Thirty-sixth Meeting of Managers of the Caribbean Expanded Program on Immunization

Final Report

6-8 December 2022
St. John, Antigua
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# CONTENTS

1. INTRODUCTION .................................................................................................................. 7
2. OBJECTIVES OF THE MEETING .......................................................................................... 7
3. UNIVERSAL VACCINATION COVERAGE .............................................................................. 8
   3.1 Update on EPI in the Americas ...................................................................................... 8
   3.2 Overview of EPI in the Caribbean .................................................................................. 8
4. SUSTAINING ELIMINATION OF MEASLES, RUBELLA, AND CRS ................................. 9
   4.1 Sustaining Measles and Rubella Elimination in the Caribbean .................................... 9
   4.2 Review of Fever/rash surveillance in the Caribbean ...................................................... 9
   4.3 Country reports on fever/rash surveillance and status of indicators ............................. 9
   4.4 Country reports on a sustainability plan for measles, rubella, and CRS elimination ...... 10
5. SUSTAINING POLIO ERADICATION .................................................................................. 10
   5.1 Global and Regional update of the polio program ....................................................... 10
   5.2 acute flaccid paralysis (AFP) surveillance in the Caribbean ........................................ 11
   5.3 Country Reports on plans for the Introduction of IPV2 ................................................ 11
   5.4 Polio Action Plan 2022-2023 ...................................................................................... 12
   5.5 Country reports on the implementation of Polio Action Plans ..................................... 12
   6.1 Global and Regional Epidemiological Situation of the COVID-19 Vaccines ................. 13
   6.2 Review of VPD and Coronavirus laboratory test results in the Caribbean ..................... 13
   6.3 Integration of COVID-19 Vaccine into the routine immunization program .................. 13
   6.4 COVID-19 vaccine planning for 2023 and integration into the routine program .......... 14
   6.5 COVID-19 vaccination in the Caribbean .................................................................... 15
   6.6 COVID-19 vaccine implementation: Achievements and Challenges ........................... 15
7. STRENGTHENING THE ROUTINE IMMUNIZATION PROGRAM ....................................... 15
   7.1 Update on the Regional NITAG Network ..................................................................... 15
   7.2 Immunization across the life course – concept and strategies ....................................... 16
   7.3 Strengthening routine immunization program, country demand planning and financial sustainability ........................................................................................................... 16
8. MPOX UPDATE .................................................................................................................... 17
   8.1 MPOX: What you need to know .................................................................................. 17
   8.2 MPOX vaccination, advances, and challenges ............................................................ 18
   8.3 Mpox vaccination supply and opportunities for new vaccine introductions .................. 18
9 HPV UPDATE..........................................................................................................................19
9.1 Update on HPV Vaccine..................................................................................................19
9.2 Country reports on HPV Vaccine status and plans for recovery.................................19
10 VPD ELIMINATION SUSTAINABILITY PLANS ................................................................20
10.1 Presentation of Sustainability Plans............................................................................20
10.2 Presentation of Awards ...............................................................................................20
  10.2.1 The Caribbean Surveillance Shield .........................................................................20
  10.2.2 The Henry Smith Cup............................................................................................20
  10.2.3 Recognitions ..........................................................................................................21
11 CITAG RECOMMENDATIONS.........................................................................................21
1 INTRODUCTION

The Thirty-sixth Meeting of Managers of the Caribbean Expanded Program on Immunization was held from 6-8 December 2022 in St. John, Antigua. The meeting convened 70 participants from 22 countries and territories of the English and Dutch-speaking Caribbean. Participants included representatives from the Ministries of Health, the Caribbean Public Health Agency (CARPHA), the Caribbean Community (CARICOM), and the Pan American Health Organization/World Health Organization (PAHO/WHO).

Mrs. Lisa Bayley, Communications Specialist, PAHO, moderated the opening ceremony for Health Promotion. During the ceremony, Dr. Daniel Salas, Unit Chief of the Comprehensive Family Immunization Unit, PAHO, welcomed all participants and reminded them that the Region of the Americas has been facing a backslide in vaccination coverage in the last decade with the Region currently positioned in second to last place in the world. He asked that the Region find solutions to reinvigorate immunization as a public good for universal health.

Dr. Teri-Anne Joseph, Deputy Chief Executive Officer of the Ministry of Health Wellness and the Environment of Antigua and Barbuda, welcomed the participants and encouraged participants to find solutions regarding vaccine hesitancy.

Dr. Gemma Chery, Country Program Specialist, thanked the Ministry of Health for allowing the meeting to take place in-country and the PAHO team for their excellent work organizing the meeting.

Dr. Peter Figueroa welcomed all EPI managers, especially the ones attending the meeting for the first time. He welcomed Dr. Daniel Salas to his first Caribbean EPI Managers’ meeting and thanked CARICOM, the Caribbean Immunization Technical Advisory Group (CITAG) members, and the participants for their tremendous work during the past two to three years. He reminded the participants of the significant setbacks concerning routine childhood vaccination, noting that the Caribbean is currently at the bottom of the list with the lowest vaccination coverage in the Americas. He urged all to recover past gains and improve vaccination coverage.

2 OBJECTIVES OF THE MEETING

The overall objective was to analyze achievements for 2021, review the challenges of 2021 and 2022 in the context of reversing the gains lost during the last two years, and plan activities for 2023 while sharing experiences on the immunization program.

