

# Regional Immunization Action Plan for the Americas

## Progress report 2015

### Introduction

During the 54th Directing Council meeting of the Pan American Health Organization (PAHO) in September 2015, Member States approved a resolution to adopt the Regional Immunization Action Plan (RIAP) as the guiding framework for immunization in the Americas. The Plan aims to continue progress as well as identify and overcome immunization challenges currently faced by the countries of the Americas. The creation of the RIAP was the result of an extensive consultation process conducted among those involved in the Region's national immunization programs (NIPs), including immunization program managers, PAHO immunization focal points and other key partners.

The RIAP provides Member States with the rationale, guiding principles, general and strategic objectives and monitoring and evaluation frameworks to enable national immunization programs in the Region to align successfully with the Global Vaccine Action Plan (GVAP) and implement strategies to ensure that all citizens of the Americas will benefit from immunization through 2020 and beyond.

The strategic areas of the RIAP are: a) sustain the achievements; b) complete the unfinished agenda in order to prevent and control vaccine-preventable diseases; c) tackle new challenges in the introduction of vaccines and assess their impact; and d) strengthen health services for effective vaccine administration. In this last strategic line of action, the plan's approach emphasizes the integration of immunization with other primary care services, such as prenatal care, adolescent sexual and reproductive health, health of older adults, and the prevention of chronic diseases, such as liver and cervical cancer. Additionally, the plan highlights the fact that the region is transitioning to the life course approach through vaccination of adolescents, adults and the elderly.

Monitoring and evaluating the RIAP will be conducted in accordance with PAHO's results based management framework, as well as its performance management processes. PAHO developed a monitoring and evaluation framework to assess progress against all indicators included in the RIAP. The framework includes an operational definition for each indicator, including its purpose and its units and the frequency of its measurement. PAHO Member States have committed to monitoring progress towards achieving the RIAP objectives, together with its National Immunization Committee. PAHO's TAG will then evaluate advances at the regional level and progress reports will be prepared annually for PAHO's Executive Management, as well as at the end of every biennium for PAHO's Governing Bodies. A final evaluation of the plan will be completed to determine the strengths and weaknesses of its implementation. The information needed will be obtained from the following sources: a) reports by the countries' ministries of health, b) PAHO-WHO/UNICEF's Joint Reporting Form on immunization (JRF), and c) the compilation of research and other available sources.

This report summarizes the Region's progress towards achievement of the objectives of the RIAP in the period 2014-2015 and also highlights challenges that will need to be overcome in the next year to meet

the goals set forth by the plan. This report will be reviewed by the PAHO TAG and shared with Member States for their knowledge.

## **Progress by strategic line of action**

### **Strategic Line of Action 1: Sustain the achievements**

#### *General objective 1.1 Maintain the Region's status polio free*

In 2013, the World Health Assembly (WHA) adopted the targets, goals, and timelines of the Polio Eradication and Endgame Strategic Plan 2013-2018. This new strategic plan takes on a new side in the fight against polio, aiming to eradicate not only the wild polioviruses, but also to eliminate the vaccine-related polioviruses as well, both vaccine-derived and Sabin.

The plan called for the withdrawal of all oral polio vaccines (OPV), starting with the type 2 component of the trivalent vaccine (tOPV). Prior to the removal of the type 2 component of OPV, SAGE and TAG recommended that countries introduce at least one dose of the inactivated poliovirus vaccine. Between February 2015 and April 2016, all 32 countries in the Region of the Americas that previously used only OPV introduced at least one dose of IPV into their routine immunization schedule, and between 17 April and 1 May, 2016, 36 countries in the Americas switched from the trivalent oral polio vaccine (tOPV) to the bivalent vaccine (bOPV) in a globally coordinated effort. The successful completion of the switch is a great milestone for global polio eradication and an important event that will go down in global public health history. This achievement is the result of a strong commitment from public health authorities, health workers both in the Region and globally and partner agencies like the World Health Organization (WHO), United Nations Children's Fund (UNICEF), GAVI, Rotary, the Task Force for Global Health, United States Centers for Disease Control and Prevention (CDC), the Bill and Melinda Gates Foundation, among others. Even though some countries faced challenges throughout the process, such as the 7.8 magnitude earthquake that happened just days before the switch was planned in Ecuador, all countries maintained their commitment and fully completed the timeline of the global plan.

