Immunization Newsletter

Pan American Health Organization

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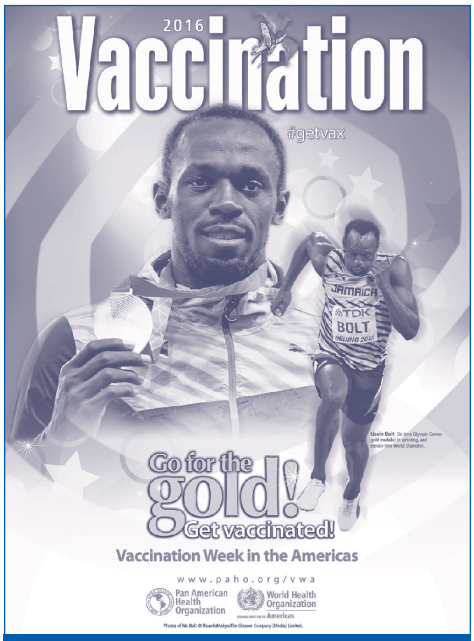
Upcoming Celebration of Vaccination Week in the Americas 2016

This year marks the 14th annual celebration of the Vaccination Week in the Americas (VWA) initiative. Taking place during the week of April 23-30, this year's regional slogan for VWA will be "Go for the Gold! Get Vaccinated!" to parallel the 2016 Olympic Games that will be held in Rio de Janeiro, Brazil in August.



Promotional poster for Vaccination Week in the Americas 2016, featuring Jamaican sprinter Usain Bolt.

Social media will be well incorporated into the regional VWA communication campaign this year, using the hashtags #GetVax and #GoForTheGold. The Pan American Health Organization (PAHO) will encourage people across the Region to pose for photos wearing gold medals and holding signs with the VWA hashtags and post them on social media outlets or on the VWA website (www.paho.org/vwa). Spanish and English Twitter chats will also be held on the 20th and 21st of April, respectively. As part of a special partnership this year, PAHO "caught" Jamaican athlete and "fastest man in the world" Usain Bolt to lend his support to the VWA 2016 campaign. Through this collaboration, Bolt's image will be printed on VWA campaign materials. He will also be recording a public service announcement supporting vaccines and the VWA campaign. Additional posters, stickers, t-shirt designs, PowerPoint templates and coloring pages, among other resources to support VWA, can be downloaded online.

The regional launch for VWA 2016 will be held in Kingston, Jamaica, on 23 April. Attendance is expected by high level authorities from the Jamaican government, including the Minister of Health; PAHO's Director, Dr. Carissa F. Etienne; the PAHO/WHO Representative in Jamaica, Dr. Noreen Jack; representatives from the United Nations Children's Fund (UNICEF); the Joint United Nations Programme on HIV/AIDS (UNAIDS); United Nations Development Programme; the Office of the United Nations High Commissioner for Human Rights; the United States Centers for Disease Control and

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Paraguay Prepares to be the First Country in the Region to Undergo the Polio Switch

Paraguay is one of the 36 countries in the Region of the Americas that is preparing for the switch from the trivalent oral polio vaccine (tOPV) to the bivalent oral polio vaccine (bOPV). With direction and support from the Expanded Program on Immunization (EPI) team and EPI Manager, Dr. Sonia Arza, the country has completed all preparation stages for the switch and received their shipment of bOPV on March 7th. All health personnel involved in the switch have been trained and the national immunization program is planning to evaluate more than 20% of health service points through independent monitoring.

Paraguay has chosen April 18th as their national switch date. As of 10:00 AM on this day, bells and sirens will ring across the country to signal the switch and all health services and units will begin using bOPV and remove unused tOPV from the cold chain, labeling it with "do not use" stickers and sending it for disposal.

Paraguay is making active efforts to minimize the amount of tOPV that needs to be disposed. The cold stores down to the departmental level already do not have any tOPV in storage and the country is intensifying tOPV vaccination in areas of low coverage and doing active searches for unvaccinated children.

Dr. Cristina Pedreira, PAHO regional immunization advisor on polio, visited Paraguay from 8-10 March to review their progress on switch preparation. During the visit, Dr. Pedreira visited three health regions with national supervisors: XVIII RS – Capital, XI RS – Central, and Cordillera. In all of the regions, they visited the regional health headquarters and select hospitals and health units. In the Capital Region they visited the General Barrio Obrero Hospital and the Yukyty Family Health Unit. In the Central Health Region, they visited the District Hospital of Lambaré, the Regional