Specific objectives:

1. Review the status of the EPI program in the Region of the Americas and the Caribbean and to identify areas that require strengthening.
2. Discuss the status of countries’ surveillance and management of vaccine-preventable diseases (VPDs) and areas that require strengthening.
3. Provide an update on immunization and review the status and needs of country EPI programs following the introduction of COVID-19 vaccines.
4. Update information on particular topics of common interest to countries concerning immunization, service delivery, and surveillance of vaccine-preventable diseases.

5. Share individual country experiences in reversing the gains lost over the past two years.

3 UNIVERSAL VACCINATION COVERAGE

3.1 UPDATE ON EPI IN THE AMERICAS

The world experienced a decline in routine immunization coverage even before the start of the COVID-19 pandemic. WHO reports that in 2019 only 85% of the world’s children received the DTP3 vaccine, leaving 19.7 million children vulnerable to VPDs. Recent estimates from the 2021 WHO/UNICEF Estimates of National Immunization Coverage (WUENIC) report show that the DTP3 coverage rate has declined to 80%. COVID-19 pandemic disruptions and vaccination efforts strained health systems in 2020 and 2021. In 2021, 25 million children missed out on receiving a vaccination. This figure is 6 million more than in 2019 and represents the highest number since 2008.

The Region of the Americas is facing an impending crisis around routine vaccination, reporting a steady decline in vaccination coverage since 2010. This decline is due to multiple reasons, including natural disasters, displacements, progressive urbanization, political context, and growing inequities in healthcare access. The start of the COVID-19 pandemic in 2020 forced countries to implement strict lockdown practices, drastically reducing access to antigens in the national immunization program. Some recovery occurred in the second part of 2020, but introducing the COVID-19 vaccine in early 2021 brusquely diverted resources away from the national immunization routine program and towards COVID-19 vaccination activities. A review of national immunization data provided to PAHO through the PAHO/WHO-UNICEF joint reporting form (JRF) on immunization reveals declines in coverage for all EPI antigens.

3.2 OVERVIEW OF EPI IN THE CARIBBEAN

The Caribbean continued to see a decline in immunization coverage in 2021, with DTP3 at 89%, Polio3 at 87%, MMR1 at 87%, and MMR2 at 81%. These figures, and declining notifications for suspected measles, rubella, and polio cases, increase the Caribbean children’s vulnerability to vaccine-preventable disease and death outbreaks. Human papillomavirus (HPV) vaccination coverage has nose-dived in most countries due to the cessation of school health programs during school closures driven by COVID-19 outbreaks. The challenges of high freight costs, frequent cold chain excursions, vaccine stock-outs, low coverages, and a weakening surveillance system create a perfect storm where a secondary spread of imported cases of VPDs may occur, leading to increased morbidity and death in children in the sub-region. Countries must work to identify and vaccinate all under-vaccinated children, especially in the under-5-year cohorts, and train and re-sensitize all EPI staff and other partners on the importance of VPD surveillance.
4 SUSTAINING ELIMINATION OF MEASLES, RUBELLA, AND CRS

4.1 SUSTAINING MEASLES AND RUBELLA ELIMINATION IN THE CARIBBEAN
In 2021, notification rates for suspected cases of measles and rubella remained very low, and countries reported no confirmed cases. The COVID-19 pandemic affected surveillance performance; less than half of the countries completed and submitted active case findings. Both MMR1 and MMR2 coverage declined in 2021 compared to 2020. The default tracing strategy was interrupted due to the pandemic. Countries continue to target under-vaccinated populations during outreach activities but lack an adequate system to record the administration of delayed doses.

Recommendations include:

1. Conduct periodic active case searches (at least every quarter), emphasizing high-risk areas and expanding to primary healthcare facilities. Searches should be monitored by an external supervisor and should include other vaccine-preventable diseases.
2. Given meager notification rates, sensitize and re-train healthcare workers (physicians, epidemiologists, and other professionals) on the measles-rubella outbreak response.
3. Restart the default tracking strategy during outreach vaccination activities.

4.2 REVIEW OF FEVER/RASH SURVEILLANCE IN THE CARIBBEAN
MMR1 and MMR2 coverage continued to decline in the Caribbean, with MMR1 coverage declining from 90% in 2020 to 87% in 2021 and MMR2 coverage declining from 84% in 2020 to 81% in 2021. The suspected measles and rubella notification rate fell from 0.7/100,000 in 2020 to 0.2/100,000 in 2021, well below the target of 2/100,000 population. The lab received no rash and fever specimens in less than five days. The only two surveillance indicators that were met for 2021 were 97% of surveillance sites reported, and CARPHA received 92% of results within four days. In 2021, Belize, Barbados, and Jamaica reported eight rash and fever cases.

4.3 COUNTRY REPORTS ON FEVER/RASH SURVEILLANCE AND STATUS OF INDICATORS

Trinidad and Tobago
Vaccination coverage in 2020 and 2021 declined, with MMR1 coverage at 91% and 93.3% and MMR2 coverage at 90% and 87.9%, respectively.

Strategies that the country plans to use are:

1. Establish and maintain a network of reporting units at the nation’s hospitals and health facilities.
2. Continue passive surveillance with weekly reporting.
3. Strengthen active surveillance in hospitals and health facilities.
4. Conduct bi-annual meetings with the outbreak surveillance team.
5. Follow up immediately on all reported and suspected cases.
4.4 COUNTRY REPORTS ON A SUSTAINABILITY PLAN FOR MEASLES, RUBELLA, AND CRS ELIMINATION

Barbados
The Measles and Rubella Elimination Sustainability Plan was implemented during 2012 – 2015.

