Haiti’s National Expanded Programme on Immunization’s (EPI) historic transition towards vaccine sustainability

John Fitzsimmons, Edmond Gue, Eduardo Rivero and Jennifer Sanwogou, Pan American Health Organization

Monday 27 August 2018 marked a special moment in the history of Haiti’s EPI. For the first time after three decades, the Haitian government has allocated national funds for the purchase of routine vaccines and syringes through the Pan American Health Organization’s Revolving Fund.

This key step was taken by national authorities, led by the Minister of Health, Dr. Marie Gretá Roy Clement, and demonstrates the high value that the Haitian government places on preventing childhood morbidity and mortality through vaccination.

The decision to self-finance routine vaccines in the country will make it possible for some 250,000 children born each year to have access to vaccines prequalified by the World Health Organization or by internationally recognized regulatory authorities. For 2018, the Haitian government paid PAHO’s Revolving Fund nearly 90 million Haitian gourdes (89,994,872 HTI) for the purchase of traditional and new vaccines.

This national effort is remarkable, considering the economic conditions in a country where 65% of the population lives below the poverty line. The road to promote the commitment of self-financing was not easy and required careful technical processes and continuous negotiation with participation from multiple partners, mainly that of the Gavi Alliance, World Bank and PAHO/WHO.

Haiti has taken an important step in decreasing future risks of vaccine shortages due to a lack of financial resources, in progressing towards vaccine sustainability and saving thousands of lives. This historic political commitment deserves praise and applause.
Joint national and international Expanded Programme on Immunization (EPI) and Vaccine Preventable Disease Surveillance review in Bangladesh
Sigrun Roesel, WHO South-East Asia Regional Office and Rajendra Bohara, WHO Country Office Bangladesh

The EPI in Bangladesh has achieved considerable success in preventing and controlling VPDs, with significant reductions in cases of diphtheria, measles, pertussis and tetanus. Bangladesh achieved maternal neonatal tetanus elimination in 2008, the last wild poliovirus case was detected in 2006 and it was certified polio-free together with countries in the South East Asia Region in 2014.

Over the last few years the EPI has also managed to control the morbidity and mortality associated with measles by maintaining a high coverage of the first dose of measles containing vaccine among infants and conducting several large scale supplementary immunization campaigns in the period of 2005-2014. To achieve the national goal of measles elimination, the EPI introduced the 2nd dose of measles containing vaccine in 2012 and in combination with MR in 2015. Bangladesh has developed a measles, rubella and congenital rubella syndrome (CRS) elimination strategy plan to achieve the goal by 2020.

Several programme evaluations have taken place in the recent past including an evaluation for effective vaccine management in 2015, a post-introduction evaluation for pneumococcal vaccine and inactivated poliovirus vaccine in 2015, a Gavi Joint Appraisal in 2016, and a congenital rubella syndrome surveillance review in 2017. In addition, the country has recently conducted an internal analysis and planning process, summarized in its comprehensive multi-year plan 2018-2022.

Hence, this review focused primarily on exploring how equity of immunization coverage can be further promoted, especially for the urban poor, and identifying factors affecting immunization data quality. It also assessed whether the country is on track to reach or maintain the elimination of targeted diseases in terms of vaccination policy and surveillance at national and district levels, how vaccine procurement, financing and central oversight bodies are functioning, and the decision-making and planning process for further introduction of new vaccines.

Joint national and international Expanded Programme on Immunization (EPI) and Vaccine Preventable Disease Surveillance review in the Democratic People’s Republic of Korea
Sigrun Roesel, WHO South-East Asia Regional Office and Pushpa Ranjan Wijesinghe, WHO Country Office, Democratic People’s Republic of Korea

The EPI in the Democratic People’s Republic of Korea has achieved considerable success in preventing and controlling vaccine preventable diseases (VPD). The country has seen significant reductions in the cases of diphtheria, pertussis and tetanus when compared to the period prior to EPI implementation, achieved maternal neonatal tetanus elimination (MNTE) prior to 2000, was certified polio-free in 2014 and – most recently – verified for eliminating indigenous measles. Recent years have seen the successful introduction of several new vaccines and the EPI is achieving a homogeneously high immunization coverage across the country as validated by the 2017 coverage evaluation survey.