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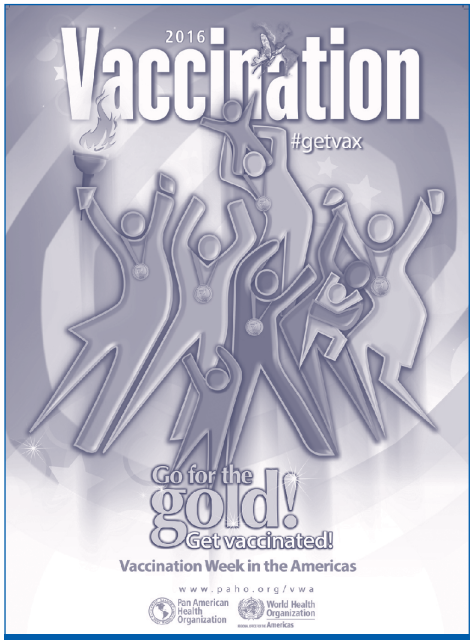
Prevention (CDC) and other partners. Other regional launch events for VWA are being planned for the borders between Honduras and Guatemala; Colombia, Brazil and Peru; Panama and Costa Rica; and Panama and Colombia, among others. National VWA events will also take place in countries and territories including Barbados, Bolivia, Brazil, Cayman Islands, Chile, Costa Rica, El Salvador, Honduras, Nicaragua, Panama, Paraguay, Peru, St. Kitts and Nevis, St. Maarten, Suriname, Trinidad and Tobago, Turks and Caicos, and Uruguay.

This year, countries and territories have reported plans to target more than 60 million people across the age spectrum for vaccination against a wide range of diseases, including rubella, congenital rubella syndrome, measles, diphtheria, mumps, whooping cough, neonatal tetanus, influenza, yellow fever, diarrhea caused by rotavirus, bacterial pneumonia and human papilloma virus, among others. This year's VWA will also coincide with the two-week globally coordinated switch from the trivalent oral polio vaccine (tOPV) to the bivalent oral polio vaccine (bOPV) as an important step towards global polio eradication. Countries also plan to incorporate other preventive health

Staff from PAHO headquarters showing their support for Vaccination Week in the Americas, 2016. Photo credit: David Spitz, PAHO/WHO.

interventions to VWA, especially drawing attention to the prevention and control of current outbreaks of vector-born diseases like Zika, Chikungunya and dengue.

In addition to the regional scope reached by VWA, the World Health Organization (WHO) will be celebrating their fifth World Immunization Week with more than 180 countries across all six WHO regions participating. Their theme for the second year in a row will be "Close the Immunization Gap



Promotional poster for Vaccination Week in the Americas 2016, featuring an Olympic theme.

– Immunization for All throughout Life" aiming to both celebrate the successes of the campaign and note the challenges still faced. ■

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Hospital of Luque, and the Maternity Hospital Fernando de Mora. In Cordillera, they visited the Ka'acupé Hospital. The Ka'acupé Hospital deserves special recognition for the work they do in following up with immunization schedules for the children who are born in the hospital and live in the surrounding area.

The health personnel were well informed, prepared and committed to the switch at all of the sites visited, including the regional health headquarters, hospitals and health units. All of the interviewed staff understood what they needed to do before, during and after the switch, how to do it and the reasons behind it.

There was a poster with the date and time for the switch at all of the sites and all of the service points had their box for disposal ready and the remaining tOPV properly labeled. There was a sense of enthusiasm at all of the service points visited, which is reminiscent of the polio eradication era in the late eighties and early nineties.

Finally, Dr. Pedreira met with the National Certification Committee and the Vice Minister of Health, Dr. María Teresa Barán. They also participated in a press conference and live interview with the EPI Director, four members of the National Certification Committee and the PAHO/WHO Representative in Paraguay, Dr. Carlos Castillo Solórzano. During this interview, they spoke about the objective of Dr. Pedreira's visit to the country and discussed how Paraguay was confirmed as highly prepared for the switch at all levels. ■

National Polio Outbreak Preparedness and Response Plans

The World Health Organization (WHO) has recommended that all countries prepare a national response plan for polio and as such, WHO has provided a template to help countries with this process. This template is intended to align countries with the new outbreak response protocols and to ensure that they can plan and implement rapid, effective response activities to poliovirus type 2 outbreaks and type 2 polio events detected following the switch from the trivalent oral polio vaccine (tOPV) to the bivalent oral polio vaccine (bOPV).

In a previously polio-free country, the occurrence of a polio case due to wild poliovirus (WPV) or circulating vaccine-derived poliovirus (cVDPV) must be considered a national public health emergency, urgently requiring a rapid and high-quality immunization response.

National Polio Outbreak Preparedness and Response Plans should be completed by July 2016 and then reviewed by each country's National Certification Committee (NCC) before being submitted to the Regional Certification Commission (RCC).

