

Polio Eradication & Endgame

Midterm Review July 2015



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Polio Eradication & Endgame Midterm Review 2015



Acronyms

AFP	Acute Flaccid Paralysis
bOPV	Bivalent Oral Polio Vaccine
cVDPV	Circulating Vaccine-Derived Poliovirus
DRC	Democratic Republic of Congo
DTP3	Diphtheria-tetanus-pertussis
EOCs	Emergency Operations Centers
EOMG	Eradication and Outbreak Management Group
EPI	Expanded Programme on Immunization
ES	Environmental Surveillance
FAC	Finance and Accountability Committee
FCV	Female Community Volunteers
FLWs	Front Line Workers
FMT	Finance Management Team
FRR	Financial Resource Requirements
GAPIII	Global Action Plan III (i.e., 3rd edition)
GCC	Global Commission for the Certification of the Eradication of Poliomyelitis
GIS	Geographic Information System
GPEI	Global Polio Eradication Initiative
GVAP	Global Vaccine Action Plan
IHR	International Health Regulations
IMB	Independent Monitoring Board
IMG	Immunization Management Group
IPD	Immunization and Preventable Disease
IPV	Inactivated Polio Vaccine
LGAs	Local Government Areas
LMG	Legacy Management Group
LQAS	Lot Quality Assurance Sampling
mOPV	Monovalent Oral Polio Vaccines (includes type 1, type 2 and type 3)
MTR	Midterm Review
NOBCs	National Oversight Bodies for Containment
NPAFP	Non-polio Acute Flaccid Paralysis
NPSP	National Polio Surveillance Project
OPV	Oral Polio Vaccine
PEESP	Polio Eradication & Endgame Strategic Plan 2013–2018
PHEIC	Public Health Emergency of International Concern
POB	Polio Oversight Board
PPG	Polio Partners Group
RCC	Regional Commission for the Certification of the Eradication of Poliomyelitis
RI	Routine Immunization
SAGE	Strategic Advisory Group of Experts on Immunization
SC	Strategy Committee (GPEI)
SEARO	South East Asia Region Office
SIAs	Supplementary Immunization Activities
SIADs	Short-interval Additional Doses

SMNet	Social Mobilization Network
SOP-VM	Simple Standard Operating Procedure for Vaccine Management
SOPs	Standard Operating Procedure
STOP	Stop Transmission of Polio programme (CDC)
TAGs	Technical Advisory Groups
tOPV	Trivalent Oral Poliovirus Vaccine
UNICEF	United Nations International Children's Emergency Fund
VAPP	Vaccine-associated Paralytic Polio
VDPV	Vaccine-Derived Polio Virus
WCAR	West and Central Africa Region
WHA	World Health Assembly
WHO	World Health Organization
WPV	Wild poliovirus

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Saidu Mohhamed, a polio survivor in Kano State, paints a tricycle specially designed for people with disabilities.

UNICEF/NYHQ2015-0690/Rich

Executive Summary

The Global Polio Eradication Initiative (GPEI) leadership agreed at the time of the 2013–2018 Polio Eradication and Endgame Strategic Plan (PEESP) development that the programme would regularly assess progress, reflect on the lessons learned, plan for the risks ahead, and make needed adjustments to the activities and costs of the plan going forward. This midterm review (MTR) was conducted by a team from the GPEI partners under the guidance of the Strategy Committee (SC) from March–May 2015.

Achievements Since Start of PEESP

- **Only one serotype of Wild poliovirus (WPV) remains:** In September 2015, the Global Certification Committee (GCC) is expected to formally affirm that wild poliovirus type 2 (WPV2) circulation stopped globally more than 15 years ago and report its decision to the World Health Assembly (WHA) in May 2016. No WPV3 case has been reported since November 2012 anywhere in the world. Interruption of WPV3 would represent another historic milestone for the GPEI and would leave only WPV1 still circulating.
- **Polio-free certification of SEARO:** In March 2014, after three years of no cases in India, the World Health Organization (WHO) South East Asia Region (SEARO) was certified polio-free. Four of the six WHO regions are now certified and 80% of the world's population lives in polio-free regions.
- **End of all WPV outbreaks (Horn of Africa, Central Africa and Middle East):** As a result of collaborative partnership efforts, all recent outbreaks stopped in mid-August 2014.
- **Heightened global urgency and commitment to complete polio eradication:** WHO's Director-General declared the international spread of polio a Public Health Emergency of International Concern (PHEIC) and issued Temporary Recommendations under the International Health Regulations (IHR) to curtail the risk of international spread.
- **Historic progress in Africa:** No WPV cases have been reported in Africa since 11 August 2014
- **Successful use of IPV in campaigns:** The combined use of oral polio vaccine (OPV) and Inactivated Polio Vaccine (IPV) in areas with security challenges and in outbreak settings boosted immunity in critical geographies, such as Afghanistan, Kenya, Cameroon, Nigeria and Pakistan.
- **Documentation of "Legacy in Action":** The polio Emergency Operations Centre (EOC) in Nigeria rapidly responded to the Ebola virus outbreak in Lagos and played a major role in preventing Ebola from spreading. More recently, GPEI infrastructure was leveraged for the Nepal earthquake response.