Challenges identified include:

1. A shortage of trained nurses and an increase in vaccine hesitancy.
2. Falling MMR coverage due to the negative impacts of the COVID-19 pandemic and lockdowns.
3. A lack of trust in immunizations and defaulters.

Attempts have been made to restart the training of nurses in public health, but these have not been successful. The increasing trend of vaccine hesitancy remains challenging to combat, with social media playing a significant role. A comprehensive social media campaign is needed to fight the growing trend of vaccine hesitancy. Surveillance of vaccine-preventable diseases has been limited to the private sector, and this has been improved by continued consultation, training, and promotion in the private sector. Surveillance activities occur in the community and the hospital, along with sample collection and testing for vaccine-preventable diseases. The current epidemiological surveillance system can detect and quickly respond to imported cases due to a reliable network of polyclinics, private practitioners, and laboratories with staff trained to identify and notify any suspected or confirmed vaccine-preventable disease on the island.

Belize
MMR1 was introduced in the EPI of Belize in 1996 at 12 months of age and MMR2 in 2005 at 24 months, which later changed in 2005 to 18 months. The last case of measles was recorded in 1991, rubella in 1997, and congenital rubella syndrome (CRS) in 2001. MMR1 vaccine coverage since 2019 is 96/82/79.4%, and MMR2 is 95/87/76.5%, showing a decrease in vaccination coverage. Cases investigated, and samples sent to CARPHA from 2019 to 2022 have decreased significantly (35/2/1/3 respectively). COVID-19 played a significant role in the challenges of maintaining these indicators. The country wholly shut down for a substantial period, and healthcare services were affected. Some strategies identified to sustain the elimination of measles/rubella and CRS are:

1. Improve active surveillance.
2. Facilitate the timely investigation, collection, and shipment of samples.
3. Increase support to districts with low coverage.
4. Conduct MMR vaccination mop-up campaigns.

5 SUSTAINING POLIO ERADICATION

5.1 GLOBAL AND REGIONAL UPDATE OF THE POLIO PROGRAM
Wild poliovirus type 2 (WPV2) and wild poliovirus type 3 (WPV3) have been eradicated. Wild poliovirus type 1 (WPV1) is still endemic in two countries: Afghanistan and Pakistan, with two recent importation events to Malawi and Mozambique. The presence of circulating vaccine-derived poliovirus (cVDPV) outbreaks (particularly for type 2) in previously polio-free countries
is concerning and reminds us that all countries of the world are at risk. Vaccination coverage for Polio3 in the region of the Americas was 79% in 2021, which is the lowest coverage since the elimination of polio in 1994. Surveillance performance was affected by the pandemic, and even though it has improved in the last year, many countries are still underperforming, increasing the risk of undetected cases.

There are two vaccines against polio available: oral polio vaccine (OPV) and inactivated polio vaccine (IPV). OPV is an attenuated vaccine that can contain one, two, or three serotypes. IPV is administered through intramuscular or intradermal injection and includes all three serotypes. After the eradication of WPV2 in 2015, poliovirus type 2 was removed from the OPV vaccine, and countries switched to the bivalent oral polio vaccine (bOPV). After the switch, children are only protected against poliovirus type 2 through IPV. The Technical Advisory Group (TAG) recommended using at least one IPV dose in all countries and then using two IPV doses when supplies improve. Because of low vaccination coverage and the late introduction of two doses of IPV in many countries, there is a significant cohort of children susceptible to poliovirus type 2.

Countries that have not introduced the second IPV dose should do so immediately, and all countries should analyze their data to offer catch-up IPV1 and IPV2 doses to all eligible children.

5.2 ACUTE FLACCID PARALYSIS (AFP) SURVEILLANCE IN THE CARIBBEAN

Polio3 coverage continued to decline in the Caribbean, with Polio3 coverage falling from 89% in 2020 to 87% in 2021. The AFP notification rate declined from 0.22/100 000 in 2020 to 0.17/100 000 in 2021, well below the target of 1/100 000 children <15 years of age. No AFP cases were investigated within 48 hours, and only 67% of cases had an adequate sample for 2021. In the same year, Turks and Caicos, and Guyana reported three AFP cases.

5.3 COUNTRY REPORTS ON PLANS FOR THE INTRODUCTION OF IPV2

Saint Lucia

Saint Lucia plans to introduce a second dose of IPV into the routine immunization schedule as the next step towards complete OPV withdrawal while providing higher protection against cVDPV2, which is currently circulating and represents a risk in many areas of the world. This additional dose will increase the protection against all polioviruses, including protection against paralysis caused by VDPV2. IPV2 was introduced in January 2023.

Strategies for the introduction include:

1. Informing key implementation stakeholders such as healthcare workers of the change.
2. Training healthcare workers to sensitize them about the vaccine.
3. Using training to re-emphasize/re-educate healthcare workers on the importance of vaccines/immunization.
4. Including IPV2 information as part of the routine education about childhood vaccination to parents at clinics.
5. Redesigning IEC products to include IPV2 and disseminating the same to various clinics and institutions.
6. Refining monitoring and evaluation plans to monitor coverage.
Saint Kitts and Nevis
In addition to purchasing additional IPV vaccines, the following are some of the activities that have been carried out:

1. Meeting with the National Vaccine Safety Committee.
2. Meeting with the nursing staff in Saint Kitts and Nevis.
3. Educating parents/guardians at child health clinics and antenatal clinics.
4. Updating the third dose of the EIR from OPV to IPV.
5. Implementing the 2nd dose of IPV on 4 January 2023.