This plan should also take into consideration the *Protocol for notification, risk assessment, and response following detection of poliovirus type 2 following globally-coordinated cessation of serotype 2-containing oral polio vaccine*. This document, along with the template for the National Polio Outbreak Preparedness and Response Plan, can be found at: www.paho.org/polio in Spanish, English and French. ■

Video Resources to Support the Polio Switch

In anticipation of the global switch from the trivalent oral polio vaccine (tOPV) to the bivalent oral polio vaccine (bOPV), which will take place in 155 countries around the world during the last two weeks in April (17 April – 1 May), the Global Polio Eradication Initiative, with the support of UNICEF, has produced a short animated video that explains the switch in 7 languages: English, Spanish, Urdu, Russian, Mandarin, French and Arabic. All videos can be viewed at the following link: https://vimeo.com/theswitchtogether.

The Global Polio Eradication Initiative has also developed a series of six videos to explain the steps that are being taken to make sure that once the poliovirus has been eradicated, it will never have the opportunity to return. This series of videos covers a wide range of topics, including the vaccines that are being used to stop polio, how the oral polio vaccine is being gradually phased out (beginning with the switch from tOPV to bOPV in April 2016) and how securely containing polioviruses within laboratories and vaccine manufacturing sites will keep every last child protected, long into the future. These videos can be accessed through the following links:

1. Securing a Polio-Free World: Introductory Video http://bit.ly/28LWQvx	
2. Securing a Polio-Free World: The Polio Vaccines http://bit.ly/28QJmgf	
3. Securing a Polio-Free World: Stopping all Polioviruses http://bit.ly/28MBhOh	
4. Securing a Polio-Free World: Phasing Out Oral Polio Vaccines http://bit.ly/28LsEOE	
5. Securing a Polio-Free World: Building Resilience for the Switch http://bit.ly/28LTt9k	
6. Securing a Polio-Free World: Containing Polioviruses Safely and Securely http://bit.ly/28LVOxA	

Strengthening Capacities for the Measuring, Analysis and Monitoring of Social Inequalities in Immunizations in the Dominican Republic

The Regional Workshop on Strengthening Capacities for the Measuring, Analysis and Monitoring of Social Inequalities in Immunizations took place from 9-11 March as part of a collaborative effort between the Pan American Health Organization's (PAHO) Special Program on Sustainable Development and Health Equity and the Comprehensive Family Immunization Unit in Santo Domingo, Dominican Republic.

The main objective of the workshop was training participants to analyze inequalities in immunization coverage, particularly those related to socioeconomic indicators. Individuals participating in the workshop included technical staff from the Ministries of Health of Bolivia, Chile, Cuba, Dominican Republic, Honduras and Peru, in addition to facilitators from PAHO.

During the three-day workshop, presentations covered the concepts of inequalities in health and immunizations, the social determinants of health and specific metrics used to measure

Participants at the Regional Workshop on Strengthening Capacities for the Measuring, Analysis and Monitoring of Social Inequalities in Immunizations, Dominican Republic, March 2016. Photo credit: PAHO-Dominican Republic.

and analyze inequalities in coverage within a country using equity stratifiers. All individuals attending the workshop were asked to bring databases containing subnational immunization coverage data for two points in time, in addition to corresponding social, economic, and/or environmental indicators. As part of the workshop's agenda, participants were given the opportunity to gain practical, hands-on experience carrying out the different types of inequality analyses that were presented with their own country's data.

In addition to the need to maintain and/or improve rates of national immunization coverage across the Region, facilitators emphasized that 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. The importance of such efforts has been reflected in strategic indicator 2.1.1. of PAHO's Regional Immunization Action Plan (RIAP), which includes the "number of countries and territories reporting coverage by income quintile or other subgroups that make it possible to monitor vaccination equity." Additional work to expand and institutionalize the examination of socioeconomic inequalities and immunization coverage is currently being planned. ■

Grenada Transitions to an Electronic Immunization Information System

In February 2015, the United States Centers for Disease Control and Prevention (CDC) approved US$49,000 in grant funding to support the strengthening of Grenada's routine immunization surveillance. Grenada's grant proposal outlined a plan for an electronic immunization registry (EIR) as part of a larger immunization information system (IIS). Plans for an EIR in Grenada had been conceptualized the year prior and included in their national EPI Plan of Action for 2015.

The approval of the CDC funding initiated a series of actions that would begin Grenada's transition from a paper-based documentation system, dependent on recorders and record books, to a modern electronic system that leverages the benefits of the current information and knowledge age. This article outlines the specific activities and steps taken by Grenada to implement the Grenada Electronic Network for an Integrated Healthcare Immunization Information System.

Planning and Implementation

An implementation committee including individuals responsible for planning, nursing and information technology within the Ministry of Health was formed to plan and direct the project. This committee worked closely with representatives from the Pan American Health Organization's Office of the Eastern Caribbean Countries and their Washington, DC counterparts, who provided important oversight and guidance on the many project activities.