Challenges

While the programme had many successes, both external and internal factors still stand in the way of reaching eradication goals.

External Factors:

- In 2013, growing conflict and insecurity played a major role in precipitating outbreaks in the Horn of Africa and the Middle East. Increased instability in parts of Pakistan also played a role in limiting access to children, allowing continued transmission. While insecurity was not the sole contributor to these outbreaks, the disruption of immunization activities led to areas of low population immunity and ongoing insecurity hampered outbreak response.
- The West Africa Ebola virus outbreak in 2014 diverted some of GPEI's focus away from implementing the PEESP. As a consequence of the outbreak, supplementary immunization activities (SIAs) had to be suspended or postponed in Guinea, Liberia, Sierra Leone, Senegal and Mali. Substantial numbers of WHO and United Nations International Children's Emergency Fund (UNICEF) polio staff in the region and from headquarters were deployed to assist in the outbreak response.



GPEI GAVI 2015/ GMB Akash

Internal Factors:

- Although national and even subnational AFP surveillance indicators are adequate in most countries, persistent pockets of suboptimal surveillance create a risk that polio cases will not be rapidly detected.
- The strategy of frequent SIAs has had an insufficient impact on stopping transmission in Pakistan and Afghanistan and resulted in worker fatigue, variable quality and insufficient time allocated to surveillance and planning. These factors, along with suboptimal management and accountability, likely contributed to the same groups of children being chronically missed.
- Multiple risks remain in preparation for the global introduction of IPV and the upcoming switch from trivalent OPV (tOPV) to bivalent OPV (bOPV), including tight IPV supply, persistent circulating vaccine-derived poliovirus (cVDPV) transmission in Nigeria and Pakistan and challenges to meet containment requirements.
- Despite the success of the 2013 Vaccine Summit, failure to operationalise pledges threatens to financially constrain the programme.

MTR Recommendations

The 2013–2018 PEESP was developed in 2012 with input from each GPEI partner agency, the Independent Monitoring Board (IMB), the Strategic Advisory Group of Experts on Immunization (SAGE), the donor community and other stakeholders through the Polio Partners Group (PPG), countries, and independent selected advisers. The review concluded that the PEESP still captures the key strategic elements required to reach polio eradication. While there are no significant gaps that require major changes, there is an urgent need to refocus priorities, strengthen implementation, and initiate new tactics. After careful consideration of the progress to date, lessons and risks, the SC identified 11 strategic adjustments that will address current challenges to ensure a polio-free world.

The recommendations are categorized into three strategic areas (more detailed descriptions of the recommendations are included under section C of each objective):

Activities for interruption

1. Recommendation: Increase surveillance capacity and quality

Example actions include rapid finalization of the global surveillance plan, increased investment to implement recommendations from previous surveillance reviews ensuring sufficient qualified staff in high-risk areas, and full implementation of the environmental surveillance (ES) expansion plan.

2. Recommendation: Improve SIA quality with a focus on missed children and intensified social mobilization

SIA strategies should be reoriented to focus on chronically missed children and other vulnerable subpopulations with targeted use of the most effective SIA strategies. The programme also needs to develop consensus criteria with countries for rational frequency, vaccine selection and scope of SIAs.

3. Recommendation: Increase global and national capacity for outbreak preparation and aggressive response to cVDPV and WPV

Future actions for endemic and high-risk countries include development of national rapid response plans, strengthening of accountability, identification and training of national rapid response teams and regular review of the SIA schedule along with intensified monitoring of SIA quality. For post-outbreak countries, follow-up is needed on implementation of risk-reduction recommendations.

7. Recommendation: Rapidly accelerate support for GAPIII implementation

National government regulatory agencies and vaccine manufacturers must significantly accelerate their activities to meet the timelines in the revised Global Action Plan (GAPIII). Within the next six months, the GPEI, principally WHO, should assist by organising regional GAPIII implementation/certification workshops, developing specifications for containment certifications and training rosters of experts to carry out facility visits for verification of GAPIII compliance.

Activities for OPV withdrawal

5. Recommendation: Prioritise strategic IPV use

The Immunization Management Group (IMG) and the Emergency Operations Management Group (EOMG) are working together to mitigate the impact of IPV shortage. Given this reality, the programme should review and update existing guidelines, provide clear decision-making criteria on when and how much IPV to use in campaigns, determine how many doses will be set aside to address new cVDPVs and ensure compliance with these decisions.