5.4 Polio Action Plan 2022-2023
In 2021, the Region of the Americas reported the lowest vaccination coverage since the elimination of polio in 1994. Many children are susceptible to poliovirus type 2 due to late IPV2 introduction and low vaccination coverage. In addition, surveillance systems have had a weak performance, risking the timely detection of a WPV1/cVDPV importation or cVDPV emergence in the Region. Furthermore, the cVDPV2 outbreak in New York, United States, puts the Region at an increased risk of polio. The combination of these factors places the region at the highest risk for polio since polio elimination in 1994.

In response to the situation, PAHO declared a disaster in September to coordinate a better response and decrease the risk of a polio outbreak in the Region. Countries must achieve optimal levels of population immunity and improve AFP surveillance performance to decrease the risk. PAHO has developed a response strategy to rapidly enable countries to increase vaccination coverage and improve surveillance through a whole-of-society approach to reduce the risk of a polio outbreak and ensure that national health systems and services are prepared to detect and respond to a poliovirus event.

5.5 Country Reports on the Implementation of Polio Action Plans

The Bahamas
The Bahamas has seen a decrease in polio vaccination coverage over the last five years, with a coverage level of 75.3% in 2021. In keeping with the Global Polio Surveillance Action Plan for 2022-2024, the country set the following goals:

1. Enhance AFP surveillance sensitivity and timeliness by strengthening the workforce.
2. Educate staff on the importance of testing and using the electronic immunization registry.
3. Begin environmental surveillance with the initiation of wastewater surveillance.
4. Collaborate with relevant government agencies.
5. Strengthen laboratory network with hopes to develop a national public environmental laboratory.

Suriname
All health services like Regional Health Services (RGD), Medische Zending (MZ), and hospitals must send in their reporting and sampling if there are cases. The country must train general practitioners or staffing nurses to do AFP surveillance in places where there is a need. The country plans to build the capacity of laboratory, medical, and nursing personnel in VPD surveillance.
because there are inconsistencies in reporting suspected VPDs. Laboratory capacity is limited, and there is a lack of timely submission of VPD samples due to financial issues.

6 SUSTAINING GAINS IN THE CONTEXT OF THE COVID-19 PANDEMIC

6.1 GLOBAL AND REGIONAL EPIDEMIOLOGICAL SITUATION OF THE COVID-19 VACCINES

The SARS-CoV-2 virus (which causes COVID-19) has infected more than 640 million persons worldwide, and more than 6.6 million have died. Thanks to enormous efforts from countries, WHO, and partners, more than 13 billion COVID-19 vaccine doses have been administered worldwide in only two years (December 2020 to December 2022). Of these, 2.07 billion doses were administered in the Americas, reaching more than 70% of the population of Latin America and the Caribbean. Despite these achievements, much work remains. Countries must continue to update their national COVID-19 vaccination dashboards regularly, so progress can continue to be monitored. Based on available data, 10 of the 51 countries and territories of the Region still report COVID-19 vaccination rates below 40%. Even in high-coverage countries, most doses administered in the last 12 months have been boosters. This means that, in our Region, the number of unvaccinated persons who remain vulnerable to COVID-19 remains static. The Strategic Advisory Group of Experts (SAGE) on immunizations has provided a series of recommended vaccination coverage targets for different population groups to ensure equitable access and uptake of COVID-19 vaccines between and within countries.

6.2 REVIEW OF VPD AND CORONAVIRUS LABORATORY TEST RESULTS IN THE CARIBBEAN

In 2022, measles testing increased by 106%, rubella testing increased by 98%, polio testing decreased by 25%, and influenza testing increased by 800% and 325%. Data sharing is essential for successful outcomes.

6.3 INTEGRATION OF COVID-19 VACCINE INTO THE ROUTINE IMMUNIZATION PROGRAM

Integration is the partial or complete adoption of COVID-19 vaccination into national immunization program services, primary healthcare, and other relevant health services to improve program efficiency and sustainability, enhance demand, improve user satisfaction, achieve, and maintain sufficient coverage, and address inequities.

Integration is important because:

1. SARS-CoV-2 will most likely continue to evolve. Periodic spikes in cases and deaths may occur as immunity wanes, which may require periodic boosting for high-risk populations.
2. The need to rapidly achieve short-term COVID-19 vaccination goals in 2020–2021 led to fragmentation and verticalization of programs resulting in the need to create efficiencies and sustainability through integrated delivery of health services.
3. Integration will leverage resources and will capitalize on COVID-19 vaccination investments, towards strengthening immunization programs.
4. Integration will help deliver packages of health services that better respond to users’ needs across their life course.
Integration also refers to merging with other health governance functions, joint coordination under one ministry of health department, integrated outreach, and meaningful engagement. Advise countries to consider undertaking the following actions as they plan, implement, and monitor the integration of COVID-19 vaccinations:

1. Conduct a situation analysis to assess national and subnational-level readiness and status of countries for integrating COVID-19 vaccination into national immunization programs and primary healthcare.
2. Develop a country-level COVID-19 vaccination integration plan.
3. Oversee progress on implementation and monitoring of COVID-19 vaccination integration.
4. Follow up on actions, considering that integration is a process and may not necessarily have a beginning and an end. The journey must be guided by continuous inquiry, learning, and improvement.