Selection of an EIR

A detailed assessment of the current immunization documentation system produced detailed requirements that were instrumental in selecting and customizing the EIR system. After reviewing the options available from different EIR providers, the country selected a system that was highly customizable to their particular needs and that would be sustainable over time.

The Training Process

Training for the EIR users was conducted in November 2015. During the training, participants gained hands-on experience with the functionalities of the system through several practical exercises. A test version of the software was used for this activity. This approach to training proved very successful as feedback from participants was overwhelmingly positive.

Current Status

At present, newborns are being registered into the EIR at the three public hospitals in Grenada. Two community facilities have gone live with the EIR and several more are expected to be online in the upcoming weeks.

Next Steps

It is expected that the EIR will be fully implemented in all public and private health facilities by the end of 2016. To meet this goal, the Ministry will continue to verify data for all remaining facilities, as well as complete the installation of computers and network connectivity in areas not yet covered. ■

How will the EIR and the IIS improve the performance of Grenada's Immunization Program?

- **Increased vaccination coverage**: Individual clinics will be able to generate forecasts and information critical for reminder recalls, such as present dose due, past dose due (for defaulters), next dose due, etc.
- **Improved access to immunization records**: The EIR will provide authorized health care professionals with easy access to consolidated, individual vaccination records of their patients via a secure web interface.
- **Improved vaccination reporting**: The IIS will provide a standardized electronic means way to record and report on vaccines administered at both private and public health facilities. This will also improve the quality of the data reported to external agencies and organizations and will enhance the Ministry's planning capacity.
- **Improved inventory management**: The inventory management module of the IIS will facilitate improved monitoring of the vaccine supply throughout the country.
- **Improved planning at the national level**: The reports generated from the IIS will provide the Ministry of Health with more accurate and timely information that is critical for decision-making and planning.

Nicaragua and Honduras Score High on EVM Assessments

In May/June and August/September 2015, assessments of Effective Vaccine Management (EVM) were conducted in Nicaragua and Honduras, respectively. The objectives of these evaluations were to analyze the cold chain, vaccine supply chain and vaccine management operations in each country. Prior to initiating each evaluation, training on the EVM tools and methodology were completed in order to standardize their application in the field[1]. Nicaragua and Honduras scored high on their individual assessments, each with overall average scores above 90%.

From 28 May to 12 June 2015, national health workers from the Ministry of Health in Nicaragua and international evaluators from the World Health Organization (WHO) and the Pan American Health Organization (PAHO) conducted the EVM assessment in Nicaragua. During the assessment, 47 randomly-selected storage and health facilities were visited and records between 1 May 2014 and 30 April 2015 were reviewed. The 47 sites included 12 of the 19 local systems for integral health care at the sub-national level, 17 vaccine stores from the lower distribution level and 17 service delivery points. The evaluation also included the national vaccine store.

Nicaragua obtained an overall average score of 93% in its first EVM assessment, a significant achievement considering that 80% is the minimum established score. The country's primary level scored 92%, the sub-national level scored 96%, the lowest distribution level scored 93% and the service delivery level scored 93%. At the time of their assessment, Nicaragua's average score put them in first place among the top 80 EVM assessments performed worldwide since 2009.

The EVM assessment in Honduras took place from 27 August to 11 September 2015 with participation from health workers from the Ministry of Health in Honduras and international evaluators from the Ministry of Health of Nicaragua, Paraguay and PAHO. During this evaluation, 42 randomly-selected storage and health facilities were visited and assessments were made on their records from 1 January – 31 December 2014. The 42 sites included 7 of the 20 health sanitary regions at the sub-national level, 16 vaccine stores from the lower distribution level and 18 service delivery points, as well as the national vaccine store.

In its first EVM assessment, Honduras obtained an overall average score of 97%. This included the score reached for the four levels of the supply chain that is in place in the country and the nine evaluated EVM criteria. With this average score, at the time of their assessment, Honduras also ranked first among the top 104 EVM assessments performed worldwide since 2009. The primary level scored 98%, the sub-national level scored 96%, the lowest distribution level scored 97% and the service delivery level scored 98%. ■

[1] "General Introduction to EVM." Immunization Newsletter. October 2014; Vol. XXXVI; No. 5; (p. 2-4). Available at www.paho.org/immunization/newsletter

Meeting of the Regional Measles and Rubella Laboratory Network in Ecuador

The Meeting of the Regional Measles and Rubella Laboratory Network took place in Quito, Ecuador from 9-10 February 2016. Twenty-five participants attended the meeting, including representatives from national measles and rubella laboratories from 12 countries in the Region (Chile, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay and Peru), representatives from the regional and sub-regional measles and rubella laboratories (Brazil, Canada, and the Caribbean Public Health Agency [CARPHA]) and professionals from the United States Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO) and the Pan American Health Organization (PAHO).