6. Recommendation: Focus on tOPV to bOPV contingency planning

The IMG has initiated contingency planning for a worst case scenario of delaying the switch in the case of unsuccessful cVDPV2 eradication. In the next six months, the programme should accelerate and increase the breadth of its contingency planning in order to address any residual cVDPV2 risk and determine next steps for vulnerable countries that may not have introduced IPV due to supply constraints.

Enabling activities

4. Recommendation: Strengthen collaboration and joint accountability between polio and broader RI community

GPEI has so far set its own expectations for how it contributes to routine immunization (RI), often measured through the amount of polio worker time spent on non-polio activities. Greater clarity is needed from the Global Vaccine Action Plan (GVAP) partners regarding GPEI's specific role in enhancing RI prior to eradication and the GVAP's role in leveraging polio assets post-eradication.

8. Recommendation: Strengthen management capacity and accountability

The programme should strengthen performance management systems in endemic, outbreak and high-risk geographies. The programme should ensure sub-national ownership of the polio eradication activities especially for managing front line workers (FLWs). Likewise, it should ensure strong training, supervision, and prompt payment is provided to FLWs.



GPEI GAVI 2015/ GMB Akash

9. Recommendation: Increase advocacy at sub-national levels and improve communication with external and internal stakeholders

The programme should develop and operationalise national and local advocacy plans that strengthen national commitment to polio eradication and allocation of domestic resources in endemic, outbreak and high-risk geographies.

10. Recommendation: Increase data standardization, monitoring capacity and analysis

It needs to ensure robust global, national and sub-national level data analysis, wide spread sharing of results, and increased capacity at various levels to support real-time, data-informed decision making.

11. Recommendation: Update resource mobilization and allocation strategy

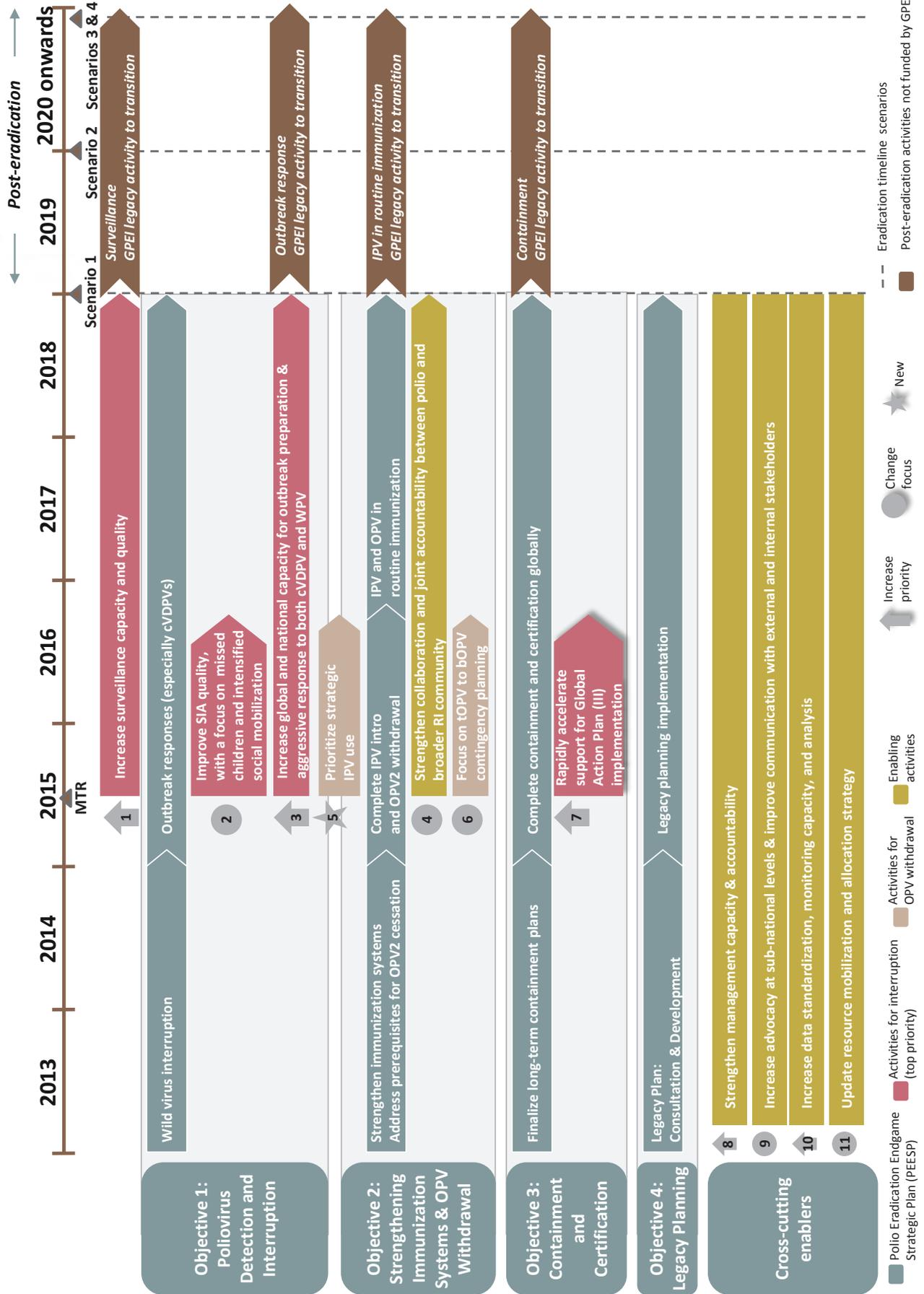
It should fully implement Polio Oversight Board (POB) commitment to transparency in use of resources and increased communication with donors to build trust in the programme and encourage donors to provide more flexibility and predictability in funding to respond to evolving needs.