Literacy rates in the Democratic People’s Republic of Korea are high and thus communities are well informed on the benefits of vaccination. The wide-spread, adequate health workforce is the biggest asset of the Ministry of Public Health (MoPH) to sustain near universal immunization coverage. A network of around 50,000 household doctors is engaged in providing primary health care, including immunization services in the country.

In this context, a joint national / international EPI and VPD surveillance review was conducted from 1-8 July 2018 to assess progress in meeting key national, regional and global VPD control goals, and to provide recommendations on sustaining high and equitable immunization coverage, improving immunization practices and standards, and the quality of immunization data, monitoring and reporting systems. National colleagues from the MoPH participated in the review, as well as external reviewers from partner agencies, namely WHO, UNICEF, and Gavi, the Vaccine Alliance. The 2018 Gavi Joint Assessment formed an integral part of the review to assess the performance of Gavi supported EPI/VPD implementation, in order to identify new activities for support and technical assistance in 2019.
Tanzania and Vietnam forge South-South learning exchange to advance electronic immunization systems

Celina Kareiva, The BID Initiative, PATH

In June, PATH’s Vietnam office and delegates from the country’s Ministry of Health had the opportunity to learn from the BID Initiative in Tanzania. The learning exchange is part of a new South-South partnership forged between two countries implementing electronic immunization registries (EIR). The BID Initiative, led by PATH in partnership with the governments of Tanzania and Zambia, developed, tested and scaled data quality and use interventions including an electronic immunization registry.

To date, BID and the government of Tanzania have rolled out to four regions, with ten more planned for 2018. In Vietnam, PATH’s pilot EIR, called ImmReg, was first developed and tested in 2012, before expanding into the National Immunization Information System, which was launched in 2017. The June visit was a chance to deepen this partnership and trade lessons about the challenges and successes of securing government buy-in and building health system capacity for EIRs.

Despite their different health contexts and challenges, Vietnam and Tanzania have much to learn from each other as they both work to scale up their respective EIRs. In July, Vietnam began to transition to a fully paperless system. Tanzania has also started the transition to a paperless system. This is the beginning of an exciting partnership that will have far-reaching benefits for the global immunization and digital health communities.

Read more about the partnership on the BID blog.

Replacement of TT with Td vaccine for dual protection

Stephanie Shendale, WHO Headquarters

Since 1998, the World Health Organization has recommended that all countries replace tetanus toxoid (TT) with the combination tetanus-diphtheria (Td) vaccine, in order to sustain protection against diphtheria following waning immunity after the primary series. This has been reiterated many times (2002, 2016) and again in the recent update to the WHO tetanus vaccine position paper of 2017 which highlights slow-uptake of the recommended replacement.

In light of the number of large diphtheria outbreaks in recent years, there is a renewed sense of urgency to encourage countries to make this replacement in order to ensure sustained population immunity against both tetanus and diphtheria diseases.

To facilitate this, UNICEF will stop supplying TT vaccine as of 1 January 2020. UNICEF Supply Division’s market analysis as well as a 2017 market study by WHO confirms that there is ample Td supply available to meet global demand, and the difference in price between TT and Td is minimal. Programmatically, this will not involve any major changes for countries, as the route of administration, packaging size, targets and schedule are the same as for TT.

133 countries have already replaced TT with Td in their routine immunization programmes. From prior country experience, the process of replacement has been easily executed.

For further information, including additional details on the need for and feasibility of this vaccine replacement, and an overview of the financial implications, albeit minimal, for all countries, including those supported by UNICEF, please see the following documents at the links below:

- WHO/UNICEF Joint Communique – Replacement of TT with Td vaccine for dual protection
- Supporting Guidance Note – Ensuring Sustained Protection Against Diphtheria: Replacing TT with Td
- Frequently Asked Questions and Answers on the Replacement of TT with Td.

More information can be found at this link and on this website.
Take on Typhoid with TyVAC

Momentum is growing for typhoid prevention following the 2018 WHO recommendation that typhoid-endemic countries introduce prequalified typhoid conjugate vaccines (TCVs) into routine childhood immunization programmes. Gavi, the Vaccine Alliance followed with an announcement to financially support introduction in eligible countries.

The Typhoid Vaccine Acceleration Consortium (TyVAC) is a partnership between the Center for Vaccine Development and Global Health (CVD) at the University of Maryland School of Medicine, the Oxford Vaccine Group at the University of Oxford, and PATH, an international nonprofit organization.