The objectives of the meeting were to review the progress, achievements and challenges of the Regional Measles and Rubella Laboratory Network; monitor the performance of the Laboratory Network and the implementation of recommendations; and give interactive presentations on measles and rubella cases, as well as the status of Zika virus circulation in the Americas.

The main recommendations from the meeting are related to laboratory confirmation of cases, quality assurance/quality control and the enhancement of molecular surveillance. The first recommendation from the meeting was that national surveillance programs are encouraged to meet surveillance indicators and guarantee the referral of specimens to the laboratory as soon as possible. However, because of logistical and financial issues, timely transportation of samples to the laboratory within five days is often challenging. In some countries, the surveillance information system is not being updated with the data results from laboratory reports. In other countries, laboratory testing is being delayed as laboratories try to conserve supplies or laboratories do not have sufficient supplies. This may be caused by delays in importation or shortages of financial resources. Nevertheless, network laboratories should work closely with their surveillance program and the institution's authorities to find and implement solutions that guarantee and protect the role of the laboratory in the sustainability of the elimination of diseases. This includes meeting the recommended turn-around-time of four days for laboratory results despite these aforementioned challenges.

Participants at the Meeting of the Regional Measles and Rubella Laboratory Network in Ecuador in February 2016. Photo credit: Pedro Xavier Domínguez Andrade, PAHO-Ecuador.

The second recommendation was that network laboratories continue to strengthen the quality assurance and quality control of national and subnational laboratories. Network laboratories should continue to participate in the annual global serology proficiency testing program, which introduced a new protocol and a reporting website in 2015, developed by WHO and the Victorian Infectious Diseases Reference Laboratory (VIDRL). The objectives of proficiency testing are to assess the proficiency of laboratories in the WHO global network, to identify any problems with assays in routine use, to check the accuracy of data reporting, to check assay validation criteria and to check the timeliness of laboratories reporting results, as laboratories must do so within 14 days of receiving the WHO proficiency testing panel for Immunoglobulin M (IgM). The results of the test are one of the criteria for the annual accreditation of the national laboratories, thus efforts to ensure that the panels are received and answered by network laboratories should be a shared responsibility between the national laboratories, regional reference laboratories and PAHO/WHO.

Additionally, all network laboratories that are performing molecular testing should participate in the WHO/CDC molecular External Quality Assurance (mEQA) program and submit results of the molecular assays that they are doing. The recently introduced mEQA program has been successful in assessing the performance and capacity of the network laboratories to conduct molecular assays for the detection and characterization of measles and rubella.

Another recommendation from the meeting was the enhancement of molecular surveillance. The national surveillance programs are encouraged to collect specimens for viral detection while enhancing molecular surveillance (thus maintaining laboratory proficiency for molecular testing). Molecular surveillance has become an integral tool in the verification of elimination program for measles and rubella, so national network laboratories are requested to ensure the timely reporting of sequence data to the WHO sequence databases (MeaNS for measles and RubeNS for rubella). Also, laboratories are encouraged to use the tools available in MeaNS and RubeNS and use measles "named strains" to study the pathways of virus transmission. To ensure laboratory capacity to perform measles and rubella molecular testing, it is necessary to provide on-site molecular training where needed and possible; and to provide a web-based training in MeaNS and RubeNS.

The current Zika outbreak in Latin America and the Caribbean may pose an additional burden to the Regional Measles and Rubella Laboratory Network. During the meeting, participants expressed concerns that the current PAHO measles and rubella surveillance guidelines may overburden the network laboratories due to overlapping case definitions of different diseases, such as dengue, Zika and Chikungunya. Therefore, network laboratories need to increase awareness about similar clinical presentations and remain alert to detect the possible importation of measles in the midst of the Zika epidemic. Additionally, guidance is needed to take advantage of the opportunity presented by the surveillance of Zika birth defects. This would facilitate augmenting the surveillance of congenital rubella syndrome (CRS) birth defects, in order to guarantee the maintenance of CRS and rubella elimination.

One extremely useful laboratory diagnostic tool in elimination settings is the reverse transcription polymerase chain reaction; it cannot, however, be used to rule out cases in the context of overlapping case definitions. When cases are difficult to classify, it is necessary for laboratories to work closely with the surveillance program, improve the case investigation and follow up with all of the patient's contacts to look for secondary cases. The program should attempt to strengthen the link between clinical, epidemiological and laboratory data to improve case classification. ■

Regional Meeting on Seasonal Influenza Vaccination in the Americas Held in Chile

From 15-17 March 2016, the World Health Organization (WHO) and the Pan American Health Organization (PAHO) held a regional meeting on influenza vaccination in Santiago, Chile. This meeting combined a WHO meeting on seasonal influenza vaccine composition and a meeting of the REVELAC-i network (network for evaluating influenza vaccine effectiveness in Latin America and the Caribbean). It aimed to support countries of Latin America and the Caribbean (LAC) in leveraging information on influenza surveillance and vaccination in order to make evidence-based decisions and further develop recommendations for seasonal influenza vaccination.