6.4 COVID-19 VACCINE PLANNING FOR 2023 AND INTEGRATION INTO THE ROUTINE PROGRAM

During the COVID-19 pandemic, the PAHO Revolving Fund (RF) supported global vaccine access efforts under the COVAX partnership. COVAX Advance Market Commitment (AMC) financially supports six Caribbean countries (Dominica, Grenada, Guyana, Haiti, Saint Lucia, and Saint Vincent and Grenadines). Eleven Caribbean countries (Antigua and Barbuda, The Bahamas, Barbados, Belize, Bermuda, British Virgin Islands, Cayman Islands, Jamaica, Saint Kitts and Nevis, Suriname, Trinidad, and Tobago) joined COVAX as self-financing participants. While there was a severe supply constraint and delayed deliveries for COVID-19 vaccines observed during the first three quarters of 2021, starting October 2021, the supply situation has improved. In 2022, the COVAX partnership had sufficient supply availability with different product options.

During the presentation, RF officials explained different dynamics in accessing the vaccines for COVAX AMC-eligible and self-financing countries. PAHO shared a demand planning template for 2023 COVID-19 vaccine requirements with a 28 November 2022 deadline. PAHO recommends that countries requiring COVID-19 vaccines next year submit their demand forecasts (shared by PAHO’s customized Excel tool) urgently. PAHO cannot accommodate late requests due to projected market dynamics in 2023.

PAHO RF recommends all Caribbean countries (either AMC-eligible or self-financing) engage in dynamic demand planning for COVID-19 vaccines considering:

1. National immunization policies, coverage targets, and booster needs.
2. Service delivery and absorption capacities.
4. Syringe needs (especially considering different volume sizes for different products).
5. Financial availability and sustainability.

PAHO colleagues are ready to provide technical and operational support as usual in such dynamic environments. PAHO noted during the presentation that the average cost of covering 70% of the population with one dose booster might correspond to more than four times the overall vaccine procurement budget of a national immunization program.
In summary, PAHO RF recommends Caribbean countries to:

1. Consider how to integrate COVID-19 vaccine procurement sustainably into routine immunization programs.
2. Respond to demand forecasting timelines promptly with accurate forecasts.
3. Carefully monitor vaccine and syringe stocks.
4. Plan for future financing considering significant budget impacts.

6.5 COVID-19 Vaccination in the Caribbean
All countries in the Caribbean reached 10% coverage of the COVID-19 vaccine, five countries have not yet met the target of 40%, and only four countries have met the target of 70%. CITAG advises countries to first improve routine childhood vaccination coverage and adult COVID-19 vaccination of the elderly and persons with comorbid conditions before embarking on COVID-19 vaccination of children 5–11 years of age. Countries should target the small number of children with severe immune disorders identified by their pediatricians who can vaccinate them with the pediatric COVID-19 vaccine.

6.6 COVID-19 Vaccine Implementation: Achievements and Challenges
Saint Vincent and Grenadines
There is better coordination between the Ministry of Health Wellness and the Environment and the suppliers. The Ministry is better equipped with adequate storage capacity for the different vaccines based on their requirements. Moreover, all healthcare workers received at least one dose of the COVID-19 vaccine, and they are more active in the administration and education of the public. Vaccination coverage is 35.16% to date. Holistic care, including the COVID-19 vaccine with a special focus on diabetic/hypertension and the population 65 years and older, continues to be encouraged.

Montserrat
COVID-19 vaccine implementation includes various challenges in Montserrat, namely residents’ mistrust within local communities, staff shortage, political interference, social media publications, and campaigns by anti-vaxxers. Mishandling of public expectations and negative interjections from health staff and anti-vaxxers has led to vaccine opposition resulting in poor vaccine uptake.

7 STRENGTHENING THE ROUTINE IMMUNIZATION PROGRAM

7.1 Update on the Regional NITAG Network
There is a total of 21 National Immunization Technical Advisory Groups (NITAGs) that advise 42 countries in the region, one of them being a sub-regional TAG for the Caribbean, which advises English, Dutch, and French-speaking countries and territories. Except for the Dominican Republic and Venezuela (Bolivarian Republic of), all countries in the Region have a NITAG. In 2021, 20 of the 21 NITAGs reported being active. In 2021, according to WHO global standards, 17 of the 21 NITAGs met the criteria for good functionality. Indicators that affected NITAG performance were the inclusion of at least five specialty areas within the core membership and some NITAGs failing to meet at least once during the two years.
In October 2022, the Regional NITAG Network of the Americas (RNA) was launched with these objectives to:

Increase the exchange of experiences and peer support among NITAGs in the Region.
1. Have access to more publications and guidelines in Spanish and Portuguese.
2. Receive more regionally adapted guidelines from neighboring countries.
3. Have a digital space for NITAGs to communicate and exchange information in real-time.
4. Increase EPI Manager’s understanding of the NITAG role.
5. Promote NITAG legal and administrative basis; strengthen NITAG capacity to advise on immunization topics.
6. Provide more technical training on evidence generation and strengthening evidence-based decision making.
7. Improve communication between NITAG and stakeholders.

7.2 IMMUNIZATION ACROSS THE LIFE COURSE – CONCEPT AND STRATEGIES
In the Americas, it is projected that nearly 80% of people born today will live more than 60 years, and approximately 40% will live more than 80 years. Our vaccination strategies have not kept pace with this rapid demographic transition. Since its inception in the 18th century, vaccination has prevented mortality caused by infectious diseases in the first years of life. Our expected lifespan has doubled since then, but immune system performance declines with age, leaving us vulnerable to multiple infectious diseases. This process is called “immunosenescence” and interacts with age-related and chronic conditions to negatively affect a person’s health in later years.