TyVAC employs a multidisciplinary approach, working with global and local partners to accelerate introduction of TCVs in low-income countries and facilitate access to typhoid vaccines as part of an integrated prevention plan that also includes improved water, sanitation, and hygiene (WASH). We work to ensure that typhoid prevention and control are global health priorities, and that stakeholders and decision-makers have the data and tools they need to make evidence-based decisions for TCV introduction.

TyVAC is available to help preparations for TCV introduction. TyVAC can:

- Help with Gavi applications.
- Provide resources and logistical support for regional and national level forums on typhoid and TCVs.
- Assist with collating and reviewing typhoid burden data.
- Develop advocacy and communications materials to support decision-making.
- Interpret and analyze health economic evidence.
- Provide technical guidance for TCV introduction.

TyVAC partners with the Coalition against Typhoid to lead the Take on Typhoid initiative. We focus attention on typhoid and the need for TCVs alongside improved WASH interventions to reduce the burden and impact of typhoid. Take on Typhoid provides a variety of resources to help decision-makers and advocates stay informed. Please visit this website for specific country tools for local advocacy and decision-making, data and factsheets, and messaging and talking points.
Past Meetings/Workshops

Evaluating Grenada’s Immunization Information System (IIS) with Data Quality Self-Assessment (DQS) plus

Marcela Contreras, Karen Lewis-Bell, Robin Mowson, Darlene Omeir-Taylor and Martha Velandia, PAHO, Victor Ebob, Anita Samuels and Colleen Scott, CDC; Hayden Hopkin and Carol Telesford-Charles, Ministry of Health of Grenada

Location: St George’s, Grenada
Date: 22 May – 1 June 2018
Participants: Nineteen participants representing Cayman Islands, Grenada, St. Kitts and Nevis, the U.S. Centers for Disease Control and Prevention (CDC), WPRO and PAHO/WHO.

Purpose:
• Evaluate the EPI IIS, and provide recommendations for improvement
• Promote data analysis and use at different levels
• Evaluate aspects of data quality, including integrity, timeliness of reporting, and accuracy
• Identify challenges and obstacles in transitioning from a paper-based reporting system to an electronic immunization registry (EIR)
• Evaluate user acceptability of the EIR system

Details: The Grenada Ministry of Health (MOH) started the process of electronically recording immunization data in 2015. Using grants from the CDC and PAHO, the national EIR was introduced to help improve immunization data quality and use.

In 2017, the Grenada EPI, with technical assistance from PAHO/WHO and the CDC, began planning for an assessment with the intention of introducing improvements to have more accurate, reliable and timely data and strengthen the information system. The methodology combined data quality assessment (DQA) from WHO, DQS-plus used previously by PAHO, IIS assessment procedures used by CDC, and a newly developed user acceptability component.

National and international participants completed a two-day training before splitting into smaller teams to conduct fieldwork. After data collection, field teams analyzed and presented their preliminary results to the larger group for discussion and refinement. The overall conclusions and recommendations were presented to the MOH and included in an official report.

Grenada is pioneering the implementation of EIR in the Caribbean sub-region and represents an excellent example for the Americas and beyond. Grenada presents a favorable environment to put into practice innovations that allow the EPI to face future challenges. The report from this evaluation will be an important tool that will support Grenada in achieving immunization goals.
Regional meeting to share lessons learned to improve immunization rates in urban and peri-urban populations

Marcela Contreras, Robin Mowson, and Martha Velandia, Pan American Health Organization (PAHO)

Location: Buenos Aires, Argentina
Date: 6-8 June 2018
Participants: 64 participants representing eleven countries (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Haiti, Honduras, Mexico, Paraguay and Peru), CDC, GAVI and PAHO/WHO.

Purpose:
• Share lessons learned to improve immunization rates in urban and peri-urban populations and develop strategies to improve access and use of vaccines
• Review, share and document the experiences and strategies related to vaccination in urban and peri-urban populations of the Region of the Americas
• Identify effective vaccination strategies targeted at disadvantaged slum populations in the Region of the Americas.

Details:
Since 2009, the world population has become more urban than rural. Accelerated urbanization is overcoming the ability of the public sector to build infrastructure and systems for the provision of health services. These trends are particularly important for vaccine-preventable diseases, due to their high transmission potential in urban areas of high population concentration. The traditional model of immunization in rural areas must, therefore, adapt to this demographic reality.