Participants at the Seasonal Influenza Vaccination Meeting in Santiago, Chile, March 2016. Photo credit: PAHO-Chile.

The three-day meeting reviewed the most recent epidemiological and virological evidence available to support influenza vaccination policies and addressed the current challenges that LAC countries are facing, as well as gaps in knowledge. The topics covered in the agenda included influenza seasonality in the American tropics and implications in the timing of influenza vaccination activities and vaccine formulations; an update from vaccine manufacturers on vaccine production and how much they can cater to the current needs of vaccination programs; monitoring influenza vaccine effectiveness and its impact on disease burden among high risk groups; maternal influenza vaccination and approaches to generating evidence of disease burden and the protective effects of vaccines for both pregnant women and their newborns; vaccination data quality and operational challenges of vaccination programs.

Multidisciplinary teams from the ministries of health of 21 countries across the Americas participated in the meeting, including professionals engaged in epidemiological and virological influenza surveillance and managers of national immunization programs. Additional participants included individuals from the United States Centers for Disease Control and Prevention (CDC), the Victorian Infectious Diseases Reference Laboratory in Australia, Emory University, the Influenza Monitoring of Vaccine Effectiveness Network in Europe (I-MOVE), the Marshfield Clinic, the British Columbia Centre for Disease Control, CDC-Central America, Universidad del Valle de Guatemala and the Bill & Melinda Gates Foundation.

LAC countries have continued their efforts to sustain or increase seasonal influenza vaccine uptake among high risk groups, especially among pregnant women. LAC countries have also continued strengthening influenza surveillance, immunization platforms and information systems, improving preparedness for future pandemics. Difficulties persist in the estimation of vaccination coverage, especially for pregnant women and individuals with chronic conditions. LAC countries are currently working on determining more precise denominators for these estimates and towards improving vaccination data quality.

Adjustments made to national influenza vaccination policies should be guided by the national/subnational epidemiology of influenza. Since 2007, six countries have changed from the northern to the southern hemisphere vaccine formulation (El Salvador, Guatemala, Colombia, Costa Rica, Cuba and Honduras) and the timing of influenza vaccination activities to April-May. In all countries, this decision was based on a review of epidemiological and virological surveillance data by a multidisciplinary/inter-institutional committee (EPI, influenza surveillance, national influenza centers) and the decision-making process was accompanied by the National Immunization Technical Advisory Groups (NITAG).

Participants were reminded of the current recommendations from PAHO's Technical Advisory Group on Vaccine-preventable Diseases (TAG), advising countries to vaccinate intensively before their primary influenza epidemic peak, in order to reach high vaccination coverage among high risk groups. Additionally, TAG has encouraged tropical countries, especially ones with large land areas, to conduct influenza seasonality analyses by sub-region, as seasonality may differ based on distinct geographic and climatic parameters. Additionally, TAG has recommended that countries evaluate the impact of changes in influenza policy on their disease burden.

In order to continue promoting influenza vaccination among pregnant women and provide guidance to EPI and health services, PAHO has elaborated a field guide for maternal immunization that describes the benefits of vaccination for mothers and newborns and tackles the operational specificities of influenza vaccination, such as methods to estimate denominators for influenza vaccination coverage among pregnant women. This guide will complement the forthcoming global guidelines from the WHO on maternal immunization. Various efforts are ongoing in the Region to generate disease burden and vaccine effectiveness estimates among pregnant women, as well as evidence of vaccine safety for the mother and child. PAHO also encouraged LAC countries to document lessons learned in maternal immunization, as recommended by the WHO's Strategic Advisory Group of Experts on immunization (SAGE), including the best gestational trimester in which to vaccinate.

The meeting participants agreed on a short-term research agenda addressing influenza vaccine effectiveness and impact, knowledge, attitudes and practices related to vaccination among pregnant women and healthcare workers and exploring the cost-effectiveness of quadri-valent influenza vaccines for which there is no official WHO or PAHO TAG recommendation to date. ■

Table 1. Prices for Vaccines Purchased through the PAHO Revolving Fund, 2016 (prices in US$)