Immunization is a public health intervention that can be adjusted to close the immunity gaps of each age group, thereby reducing the impact of disease and increasing the body’s health-generating capacity until later stages in life. The administration of vaccines throughout a lifetime favors the immunological aptitude of the body since it:

1. Bridges the immunological gaps of each age group when administered at the appropriate time.
2. Extends immunity development from the first years of life.
3. Trains the plasticity and resilience of the immune system (immune fitness) to develop lasting positive effects.

7.3 STRENGTHENING ROUTINE IMMUNIZATION PROGRAM, COUNTRY DEMAND PLANNING AND FINANCIAL SUSTAINABILITY
The PAHO RF has been a vital solidarity and operational mechanism to serve Caribbean countries to access assured quality vaccines at affordable prices for more than 40 years. PAHO Revolving Fund officials explained the annual demand planning cycle and the importance of respecting timelines. Also, countries presented performance noting the accuracy of demand forecasts (versus 2022 procurement quantities). A significant concern for PAHO RF has been the number of countries in arrears (i.e., having debt older than 60 days). PAHO RF officials did not provide specific country names in arrears. It was strongly encouraged for all countries to pay utmost attention to timely payments.
Considering routine immunization program strengthening, 2023 will be critical for countries to recover their coverage rates and strengthen their national programs. While there are considerable risks for outbreaks of vaccine-preventable diseases, countries should consider essential opportunities for strengthening routine and preventive campaigns, especially for critical diseases like measles and polio. PAHO RF will initiate the normal annual forecasting process in the coming weeks. PAHO RF recommends all countries keep their PAHO RF credit line accounts clear without debts to have uninterrupted future access to critical supplies.

PAHO RF officials also provided supply access updates for critical products like yellow fever, measles (MR and MMR), polio (IPV and bOPV), seasonal influenza, and human papillomavirus vaccines and syringes. In addition, PAHO RF made important updates for newly pre-qualified pneumococcal conjugate (PCV) and rotavirus vaccines available for procurement. The prices of these new WHO pre-qualified products are much lower than the prevailing prices of existing ones. For instance, while PCV would cost around US$ 7.5 per child (assuming a three-dose schedule), the existing product cost can go up to US$ 46 per child. According to regional experts’ consultation conducted by PAHO in June 2020, they recommend both products as viable options for consideration of national immunization programs in the Region compared to other existing WHO-prequalified products.

Countries interested in the new product can request technical guidance from PAHO for further information and possible switch guidance. This is also an important opportunity for countries that haven’t introduced the PCV vaccine due to affordability concerns. Belize, Cuba, Dominica, Grenada, Guyana, Saint Lucia, and Saint Vincent, and the Grenadines are falling under the scope of the new Gavi Vaccine Alliance Middle-Income Country criteria. Gavi plans to offer vaccine catalytic financing to cover half the first birth (or target) cohort for selected countries missing PCV, rotavirus, and HPV introduction.

In summary, PAHO RF recommends Caribbean countries to:

1. Reflect recommendations from PAHO Immunization Unit and national decision-making into their vaccine procurement planning.
2. Respect PAHO RF timelines for improved overall functioning and regional solidarity.
3. Keep their PAHO RF credit line accounts clear without debts to sustain uninterrupted access to critical supplies.
4. Consider more affordable products under evidence-based and cost-effective decision making.

During post-pandemic transition periods, the financial sustainability of national immunization programs will be critical.

8 MPOX UPDATE

8.1 MPOX: WHAT YOU NEED TO KNOW

The monkeypox (mpox) outbreak is behaving like a sexually transmitted infection, affecting mainly young gay and bisexual and other men who have sex with men (GBMSM). It is necessary
to strengthen active surveillance of cases with a focus on these key populations, training, and ensuring diagnostics and other logistical arrangements are available for all services where these populations seek healthcare. It is essential to involve the affected communities in all response phases and implement actions to avoid stigma and discrimination. It is critical to integrate active searches of monkeypox cases with human immunodeficiency virus/sexually transmitted infection (HIV/STI) programs in healthcare settings that provide services to this targeted group. Due to difficulties with contact tracing, it’s important to use methodologies applied to HIV cases.

8.2 MPOX VACCINATION, ADVANCES, AND CHALLENGES

The global response to mpox as a WHO Public Health Emergency of International Concern, aims to stop human-to-human transmission and minimize zoonotic transmission of the virus wherever it occurs. The use of vaccines can contribute to this response. However, vaccination should be complementary to primary public health interventions. Public health measures will control person-to-person spread, including surveillance, early case detection, diagnosis and care, isolation, contact tracing, and contact self-monitoring. So far, there is significant uncertainty about the efficacy of the vaccination in the context of the current mpox outbreak. So, at the individual level, vaccination should not replace other protective measures.

In May 2022, the TAG recommended that vaccinations only be offered to close contacts of a confirmed mpox case. Post-exposure vaccination with a locally available vaccine (ideally within four days of exposure) may be considered for high-risk close contacts. The TAG recognizes that all mpox vaccines can cause serious adverse events. Therefore, countries should inform the person about potential adverse events of vaccination and offer alternative infection control measures where feasible. Vaccines against smallpox and mpox are available in limited supply. Among them are third-generation vaccines, such as the non-replicative one developed from a modified strain of the Ankara virus. The schedule is two 0.5mL doses with an interval of four weeks. The recommended application route is subcutaneous. The United States Food and Drug Administration has authorized in emergencies the administration of an alternative scheme by intradermal route of 0.1mL, based on clinical studies with a similar immune response to subcutaneous administration but with increased local reactogenicity.