The Regional Containment Commission and PAHO Secretariat had met two times during 2016 to review the poliovirus containment country reports, following a standardized methodology.

The first meeting was held in Santo Domingo (Dominican Republic) on 29 to 31 March of 2016. For that time 16 countries and the Caribbean sub-region (including 13 countries, 6 UK territories and 3 associate members) submitted reports. At the time of revision, six country reports were pending: Bolivia, Costa Rica, Ecuador, El Salvador, Uruguay, and Venezuela. The RCC received presentations from 8 countries that had reported infectious or potentially infectious WPV materials from Phase I of GAP II. At that time, 224 facilities had infectious or potentially infectious WPV materials in those 8 countries as of March 2010.

The second meeting was held in Washington, DC (United States of America) on 26 to 28 July of 2016. For that time 21 countries and the Caribbean sub-region (including 13 countries, 6 UK territories and 3 associate members) submitted poliovirus containment country reports. At the time of the second revision, only Uruguay still pending of submits the country report.

All countries providing reports demonstrated commitment to containment and have progressed significantly with Phase I of containment activities. Some countries provided very good examples of best practices, such as: strong political leadership, multi-sectorial engagement, technical commitment and leadership and collaboration with and active involvement of NCC in the review, analysis and submission of reports”.

Until now only 5 countries have notified the designation of poliovirus essential facilities (Brazil, Canada, Cuba, Mexico and USA). PAHO continue working with all the countries of the Region of Americas to finalize the Phase Ib of the GAPIII but final technical decision related with classification of some biological material (i.e full RNA, respiratory specimens) still pending to be define and communicate by WHO.

### General objective 1.2 - Maintain elimination of measles, rubella and Congenital Rubella Syndrome

**Declaration of the Elimination of Rubella and Congenital Rubella Syndrome in the Americas:** On 22-23 April 2015, the International Expert Committee for regional verification (IEC)<sup>1</sup> for measles and rubella elimination in the Americas reviewed the epidemiological information presented by the Member States and determined that the Region had interrupted the endemic transmission of rubella. The last confirmed case of endemic rubella was reported on 3 February 2009 in Argentina, while the last confirmed case of congenital rubella syndrome was in a baby born on 26 August 2009 in Brazil. Genotype 2B was identified in the last endemic rubella outbreaks in Argentina and Brazil.

**Advances in verification of measles elimination:** The Region of the Americas met the goal of eliminating the circulation of the endemic measles virus in 2002. The secular trend of measles in the post-elimination period between 2003 and 2010 was relatively stable, with an annual average of 153 cases, either imported or linked to imported cases. However, between 2011 and 2015, major outbreaks in Brazil, Canada, Ecuador, and the United States resulted in 8-12 times more reported cases than in the preceding period. Nevertheless, the highest regional rate in 2014 (1.7 cases per million inhabitants) was lower than the five cases per million inhabitants established by the World Health Assembly in 2010 as a milestone for progress toward the goal of worldwide elimination.

**Measles outbreak in Brazil:** The IEC declared that endemic measles transmission had reemerged exclusively in Brazil, after an outbreak that lasted for more than 27 months. Brazil considered endemic measles transmission to have been interrupted as of 6 July 2015—rash onset of the last case—and presented the IEC with evidence of the end of the outbreak in December 2015. In July 2016, Brazil presented epidemiological evidences to the IEC with definitive proof of the absence of endemic transmission of the virus. These evidences were accepted by the IEC, and the country was declared as free of measles.

**Declaration of the Americas as free of measles:** Between April and June 2016, all the ministries of health of the Member States have submitted their national sustainability reports, with evidence that they have maintained the interruption of endemic transmission of this disease in their territories. These

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<sup>1</sup> IEC is the equivalent of the Regional Verification Committee (RVC)

reports will be studied and, in due course, approved by the IEC members, who may declare measles elimination in the Region of Americas before the end of 2016.