In this framework, PAHO conducted a regional workshop to analyze and discuss vaccination strategies in urban and peri-urban areas and agree on national and regional interventions to address the problems identified. The perspectives gained at the meeting were particularly relevant because invitees included all levels, with national EPI managers, subnational implementers and local vaccinators.

It was concluded that there is a need for greater understanding and characterization of target populations with low coverage in large urban areas. The countries expressed a desire to share experiences and strategies to address these target populations; they want to know what has worked and how they can implement it. The country managers and vaccinators showed a strong commitment to address the inequities in the big cities and were able to share the context of their work. The report from this meeting is being finalized and will soon be published at this link.
Ninth meeting of the South-East Asia Regional Technical Advisory Group (ITAG)

Sunil Bahl, WHO South-East Asia Regional Office

Location: New Delhi, India
Date: 17-20 July 2018

Participants: ITAG members, representatives from NITAGs from the 11 countries of the Region, chair and members of the Strategic Advisory Group of Experts (SAGE) representing the SEA Region, chairperson of the SEA Regional Certification Commission for Polio Eradication (SEA-RCCPE), national EPI programme managers and surveillance focal points, representatives of partner agencies (including UNICEF, US CDC, Gavi, the Vaccine Alliance, PATH and Rotary International). And a WHO Secretariat.

Purpose: To review progress in performance of national immunization programmes in relation to the strategic goals outlined in the South-East Asia Regional Vaccine Action Plan (SEAR-VAP); to review progress in implementation of recommendations of the Eighth SEAR-ITAG meeting held in June 2017; and to identify priority actions for 2018 to 2019 to achieve the milestones/goals outlined in the SEAR-VAP.

Details: The ITAG was pleased with the overall progress to achieve the goals of the SEA RVAP and commend the Ministries of Health of all 11 countries of the Region for their commitment to implement targeted strategies. The ITAG recognized the critical role of national Technical Advisory Group (NITAGs) in monitoring progress and guiding actions, to overcome various challenges that exist at national and sub-national levels and congratulated the partners for providing strategic support.

Providing access to quality health services means providing access to strong routine immunization programmes. The RVAP in its primary goal urges countries to establish and maintain high-level commitment to immunization; to ensure individuals and communities understand the value of vaccines and demand them as both a right and responsibility; and to guarantee access to predictable funding, quality supply and innovative technologies.

Equally important is protecting people during public health crises; requiring high base-levels of immunization coverage, as well as a skilled workforce able to provide immunization with rapid effect. The rapid, large-scale immunization campaigns in recent months in Cox’s Bazar, Bangladesh, demonstrate that a strong immunization system backed by a sizeable, well-trained health workforce can protect hundreds of thousands of people when most in need.
Training workshop on pharmacovigilance inspection for regulators

Shuyan Zuo, WHO China, Viola Macolic Sarinic, WHO Geneva

Location: Hangzhou, China
Date: 17-20 July, 2018
Participants: 30 participants from China national medical product Administration (NMPA) and 10 provincial Drug Authorities who are responsible for monitoring adverse drug reactions attended the workshop.

Purpose: To enhance the capacity for pharmacovigilance inspections on preparing for inspection and audit, effective inspection processes to identify risks, and assessing the outcomes and writing report; To update knowledge and help familiarize participants with resources available globally, and; To discuss the current challenges on pharmacovigilance inspections in China, and outline the process for developing a long-term PV inspection workplan.

Details: To improve the capacity for pharmacovigilance (PV) inspection in manufacturers, WHO supported the first PV inspection workshop in China in December 2015. As agreed with China National Medical Products Administration (NMPA), WHO in collaboration with UK MHRAs supported this 2nd pharmacovigilance inspection workshop in China from 17 to 20 July 2018. The course topics included global and Chinese pharmacovigilance activities, MHRA pharmacovigilance inspection programme, management of ADR reports, ADR data mining PSURs, signal detection and management, risk management, maintenance of product information, quality management system and qualified person for pharmacovigilance oversight, inspection report writing, CAPA, Euravigilance functionalities, and future look. The methodology used includes presentations in plenary sessions, and group discussion on case studies.