8.3 MPOX VACCINATION SUPPLY AND OPPORTUNITIES FOR NEW VACCINE INTRODUCTIONS

For the fourth quarter of 2022, the PAHO RF was able to secure approximately 100 000 doses of mpox vaccines for the Region through an advance commitment agreement with the supplier based on specific country demand commitments. Some volumes are still pending shipment waiting for final confirmation from countries. Unfortunately, there is no flexibility to back up countries from their pending obligations. Given the epidemiological uncertainties, it could be too early to determine the potential dynamics of supply needs for 2023. PAHO also initiated a demand mapping process for 2023, and few countries indicated any demand. Considering the market dynamics in 2023, the possible lead time of this product might go up to 9 months after requests. If Member States need this product in 2023, they should submit the demand to PAHO RF in November 2022.
9 HPV UPDATE

9.1 UPDATE ON HPV VACCINE
Human papillomavirus (HPV) is one of the most common infections of the reproductive tract, responsible for cervical cancer, which can be prevented by vaccination and by screening and treatment of precancerous lesions. In the Region of the Americas, cervical cancer is the leading cause of cancer death among women in 11 countries (Belize, Bolivia, El Salvador, Guyana, Haiti, Honduras, Nicaragua, Paraguay, Dominican Republic, Suriname, and Venezuela [Bolivarian Republic of]). It is the second leading cause of cancer death in 12 countries in the Region (Brazil, Dominica, Ecuador, Grenada, Guatemala, Jamaica, Panama, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago). An estimated 83 200 women in the Americas are diagnosed with cervical cancer yearly, and 35 680 women die from the disease annually. More than half of these women (52%) are under 60 years of age.

The 2018-2030 Prevention and Control Plan presents an outline to guide Member States and the Pan American Sanitary Bureau to strengthen their capacity and establish innovative and effective evidence-based strategies to accelerate the reduction of cervical cancer incidence and related mortality. Impacting the disease requires significant improvements in reaching and screening the 32 million women between 30 and 49 years in the Region. The vision of this strategy is a world without cervical cancer, and the target is that all countries will reach less than 4 cases per 100 000 women per year. The most used vaccine is a quadrivalent. Analysis of HPV vaccination in 2021 has shown that vaccine coverage has dropped significantly and was deeply affected by the COVID-19 pandemic.

Considerations about HPV vaccination include:

1. National immunization programs should focus on girls aged 9 to 14 when most have not initiated sexual activity.
2. 1-dose or 2-dose schedules (six months apart) may be given.
3. Use the single-dose option for routine vaccination and vaccination of multiple age groups.
4. Adolescent girls aged 15-20 may receive one or two doses, while adolescents ≥21 years should receive two doses six months apart.
5. Immunocompromised people aged ≥9 years receive at least two doses and ideally three doses of HPV vaccine.
6. Some countries have also begun vaccinating boys, as vaccination also prevents male cancers due to HPV.

9.2 COUNTRY REPORTS ON HPV VACCINE STATUS AND PLANS FOR RECOVERY
Dominica
Dominica introduced the HPV vaccine in 2020. Pre-teens have a higher immune response to the HPV vaccine than older teens and believe there is minimal risk of exposure to HPV before age 13. Dominica targeted this group for the vaccine. They targeted pre-pubertal children in primary school grade six between 11-12 years old of both sexes, a total of 845 children. Dominica used a recommended 2-dose schedule, with an interval between doses of six months. Dominica uses the quadrivalent Gardasil vaccine. It was essential to introduce the vaccines since we continued to see cervix cancer diagnoses and deaths annually. The youngest client diagnosed was 21 years old, and...
two clients were above 70 years old. The biggest challenge with administering the HPV vaccine is parents’ refusal to consent to get their child vaccinated since the introduction of the COVID-19 vaccine.

**Jamaica**

Jamaica introduced the HPV vaccine in 2017. Challenges include low vaccination uptake, poor buy-in by school administrators, cultural barriers such as fear and opposition to the vaccine, mistrust of the government and healthcare system, myths on infertility and safety, and low perceived risk of HPV infection/cervical cancer. Strategies to improve vaccination coverage include health education and promotion of activities and messages, expanding the cohort of persons to receive the HPV vaccine from 11 to 26 years, and offering the vaccines in diverse areas such as in university health centers, curative clinics at the health centers, adolescent clinics, high schools, and teen hubs. The country’s way forward is to re-sensitize healthcare workers, re-engage school administrators and teachers, advocate for vaccine legislation, partner with non-governmental organizations to advertise, re-engage community leaders, and monitor and evaluate.

10 VPD ELIMINATION SUSTAINABILITY PLANS

10.1 PRESENTATION OF SUSTAINABILITY PLANS

The sustainability plans of the countries included the following biggest challenges:

1. Human resources—There are insufficient nurses and healthcare workers in the countries to work on the EPI program, and many of them are inadequately trained.
2. Training—There is a lack of competence among EPI staff especially in cold chain management, vaccine safety, effective risk communication, social mobilization, vaccine forecasting, and developing SOPs for measles, rubella, and polio.
3. Cold Chain—PAHO technical support is needed for external assessments, monitoring cold chain compliance of non-traditional vaccines, and developing a cold chain maintenance plan.

10.2 PRESENTATION OF AWARDS

10.2.1 The Caribbean Surveillance Shield

The annual Caribbean Surveillance Shield Award recognizes countries that have performed outstandingly on the surveillance component of their program during the previous year. The award consists of a certificate and the inscription of the name of the winning country on a plaque that is kept by the country during the following year until a new country is selected to receive the award. For 2021, the first, second, and third place awards for vaccine-preventable disease surveillance went to Barbados, Jamaica, and Guyana, respectively.