General objective 1.3 Maintain achievements reached in vaccine preventable disease control

**Elimination of hepatitis B perinatal transmission** Countries in the Region have focused on the prevention of perinatal transmission of hepatitis B mainly through routine childhood hepatitis B immunization. National vaccination policies including HBV for children <1 year of age are in place in all countries and most countries and territories have more than one decade of experience with childhood hepatitis B immunization. As of 2016, 20 of 51 of countries and territories have introduced the universal birth dose vaccination policy and 14 countries and territories only vaccinate newborns born to positive mothers as part of their efforts to control HBV perinatal transmission representing ~80% of the birth cohort in the American region. Regional coverage in the Americas in 2014 for the third dose of hepatitis B vaccine (pentavalent) was 89% among children less than 1 year of age (with the lowest coverage in Haiti at 60%) and birth dose coverage was 80%.

**Influenza:** Countries have continued their efforts to sustain or increase influenza vaccine uptake among high risk groups especially among pregnant women while improving influenza surveillance and vaccination status documentation. Influenza vaccination is particularly challenging compared to other vaccines included in EPI schedules, due to the need for annual, optimally timed vaccination, the wide spectrum of target groups, and the limitations of the available vaccines. Since 2008, five additional countries/territories in the Americas have defined policies for seasonal influenza vaccination summing up to 40 out of 45. Twenty-five countries/territories have expanded target groups. Currently, 29 countries/territories target pregnant women for vaccination, the highest priority group according to WHO and PAHO/WHO's technical advisory group on vaccine-preventable diseases, compared to only 7 in 2008. Among 23 countries reporting coverage data, on average, 75% of adults ≥60 years, 45% of 6–23 months, 32% of 2-5 years, 59% of pregnant women, 78% of healthcare workers, and 90% of individuals with chronic conditions were vaccinated during the 2013-14 Northern Hemisphere or 2014 Southern Hemisphere influenza vaccination activities. Countries of Latin America and the Caribbean (LAC) have made significant progress in generating evidence for influenza vaccination programs. Since 2008, five tropical countries have changed their vaccine formulation from Northern to Southern Hemisphere and campaign timing to April-May upon analyzing national surveillance data. LAC countries have also used surveillance and EPI data to measure vaccine effectiveness and established an official network dedicated to evaluating influenza vaccines performance and impact.

Strategic objective 1.1 All countries make a commitment to vaccination as a priority for health and development

Countries and territories in the Americas are strongly committed to immunization as part of their national policies and plans to promote preventive health and universal health coverage. In 2015, all Member States counted immunization as a priority intervention and on average health authorities in Latin America and the Caribbean mobilized 99% of all vaccine financing from domestic resources. The majority of countries in the Americas have an active legal framework to ensure sustainable financing for immunization, in particular vaccine procurement. Additionally, PAHO is working with a number of

countries that are currently overhauling their legal frameworks for health and sanitary codes to include the right to immunization. Other countries yet have demonstrated strong commitment to immunization by continued strengthening of their national immunization technical advisory groups (NITAGs) that serve as an objective and transparent advisory body to national health authorities. As of 2015, 23 of 35 PAHO Member States reported an active NITAG and 16 of these committees meet the PAHO/WHO criteria for good operation.

*Strategic objective 1.2 Individuals and communities understand the value of the vaccines*

This year, countries and territories throughout the Western Hemisphere reached out to around 60 million children and adults during 14th year of Vaccination Week in the Americas (VWA), April 23-30th , delivering vaccines against diseases, including rubella, measles, diphtheria, mumps, whooping cough, neonatal tetanus, influenza, yellow fever, diarrhea caused by rotavirus, bacterial pneumonia, and human papilloma virus (HPV), among others.

Many countries also used VWA this year for community outreach, educational sessions on immunization for parents in health centers, and integrated efforts across health programs, including deworming, vitamin A supplementation, blood pressure and blood sugar screening, the vaccination of household pets, screening for domestic violence by social workers, Pap smears, HIV counseling and testing, breast feeding promotion, health education and dental care, among other activities.

The regional launch for this year's Vaccination Week in the Americas took place in Kingston, Jamaica on April 23rd, with participation from PAHO Director Carissa F. Etienne, Jamaican National Authorities, and partner agencies, followed by national and multinational launch events throughout the region.