Vaccine		Doses per vial	Average cost per dose
BCG		10	0.1443
Bivalent Oral Polio (bOPV)		10	0.14
		20	0.125
Cholera		1	1.8500
DPT		10	0.2220
DT	Pediatric	10	0.1560
DTaP Triple Acellular	Pediatric	1	12.8
DTaP-IPV	Tetravalent Acellular	1	10.4
DTaP-IPV-Hib	Pentavalent Acellular	1	13
DTaP-IPV-Hep B-Hib	Hexavalent Acellular	1	19
DTP	Hib Lyophilized	1	2.6500
DTP Hepatitis B Hib Pentavalent	Liquid	1	2.1000
Hepatitis A	Pediatric	1	8.4028
	Adult	1	12.000
Hepatitis B (Recombinant)	Adult	10	0.25
	Adult	1	0.326
	Pediatric	1	0.2240
Hib	Lyophilized	1	2.0500
Human Papiloma Virus (HPV) Bivalent		1	8.5000
Inactivated Polio (IPV)		1	2.8000
		5	1.9000
Seasonal Influenza Trivalent Southern Hemisphere 2016	Adult	1	3.9000
	Adult Korean Origin	10	2.8000
	Adult French Origin	10	3.9500
	Pediatric French Origin	20	1.9750
	Pediatric Korean Origin	20	1.400
Measles-Rubella		1	2.2500
		10	0.6060
Measles/Mumps (Jeryl-Lynn Strain)/Rubella		1	6.000
Measles/Mumps (Zagreb Strain)/Rubella		1	2.3700
		5	1.1460
Meningococcal ACYW135 Conjugated		1	26.000
Pneumococcal Unconjugated	Adult 23-valent	1	7.6200
		5	7.4500
Rabies Human Use (Vero Cells)		1	11.6500
Rotavirus, Liquid	2-dose immunization schedule	1	6.5000
Td	Adult	10	0.1103
Tdap Triple Acellular	Adolescent/Adult	1	10.9278
Typhoid Polysaccharide		20	8.9000
Varicella		1	14.8502
Yellow Fever		10	1.1132

2016 Vaccine Prices Amendment I

Member States will be billed according to these prices, unless otherwise stipulated in country agreements. PAHO invoices will include the cost of the vaccine, a 4.25% service charge (applicable only to the cost of the biological product) and actual charges for packing, freight and insurance.

PAHO/WHO Representatives are encouraged to issue proforma invoices based on the "FCA" average prices (indicated in the price list). For estimating the cost of packaging, insurance and freight, use 15% of the value of the biological products for budgetary purposes. This is due, in part, to the origin of the product. The actual cost of these services may vary and will be reflected in the PAHO invoice, which is issued approximately 30 days after the order has been delivered. Delivery lead time is approximately 60 days after the requisition is received by the Procurement and Supply Management Department.

Please continue to work closely with the Revolving Fund for Vaccine Procurement in updating quarterly vaccine requirements from Member States. The accuracy and availability of this information is critical to PAHO's work with suppliers to ensure the timely manufacturing and availability of the products. ■

Table 2. Prices for Syringes Purchased through the PAHO Revolving Fund, 2016-2017 (prices in US$)

DISPOSABLE SYRINGES, PLASTIC WITH ATTACHED NEEDLE		
SIZE	PACKED PER CASE	PRICE PER UNIT *
1cc 22G x 1 1/2"	3600	$0.0320
	2000	$0.0318
	3000	$0.0241
	1400	$0.0293
1cc 23G x 1"	3600	$0.0315
	2000	$0.0318
	3200	$0.0219
	1400	$0.0293
1cc 25G x 5/8"	3600	$0.0320
	1400	$0.0293
	3200	$0.0219
1cc 26G x 3/8"	1400	$0.0293
3cc 23g x 1"	1000	$0.0398
5cc 22G x 1 1/2"**	1800	$0.0330
	1800	$0.0259

AUTO-DISABLE SYRINGES, PLASTIC WITH ATTACHED NEEDLE		
SIZE	PACKED PER CASE	PRICE PER UNIT *
0.5cc 22G x 1 1/2"	3000	$0.0660
0.5cc 23G x 1"	3000	$0.0395
	1400	$0.0340
0.5cc 25G x 5/8"	1400	$0.0390
	3000	$0.0510
0.5cc 26G x 3/8"	1400	$0.0420
0.1cc 27G x 3/8"	3000	$0.0710***
	1400	$0.0420

* Prices FCA (Free Carrier) for each syringe.
** Different suppliers are used when syringe size and packaging are the same, but have different prices.
***Price not yet available for 2017.

2016-2017 Syringe Prices Amendment I

Member States will be billed according to these prices, unless otherwise stipulated in country agreements. PAHO invoices will include the cost of the syringes, a 4.25% service charge (applicable only to the cost of the syringes), and actual charges for packing, freight and insurance.

PAHO/WHO Representatives are encouraged to issue proforma invoices based on the "FCA" prices. For estimating the cost of packing, insurance and freight, use 25% of the value of the syringes for ocean shipments and use 110% of the value of the syringes for air shipments. This is due, in part, to the origin of the product, the weight and the shipping mode — air or sea. The actual cost of these services may vary, and will be reflected in the PAHO invoice, which is issued approximately 30 days after the order has been delivered. Delivery lead time is approximately 30 days by air and 60 days by ocean after the requisition has been received by the Procurement and Supply Management Department.