The participants highly appreciated this training course. Two concepts were clear: risk-based inspection will be adapted by MHRA; EU legislations require pharmacovigilance performance quality as a component for product registration and are useful to enforce pharmacovigilance in the country.
Tenth Pacific immunization programme managers meeting


Location: Nadi, Fiji
Date: 30 July – 3 August 2018
Participants: 53 participants including national immunization programme managers from 19 Pacific Island Countries (PICs) and development partners (WHO, UNICEF, DFAT, JICA) and academia.

Purpose: The objectives of the meeting were to: (1) review progress, identify critical issues and determine key actions to achieve the immunization goals specified by the Regional Framework for Implementation of the Global Vaccine Action Plan as they pertain to PICs; (2) identify opportunities for enhancing coordination and collaboration among countries, partners and immunization-related initiatives to support PICs in achieving the immunization goals; and (3) discuss conclusions and recommendations from the 27th WPRO TAG Meeting held in June 2018.

Details: The meeting included following sessions: 1) Global, Regional and Pacific immunization updates; 2) Sustaining polio-free status; 3) Immunization coverage; 4) Health security and emergencies; 5) Measles and rubella elimination including response to outbreak; 6) Introduction of new vaccines; 7) Vaccine-preventable diseases surveillance; 8) Data management; 9) Effective vaccine management; 10) Technical advisory body in the Pacific; 11) Vaccine safety; and 12) Communication, advocacy and social mobilization.

In each session, presentations were given by Secretariats (WHO/RO, WHO/DPS, UNICEF/EAPRO and UNICEF Pacific) and also country participants. The meeting allowed interactive discussions including clarifications on technical matters and practical programmatic issues in the context of the Pacific. The draft conclusions and recommendations under each session were discussed and agreed among participants at the end of the meeting. As required, partners are requested to provide their support to countries to implement agreed recommendations.
High-level advocacy meeting for measles-rubella free Bangladesh

**Rajendra Bohara**, WHO Country Office, Bangladesh

- **Location:** Dhaka, Bangladesh
- **Date:** 5 August 2018
- **Participants:** High level officers from the Ministry of Health and Family Welfare (MoHFW), Director General of Health Services, Divisional Directors, Civil Surgeons, senior pediatricians from districts, Chief Health Officers from City Corporations, President, Secretary and members of the Bangladesh Pediatrician Pediatric Association, UNICEF and WHO.
- **Purpose:** To express commitment from highest level of the MoHFW and Bangladesh Pediatric Association for achieving elimination of measles, rubella and congenital rubella syndrome (CRS) by 2020.

**Details:**

Bangladesh provides two doses of measles rubella vaccine (MR) at 9 months and 15 months. The 2016 EPI coverage evaluation survey 2016 showed 88% national coverage for the first dose of measles containing vaccine and 83% for the second dose. The country introduced case based measles surveillance in 2008 and CRS surveillance in 2012. Bangladesh conducted a series of measles supplementary vaccination campaigns in the period from 2005 to 2014; the overall coverage was >95%.

Speakers at the meeting including the WHO Representative and the BPA chairperson who highlighted the need for increasing immunization coverage for children in hard to reach areas and urban slums. Both expressed their commitment to support achieving elimination of MR and CRS in Bangladesh by 2020.
Polio outbreak simulation exercise workshop


**Location:** Mexico City, Mexico

**Date:** 3-10 August 2018

**Participants:** 92 participants from the 32 Mexican states, including the epidemiologist, person in charge of the public health laboratory and person in charge of the immunization program from each state.

**Purpose:**

**General objective**
- Maintain healthcare worker capacity when responding to a polio outbreak, to prevent the reintroduction and dispersion of poliovirus in Mexico.

**Specific objectives**
- Evaluate the knowledge of healthcare workers on responding to a polio occurrence or outbreak
- Identify opportunity areas to strengthen the response capacity of operative personnel
- Ensure that the workers in charge of surveillance and the immunization program have the capacities to respond to a poliovirus event or outbreak.

**Details:**

Mexico was declared free of polio in 1994. Since then, the country has maintained an adequate surveillance system and high vaccination coverage. Having the capacity to respond to a polio outbreak is important for global eradication. Simulation exercises are a valuable tool for capacity building.

The national workshop was coordinated by the Joint General Directorate of Epidemiology (DGAE for its name in Spanish), the Institute of Epidemiological Diagnosis and Reference (InDRE for its name in Spanish), and the Center for Infant and Adolescent Health (CeNSIA for its name in Spanish).