Jamaican sprinter Usain Bolt, who holds six Olympic gold medals and 11 world championships, supported this year's Vaccination Week, appearing in PAHO-produced promotional messages, such as posters, social media messages, and in a public service announcement (PSA), in which he tells viewers, "I'm up to date on my vaccines. Are you?"

PAHO also did a social media campaign using the #GetVax and #GoForTheGold hashtags to encourage people to take photos holding #GetVax signs and post them to social media or to PAHO's website. A series of tweet chats were also held at the regional level and in countries to promote Vaccination Week and answer questions on vaccination.

**Strategic Line of Action 2: Address the unfinished agenda in order to prevent and control vaccine-preventable diseases**

*General objective 2.1 Eliminate neonatal tetanus as a public health problem in all countries*

In the Region of America, only Haiti has failed to reach the NNT elimination goal. The country has advanced substantially towards NNT elimination, however, putting in place activities designed to achieve this goal by the end of 2015. In addition to vaccinating pregnant women during routine immunization activities, three rounds of Td vaccination campaigns were conducted in Haiti's 140 communes to immunize all women of reproductive age, regardless of their previous vaccination status in 2013, 2014, and 2015. Haiti also integrated NNT surveillance into acute flaccid paralysis, measles/rubella, diphtheria and pertussis case-based surveillance in 2013.

### General objective 2.2 Meet vaccination coverage targets at all levels

According to the data reported by countries to PAHO in the PAHO/WHOUNICEF immunization Joint Reporting Forms for 2015, coverage in the Region of the Americas for DPT3 and the third dose of polio vaccine in children under 1 year old, coverage was 91% and 92% respectively; and measles and rubella vaccination in children 1 year old was 93%. In 2015 the number of countries and territories reporting national average coverage of at least 95% with DPT3 in children under 1 year was 19, without difference with 2014. However, there is still inequality in immunization coverage, both between countries and within each country. In 2015, out of a total of nearly 15,000 municipalities of Latin America and the Caribbean, 8,456 (56%) reported vaccination coverage with DPT3 below 95%.

### Strategic Objective 2.1 Immunization benefits extend equitably to all people and social groups

In order to train countries in the methodology for analyzing inequalities in immunization coverage, particularly those related to socioeconomic indicators, the Pan American Health Organization's (PAHO) Special Program on Sustainable Development and Health Equity and the Comprehensive Family Immunization Unit held a workshop in Santo Domingo, Dominican Republic with 6 countries of the Region. During the training there was highlighted that in addition to the need to maintain and/or improve rates of national immunization coverage across the Region, national immunization programs should also delve deeper into their data to make sure that coverage inequalities do not exist/persist sub nationally. To this end, actively monitoring the relationship between vaccination coverage and socioeconomic indicators can be a key tool to help inform targeted vaccination strategies. Additional work to expand and institutionalize the examination of socioeconomic inequalities and immunization coverage is currently being planned.

## **Strategic Line of Action 3: Tackle new challenges in the introduction of vaccines and assess their impact**

### General objective 3.1 Introduce vaccines in sustainable manner

Currently 34 countries and territories have introduced pneumococcal conjugate vaccine and 19 rotavirus vaccine in the routine vaccination schedule. In 2015, Argentina introduced the rotavirus monovalent vaccine and it is planning to introduce meningococcal conjugate quadrivalent vaccine in 2017. Argentina conducted a sub-national cost-effectiveness analysis on rotavirus vaccine introduction to provide evidence on the distributional health impact and cost-effectiveness across income and geographic groups. This study contributed to the decision to introduce the monovalent vaccine universally in the country.

With respect to HPV vaccine, as of 2016, 19 countries and territories have introduced the vaccine into a comprehensive control program for the reduction of cervical cancer in women. The Caribbean continues to seek affordable prices to introduce the vaccine. As of 2016, the PAHO Revolving Fund secured significant price reductions in both the bivalent and quadrivalent HPV vaccine products to meet the need of affordability for PAHO Member States. Argentina, Bolivia, Costa Rica, Ecuador, Guatemala, Honduras, Jamaica and Paraguay have all completed or are in process of completing predictive impact and cost-effectiveness analysis of HPV vaccines for their decision making processes.