Please continue to work closely with the Revolving Fund for Vaccine Procurement in updating quarterly syringes requirements from Member States. The accuracy and availability of this information is critical to the work with suppliers done by PAHO's Department of Procurement and Supply Management, to ensure the timely manufacturing and availability of syringes.

Source: For up-to-date vaccines prices, please visit: www.paho.org/revolvingfund (click on "Vaccine Prices, 2016" - under the 'Revolving Fund Related Documents' column). ■

Starting in 2015, the Immunization Newsletter will be published four times a year, in English, Spanish, and French by the Comprehensive Family Immunization Unit of the Pan American Health Organization (PAHO), Regional Office for the Americas of the World Health Organization (WHO). The purpose of the Immunization Newsletter is to facilitate the exchange of ideas and information concerning immunization programs in the Region, in order to promote greater knowledge of the problems faced and possible solutions to those problems.

An electronic compilation of the Newsletter, "Thirty years of Immunization Newsletter: the History of the EPI in the Americas," is now available at: www.paho.org/inb.

References to commercial products and the publication of signed articles in this Newsletter do not constitute endorsement by PAHO/WHO, nor do they necessarily represent the policy of the Organization.

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Editor: Hannah Kurtis
Associate Editors: Cuauhtémoc Ruiz Matus and Octavia Silva

Comprehensive Family Immunization Unit

525 Twenty-third Street, N.W.
Washington, D.C. 20037 U.S.A.
http://www.paho.org/immunization

COLUMN: What I Have Learned…

By Irene Leal Sánchez, Immunization advisor, retired from PAHO/WHO (Guatemala, Ecuador and the Dominican Republic) and former EPI manager in Chile

A Vertical Program: Myth or Reality?

In 39 years of public administration, I have learned many lessons to share and feel gratitude to so many people, including my family. I feel great joy in having played a small role in polio, measles and rubella elimination; for having been able to share cultures and languages and contribute to vaccine delivery in places where poverty is still a problem in our Region, among other moments.

A significant event that occurred in these four decades was the implementation and evolution of the Expanded Program on Immunization (EPI) and the consequent effect of health sector reform in the countries of the Americas. Over time, certain myths were introduced into the collective consciousness, including the myth that the EPI is a "vertical program." Regrettably, I have heard this from public health professionals in prestigious specialized institutions. This myth arose from a real place, but it occurred decades ago in the Region.

In the late 1970s, two structural foundations of the EPI were introduced: the cold chain and the area of EPI management, with its many components and levels. This required forming a network, with a solid management structure, that would plan and monitor the process. The role of the Pan American Health Organization (PAHO) was vital for monitoring and training; national EPI evaluation meetings were also fundamental to incentivize management teams. During these meetings, each team presented their advances and lessons learned in ways that allowed for correcting and amending strategies. This same feedback process was also applied between countries, which favored bilateral cooperation. Therefore, where did the idea that the EPI is a vertical program come from?

Photo courtesy of Irene Leal Sánchez.

At the same time, cases of polio, measles, diphtheria, tetanus and others terrorized the Region, so countries requested a plan, resource mobilization and leadership from PAHO in order to help them control and eliminate these diseases. PAHO advocated on behalf of countries with international agencies and partners and mobilized considerable resources. In countries, these resources were utilized by hiring administrators, epidemiologists, vaccinators, transportation, equipment and, in many cases, purchasing vaccines. In some countries, centralized personnel were hired who traveled to local areas to monitor cases and supervise or accompany vaccination activities. Accountability was achieved directly through the project's administrative structure, so the structure was effectively vertical, despite being inserted into the functional structures of the official health sector. This happened because the Ministries of Health during that time did not have the capacity to undertake an effective response, but the commitment from the governments was to progressively assume the costs of the interventions.

Today, countries of the Region fully finance their own vaccines and vaccination supplies. For almost two decades now, national EPI managers do not manage centralized human resources. They instead depend on a national budget that is integrated into the national system and activities are administrated as part of integrated care management for people at each level. Therefore, reform ideologists should stop using the designation "vertical program," as it is obsolete, and rather join in the discussion to answer the following questions: What is the strategy to continue being successful within these new organizational structures? How do we ensure children's right to protection, in a timely and high quality way, as is established in all of the countries' constitutions? How can such a cost-effective preventative activity be sustained with this management model and the Americas continue to be the global leader in vaccination coverage? ■

The objective of the "What I Have Learned" column is to provide a space for immunization professionals from across the Americas to share their unique experiences and lessons learned. Individuals who are interested in authoring a column are encouraged to contact Hannah Kurtis at kurtisha@paho.org.