10.2.2 The Henry Smith Cup

The Henry C. Smith Cup is in honor of Mr. Henry C. Smith, the first PAHO-EPI technical officer for the Caribbean subregion and whose service in the subregion spanned 18 years. This award is given to the country whose EPI has made the most improvements in the past year. The Cayman Islands received this award based on its 2021 vaccination coverage.
10.2.3 Recognitions
The following three EPI managers who passed away from 2021 to 2022 were recognized: Ms. Eulynis Brown from Saint Kitts and Nevis, Mrs. Gwendolyn Loobie-Snaggs from Trinidad and Tobago, and Mrs. Patricia Morris-Caruth from Saint Vincent and the Grenadines.

11 CITAG RECOMMENDATIONS

1. CITAG recognizes and commends EPI managers for their dedication, commitment, and hard work in response to the COVID-19 pandemic and the expended effort to restore the gains lost. The pandemic has had a significant adverse impact on Caribbean countries and has disrupted the EPI programs resulting in a decrease in routine childhood immunization coverage and surveillance.

2. CITAG assesses that the priority of countries and EPI managers must be to recover past gains and work systematically to achieve 95% coverage in all administered childhood vaccinations, particularly DPT3, polio, MMR1, and MMR2 vaccines, in all districts of countries.

3. CITAG urges countries to ensure high-quality surveillance for acute flaccid paralysis (AFP) cases (the Caribbean should identify one AFP case per every 100,000 persons under the age of 15) and for fever and rash cases (submitting blood samples for a minimum of two cases per 100,000 population). These actions are essential to identify any imported cases of polio or measles and sustain the elimination of these diseases. CITAG commends the remaining two countries in the Caribbean, Saint Lucia and Saint Kitts and Nevis, for planning to introduce the IPV2 vaccine in January 2023.

4. CITAG is concerned that because of the COVID-19 pandemic, a significant number of children are not fully vaccinated. Countries must take specific measures to find these children and vaccinate them by tracing defaulters and conducting outreach activities. All vaccinated children through these follow-up and outreach activities must be documented. Delayed immunization numbers must be reported to calculate coverage accurately and show that the overall vaccination coverage is improving.

5. With regards to the HPV vaccine, CITAG recommends that countries focus on vaccinating girls aged 9 to 12 and achieving 90% coverage. Countries may implement the single-dose option, which offers a more cost-beneficial approach given scarce resources. Countries can consider continuing the two-dose schedule. The importance of achieving 90% HPV vaccination coverage for girls is that, in addition to the girls, boys are also protected at this level. Boys can also be vaccinated if the country so decides.

6. CITAG strongly recommends that countries that have not yet introduced the pneumococcal vaccine do so without further delay. CITAG reiterates that achieving high pneumococcal vaccine coverage among children for three years and sustaining the coverage results in protecting children and the elderly, many of whom will suffer or die from pneumococcal infection.

7. CITAG reminds countries that the COVID-19 pandemic is not over and that countries need to monitor the course of the pandemic and continue public health measures that reduce spread without disrupting the economy. CITAG strongly recommends that the Caribbean
prioritize recovering high coverage on routine childhood vaccines. It urges countries to target and vaccinate the elderly and persons with co-morbidities and immune disorders with the COVID-19 vaccine, including timely boosters.

8. CITAG notes that COVID-19 vaccine coverage in Caribbean countries varied greatly from very high to very low and that too many countries remain inadequate. Countries with low coverage must reflect and analyze carefully why their performance has been below par. While vaccine hesitancy has been a significant challenge, it cannot explain the unacceptably low coverage in some countries. CITAG urges countries to develop effective communication with their population and communities by first listening to and understanding what the people are saying and their concerns. Based on the information received, countries are encouraged to address the people’s concerns and seek the help of influential persons in the community to get the message across more effectively. Build trust between the people and the health team. CITAG recommends that countries pre-test all media messages so that when a crisis or an outbreak arises, the population will already know and trust the messenger and be receptive to their message.

9. CITAG recognizes the critical role that the Revolving Fund continues to play and strongly recommends that countries try their best to get their vaccine forecasting accurate and promptly communicate it to the Revolving Fund. Caribbean governments must pay for their vaccines and supplies in a timely fashion.

10. CITAG recommends that countries prioritize the challenges identified in their sustainability plans and take a systematic approach, working with their teams and stakeholders to tackle problems with the assistance of PAHO and other partners.

11. CITAG strongly recommends that countries strengthen their vaccination legislation and policies that provide protected budget lines for vaccines, supplies, and related activities for the EPI. CITAG also encourages countries to limit exemptions for vaccination for medical reasons only.

12. CITAG notes the importance of promoting digital health and electronic records to enhance the EPI and increase efficiency and encourages initiatives to help promote their smooth and accelerated advancement in the Caribbean.

13. CITAG recommends countries continue to develop the involvement of the private sector in immunization and surveillance of diseases preventable by vaccination. It is essential to bring pediatricians and general practitioners on board, especially concerning building an infrastructure for adult vaccination (influenza and COVID-19 vaccines), helping to promote the vaccine throughout its life course.

14. CITAG recommends that countries continue to introduce the birth dose of the hepatitis B vaccine.

15. CITAG recommends that countries continue monitoring the mpox outbreak, respond appropriately, and make careful judgments about the use of the vaccine, as it is expensive and in short supply.