Strategic objective 3.1 Decision-making is evidence-based and impact assessments ensure that policies are adopted to maximize the benefits of vaccination

PAHO countries and territories have progressively incorporated vaccine impact and cost-effectiveness data into the decision making processes for the adoption of new vaccines. Since 2004, more and more countries have requested support to PAHO's ProVac Initiative to assess the costs, health impact and cost-effectiveness of new vaccine introduction. As of 2015, 29 country-led studies on the cost-effectiveness of RV (4), HPV (14) and PCV (11) had supported new vaccine introduction decisions in 20 countries. The process of conducting cost-effectiveness analysis and modeled vaccine impact analyses pre-introduction of a new vaccine has helped countries systematically review a number of evidence criteria for new vaccine introduction, including disease burden, costs of existing vaccine-preventable disease control and treatment, vaccine efficacy and vaccine type disease circulating in country, among others. In 2016, PAHO ProVac will expand existing toolkit to address new vaccine policy questions. Support for dengue vaccine introductions will be urgently needed in near term.

Since the introduction of pneumococcal conjugate vaccine and rotavirus vaccine, countries have been carrying out effectiveness and impact studies with technical cooperation from PAHO. In 2015, an impact study of pneumococcal conjugate (PCV) 10 valent vaccine on hospitalization and mortality in children less than 5 years old in Chile and Peru was finalized. An effectiveness study of PCV13 is ongoing and a protocol of a systematic review of the impact and effectiveness of PCV10 and PCV13 on hospitalization and mortality in children less than 5 years old in LAC was developed.

**Strategic Line of Action 4: Strengthen the health services for effective vaccine administration**

General Objective 4.1 Exceed the expected results proposed by the Post-2015 Agenda for reductions in infant mortality and maternal mortality

The transition from childhood immunization to immunization throughout the life course is a core component of the RIAP. As part of this plan, maternal immunization has gained attention in recent years. This newfound attention has the potential to leverage the antenatal care platform. The establishment of a routine maternal immunization platform represents a new paradigm that includes the universal use of influenza, tetanus and pertussis vaccines and the use of other relevant vaccines in the near future is under consideration.

**Maternal immunization** refers to immunization prior to pregnancy, during pregnancy, and in the post-partum period (for both the mother and the newborn), in order to provide protection to the mother-child binomial. Maternal immunization has the potential to impact early childhood morbidity, and in some cases, mortality. Infections such as respiratory syncytial virus (RSV), influenza, and pertussis are associated with adverse outcomes in young infants – i.e. prior to commencement or completion of primary infant immunization series. Gains in reducing global childhood mortality have mostly been outside the neonatal period. Approximately 40% of global childhood deaths occur in the neonatal period. Many of these deaths are due to infections that can be prevented through existing or potential maternal vaccines.

To date, in all LAC countries, the tetanus-diphtheria-containing vaccine is recommended for all women of childbearing age; in 29 LAC countries influenza immunization is indicated for pregnant women; and,

the pertussis-containing vaccine is indicated for pregnant women in 12 LAC countries. TAG recommends this vaccine in case of outbreak situations.

*Strategic Objective 4.1 Supplies are available for the immunization program on a sustainable basis with national resources*

The PAHO Revolving Fund (RF) continues to support most of the countries and territories in the Region (42) to access to quality vaccines and related immunization supplies, procured with national funds. The RF contributes to the financial sustainability of the immunization programs, ensuring countries and territories access to low and steady prices of vaccines. Starting in 2016, more countries, such as Honduras and Guyana, will be completely funding vaccines that were initially introduced with Gavi support. New vaccines (PCV, Rota, HPV) represent more than 60% of the total vaccine procurement budget of countries in the Region. In order to support the financial sustainability of the programs of PAHO's Member States, the RF has led efforts to reduce prices of these vaccines. Counting on the commitment, solidarity, and support from Member States during a negotiation process, the RF, with support of partners, reached agreements to reduce prices up to 35% with both HPV manufacturers. Now the focus is to reduce prices of PCV and Rota vaccines.