The polio situation, the National Response Plan, and laboratory algorithms were presented.

Eight tables were formed. Each table received a questionnaire with a simulation exercise to be responded during the workshop. The exercise included the following:

1. Case notification
2. Case investigation
3. Report preparation
4. Discussion and agreements

Each table had a coordinator and a reporter. The rest of the people participated as established in the National Outbreak Response Plan. Federal level coordinators were responsible of presenting the results and conclusions at the end of the exercise. The workshop was concluded successfully, and participants agreed to replicate the exercise in their States.
Global electronic immunization registries / information systems workshop

Apophia Namageyo-Funa, Anita Samuel, Centers for Disease Control and Prevention – Global Immunization Division

Location: Salt Lake City, Utah, United States of America

Date: 13 August 2018

Participants: 50 participants from UNICEF, CDC – Global Immunization Division (GID), Gavi – the Vaccine Alliance, Bill and Melinda Gates Foundation, World Health Organization (Headquarters and Western Pacific Regional Office), Pan American Health Organization, European Centre for Disease Prevention and Control, Zambia Ministry of Health, Ghana Health Services, AIRA, Chinese Center for Disease Control and Prevention, MesVaccins.net, International Training and Education Center for Health, Public Health Informatics Institute, Taskforce on Global Health, National Institute for Public Health – Netherlands, National Center for Immunization Research and Surveillance – Australia, PATH, and University of Ottawa.

Purpose: To bring together global partners working on immunization information systems (IIS) to discuss best practices and challenges regarding the use of electronic immunization registries (EIRs) to improve immunization coverage and public health interventions for vaccine preventable diseases.

Details: The workshop was chaired and moderated by CDC-GID and AIRA. In the opening session, Rebecca Coyle, the Executive Director of AIRA spoke about the US perspective on IIS and the role of AIRA, and Peter Bloland, the Branch Chief of the Strategic Information and Workforce Development Branch in CDC-GID gave an overview of global efforts on EIRs/IIS. The workshop used the “World Café” concept to engage partners in small group discussions on six topics related to EIRs/IIS – design, development, implementation, evaluation, sustainability, and transition from paper to electronic systems.

Within each topic the small groups discussed gaps in available resources, key areas/components that need to be addressed, cross-cutting areas (e.g., interoperability, governance, and sustainability), potential areas of overlap, potential global or regional collaborations, and EIR innovations. The small groups summarized and reported on the conclusions and recommendations for each topic. Details from the discussions, summary, and recommendations on the six topics will be included in a report that will be shared with partners.
Resources

Establishing and strengthening immunization in the second year of life: Practices for immunization beyond infancy
Stephanie Shendale, WHO Headquarters

With an increasing number of vaccine doses now recommended in the second year of life (2YL), extending immunization beyond infancy is an important opportunity not only for those scheduled doses, but also for catch up of other vaccinations and integration with other health interventions. This document provides practical guidance on establishing and strengthening immunization in the second year of life (2YL) and beyond. It also suggests ways that immunization visits during the 2YL can be used as a platform for delivery of other child-health services.

Available online in English, French and Portuguese.

Preventing perinatal hepatitis B virus transmission: A guide for introducing hepatitis B birth dose vaccination
Stephanie Shendale, WHO Headquarters

Arabic translation now available online!

This document provides guidance for immunization managers and maternal child health partners seeking to introduce hepatitis B birth dose vaccination into their national immunization programmes, placing particular emphasis on the unique programmatic features of birth dose vaccination and the necessary integration with obstetric and post-natal care. This document will also be helpful for countries that have already introduced HepB-BD but would like to improve coverage.

Available online in English, French, Spanish and Arabic.
## Calendar

### September

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<tr>
<td>10-11</td>
<td>3rd Gavi Vaccine Investment Strategy (VIS) meeting</td>
<td>Geneva, Switzerland</td>
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<td>11-14</td>
<td>Yellow Fever Partners Meeting</td>
<td>Dakar, Senegal</td>
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<td>18-20</td>
<td>AFRO Central EPI Managers’ meeting</td>
<td>N’Djamena, Chad</td>
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<td>24-26</td>
<td>AFRO West EPI Managers’ meeting</td>
<td>Ouagadougou, Burkina Faso</td>
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<tr>
<td>24-28</td>
<td>7th Annual meeting of the Regional Verification Commission for Measles and Rubella Elimination in the Western Pacific</td>
<td>Kuala Lumpur, Malaysia</td>
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### October

