of measles and diphtheria through the vaccination of susceptible populations.

71. According to criteria included in the regional measles elimination plan, if transmission persists for 12 months or longer in a given geographic area, endemic transmission is reestablished. Thus, endemic transmission of measles has been reestablished in Brazil and Venezuela, but the other 33 PAHO Member States maintain their elimination status (52, 53, 54).

Actions Necessary to Improve the Situation

72. The following short-term and medium-term interventions are recommended for implementation by Member States and PASB.

Venezuela

- a) Continue implementation of the plan of action to stop transmission of measles and diphtheria.
- b) Continue implementation of the master plan for strengthening the response to HIV, malaria, and TB from a public health perspective.
- c) Increase quality and coverage of antenatal, intrapartum, and post-obstetric care. Improve emergency obstetric care, including availability of trained human resources, medicines, and technology.
- d) Implement urgent actions to rationalize and mobilize existing resources to ensure the functionality of hospital services on a priority basis and address gaps in primary

³⁵ PAHO/WHO, Epidemiological Alerts and Updates. Available from:
https://www.paho.org/hq/index.php?option=com_content&view=article&id=1239&Itemid=2291&lang=en

health care to respond to the immediate challenges. This may require contingency plans and interventions to ensure retention of the existing workforce, short-term measures to address gaps in human resources, and steps to increase the availability of essential medicines and supplies.

- e) Improve essential public health functions, including surveillance and availability of health information within the context of the International Health Regulations.
- f) Accelerate efforts to improve the integration of health services within the health system, based on the primary health care approach, to address current fragmentation and segmentation. This will be critical to improve efficiencies and build resilience.

All Countries

- g) Invest in and prioritize general vaccination to reach at least 95% coverage in all municipalities and communities and address outbreaks of vaccine-preventable diseases.
- h) Strengthen the resilience of health systems in accordance with Resolution CD55.R8 (55), adopted in 2016, and the Strategy for Universal Access to Health and Universal Health Coverage (56), adopted in 2014.
- i) Continue efforts to address the health needs of migrants in accordance with Resolution CD55.R13, adopted in 2016 (57).
- j) Scale up activities for malaria surveillance and response in all affected countries, along with efforts to prevent reestablishment of transmission in malaria-free areas.

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- k) Continue supporting Venezuela in response to the current health situation, particularly regarding control of measles, diphtheria, and malaria outbreaks.
- l) Support all Member States to:
 - i. Strengthen health surveillance, information management, and monitoring
 - ii. Improve access to health services for migrants and the host population
 - iii. Improve communication and exchange of information to counter xenophobia, stigma, and discrimination
 - iv. Strengthen partnerships, networks, and multi-country frameworks to understand the status and promote and protect the health of migrants
 - v. Adapt policies, programs, and legal frameworks to promote and protect the health and well-being of migrants

Action by the Directing Council

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

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