There are ongoing efforts to support countries to improve demand planning capabilities, including virtual meetings with EPI Managers and country offices to present an overview of the vaccine market challenges and opportunities, and review of past performance and preparation of appropriate demand plans. Plans to improve current approach on demand planning, including existing tools, are under development.

*Strategic Objective 4.2 Strengthened immunization services are part of comprehensive, well-run health services*

**Dropout rate** In the Americas Region 96% of children less than 1 year were immunized for DPT3 while 91% were immunized for DPT1 with an overall dropout rates of 6%. In countries such as Venezuela, Mexico, Dominican Republic, Panama, and Guatemala, the dropout rate was greater than 10%. The dropout rate is a measure of the strength of a health and immunization system, demonstrating its potential to reach children with the third dose in a series. Countries should define specific strategies to address factors that contribute to incomplete infant vaccination schedules.

**Data quality** Data quality is a constant challenge in ensuring reliable, high-quality vaccination coverage. In this sense, the countries of the Americas have strongly committed to consider activities related to data quality, which have been incorporated into their plans of action at the national level, as well as into monitoring at the sub-national level. Countries have also committed to evaluations at the national and sub-national level. In the last two years, Data Quality Self-Assessment (DQS) has been conducted in four countries (HON, PER, MEX, HAI). As a result of the DQS in Mexico, the country started a process to improve their data, which actually resulted in 2013 immunization coverage figures lower than previously recorded. They have been working towards improving the quality of their coverage data in order to build confidence in the reported coverage estimates.

On the other hand, the countries of the Region of the Americas have been working towards implementing Electronic Immunization Registry (EIR) systems with the goal of improving data quality and program performance. The EIR is a useful tool for individualized vaccination monitoring, defining vaccination strategies through targeted reminders, supporting vaccination campaigns, providing timely access to information, among others. Five countries currently use EIR systems at the national level. The rest of the countries in the Region are implementing EIRs at the subnational level, developing their EIR or strengthening their paper-based information systems.

**Cold chain Operations:** Countries in the Region have focused on the expansion of the cold chain and strengthening the supply chain and logistics operations for the introduction of new vaccines. In the last two years, the Effective Vaccine Management assessment (EVM) has been conducted in four out of six GAVI supported countries (GUY, HON, NIC and HAI). HON and NIC obtained high scores, 97% and 93% respectively, which at the moment of the assessment were the highest ranking scores globally. Guyana reached 83%. This is a significant achievement considering that 80% is the minimum score established by EVM. The EVM in Haiti was carried out by UNICEF. Member States continued using effective vaccine management (EVM) assessments to document strengths and weaknesses of immunization supply chains and translate their findings into improvement plans and actions to strengthen cold chain and supply chain systems. Guyana, Nicaragua and Honduras strengthened the temperature monitoring system using remote temperature monitoring and cloud-based technology. Nicaragua and Honduras carried out a temperature mapping of the cold rooms obtaining very positive results. Temperature monitoring studies are on going in Honduras and Nicaragua for strengthening the immunization supply chain.

Vaccine and supply stock management have been improved. 14 countries have implemented a WHO tool *Vaccination Supplies Stock Management (VSSM)*. Honduras, Jamaica and Mexico are using the Web based application (wVSSM). Honduras expanded its use of this application for all pharmaceutical items in the country including vaccines, diluents, injection equipment and medical equipment. This is a unique experience globally with implementation of this application since other countries and programs are using it only for vaccines and related supplies.

The Regional Immunization Action Plan is aligned with the Global Vaccine Action Plan and allows the region to identify and face its challenges. One of the region's biggest challenges is to ensure that the benefits of immunization are equally shared by all. For this it is crucial to remind Member States of their moral duty and commitment to immunization, including the accountability they have with their populations. Other strategies that not just help to overcome the inequities, but other challenges that PAHO has identified and targeted as main activities are among others, the work with health systems in order to ensure universal access to vaccine across the lifespan and to take advantage of the integrated approaches with other interventions at the first level of care. Other important areas of action are the intensive training of the health workers, as well increase the communication and social mobilization efforts.