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<th>Date</th>
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<tr>
<td>3-5</td>
<td>Gavi High Level Review Panel</td>
<td>Geneva, Switzerland</td>
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<td>9-11</td>
<td>Partners’ Meeting on improving the availability, quality and use of the data meeting</td>
<td>Budapest, Hungary</td>
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<td>12</td>
<td>WHO and UNICEF Meeting on the WHO Immunization Information System (WIISE)</td>
<td>Budapest, Hungary</td>
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<tr>
<td>15-19</td>
<td>Fifth Annual MenAfriNet Partners’ meeting</td>
<td>Dakar, Senegal</td>
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<td>23-25</td>
<td>Strategic Advisory Group of Experts (SAGE) on Immunization</td>
<td>Geneva, Switzerland</td>
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### November

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<tr>
<td>26-30</td>
<td>Global Rotavirus and Pediatric Diarrhea and Invasive Bacterial Disease Surveillance Meeting</td>
<td>South Africa</td>
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### December

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<tr>
<td>5-6</td>
<td>Global Advisory Committee on Vaccine Safety</td>
<td>Geneva, Switzerland</td>
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<tr>
<td>6-7</td>
<td>Global NITAG Network meeting</td>
<td>Ottawa, Canada</td>
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<tr>
<td>11-12</td>
<td>SEARO/WPRO Bi-Regional Rotavirus meeting</td>
<td>Manila, Philippines</td>
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Links

Organizations and Initiatives

American Red Cross
Child Survival
Agence de Médecine Préventive
Africhol
EpiVacPlus
LOGIVAC Project
Centers for Disease Control and Prevention
Polio
Global Vaccines and Immunization
Johns Hopkins
International Vaccine Access Center
Value of Immunization Compendium of Evidence (VoICE)
VIEW-hub
JSI
IMMUNIZATIONbasics
Immunization Center
Maternal and Child Health Integrated Program (MCHIP)
Publications and Resources
Universal Immunization through Improving Family Health Services (UI-FHS) Project in Ethiopia
PAHO
ProVac Initiative
PATH
Better Immunization Data (BID) Initiative
Center for Vaccine Innovation and Access
Defeat Diarrheal Disease Initiative
Vaccine Resource Library
Malaria Vaccine Initiative
RHO Cervical Cancer
Sabin Vaccine Institute
Sustainable Immunization Financing
UNICEF
Immunization
Supplies and Logistics
USAID
USAID Immunization
USAID Maternal and Child Survival Program
WHO
Department of Immunization, Vaccines & Biologicals
ICO Information Centre on HPV and Cancer
National programmes and systems
Immunization planning and financing
Immunization monitoring and surveillance
National Immunization Technical Advisory Groups Resource Center
SIGN Alliance
Other
Coalition Against Typhoid
Confederation of Meningitis Organizations
Dengue Vaccine Initiative
European Vaccine Initiative
Gardasil Access Program
Gavi the Vaccine Alliance
Immunization Economics resource
International Association of Public Health Logisticians
International Vaccine Institute
Measles & Rubella Initiative
Multinational Influenza Seasonal Mortality Study
Network for Education and Support in Immunisation (NESI)
TechNet-2
Vaccine Safety Net
Vaccines Today

WHO Regional Websites
Routine Immunization and New Vaccines (AFRO)
Immunization (PAHO)
Vaccine-preventable diseases and immunization (EMRO)
Vaccines and immunization (EURO)
Immunization (SEARO)
Immunization (WPRO)

UNICEF Regional Websites
Immunization (Central and Eastern Europe)
Immunization (Eastern and Southern Africa)
Immunization (South Asia)
Immunization (West and Central Africa)
Child survival (Middle East and Northern Africa)
Health and nutrition (East Asia and Pacific)
Health and nutrition (Americas)

Newsletters
Immunization Monthly update in the African Region (AFRO)
Immunization Newsletter (PAHO)
The Civil Society Dose (GAVI CSO Constituency)
TechNet Digest
RotaFlash (PATH)
Vaccine Delivery Research Digest (Uni of Washington)
Gavi Programme Bulletin (Gavi)
The Pneumonia Newsletter (Johns Hopkins Bloomberg School of Public Health)
Immunization Economics Community of Practice