While not specifically highlighted as one of the strategic recommendations, the programme will continue to look for innovative tools and methods to achieve programme goals such as reaching missed children, implementing more cost-effective surveillance, and developing cVDPV and vaccine-associated paralytic polio (VAPP) mitigation strategies. As these innovations roll out, their impact will be assessed to determine which should be scaled-up and in what order.

To facilitate strategic and financial planning, the review also identified multiple possible endgame scenarios outlined in the finance section of the report. The programme will assess the progress of WPV interruption in the remaining endemic countries and other programme goals between now and the September 2015 POB meetings and select the most likely scenario at the time. Key stakeholders (e.g., IMB, PPG) will continue to be engaged throughout the process.

The SC recognises the need to develop an execution plan to ensure these recommendations are implemented and monitored. The SC will review these recommendations, provide guidance and discuss tactical options with the Management Groups who will need to develop and implement the execution of these plans.

The graphic on the next page captures the areas of increased prioritisation, areas of shifting focus and new areas not included in the original PEESP. It also outlines activities that need to be transitioned to others.





Midterm Review

Introduction

When the PEESP was launched in 2013, it laid out four objectives, a concrete timeline and a monitoring framework to govern its progress. The development of the plan was informed by close reflections on the epidemiology of polio, lessons learned from prior eradication efforts, analysis of risks, identification of mitigation measures and a description of the functions required to support its implementation.

The following four objectives form the basis of the PEESP and this review:

- Objective 1. Poliovirus detection and interruption
- Objective 2. Immunization systems strengthening and OPV withdrawal
- Objective 3. Containment and certification
- Objective 4. Legacy planning

Rationale and Purpose of Midterm Review

The goals of the GPEI are historic, and the investment made to date is significant. This review is an opportunity to determine if the strategic analysis and framework that underpin the PEESP remain valid and make adjustments to maximise the programme's impact for the remainder of the eradication effort. While the review serves as a self-reflection and assists with future planning efforts, it also responds to stakeholders' growing demands for transparency, accountability, improved demonstration of results and evidence of lessons learned through real-time course corrections in programme delivery.

The objectives of the midterm review are to:

1. Provide a comprehensive review of progress and challenges across the strategic objectives as well as other important enabling efforts (Finance and Advocacy) since the plan launch in 2013;
2. Recommend appropriate changes to the goals, strategies, activities, timeline and financial implications based on the review of progress; and
3. Align stakeholders and donors around a shared set of lessons learned, risks and priorities that will affect the remainder of the eradication effort.

Methodology of Midterm Review

The MTR is guided by several key principles including transparency and collaboration, commitment to strategic rather than tactical review and examination of both the current moment-in-time performance and the 2013–2015 performance trend.

The MTR was conducted by a project team composed of representatives from each of the core GPEI partners. This team undertook comprehensive document review and consulted and interviewed multiple key stakeholders, both within the GPEI as well as representatives from the PPG, IMB, and SAGE. The report reflects the consolidated input of this broad base of stakeholders.

Each objective of the PEESP has its own section in the MTR. Each of these sections begins with a summary of main objectives, outcome indicators and major activities from the PEESP. This is followed by an assessment of progress, which was evaluated against the revised monitoring framework indicators approved by the PPG in June 2014. The assessment has two components: (1) "Achievement," which encompasses the overall magnitude and timeliness of progress relative to the target and (2) "Trend," which captures the trajectory of progress relative to the target over the duration of the review period (2013–2015), with a focus on the last six months. More details on the assessment methodology and definitions can be found in Appendix III. Methodology and Details behind Progress Assessment.



Poliovirus Detection and Interruption

Poliovirus Detection and Interruption		
Main Objectives	Outcome Indicators	Major Activities
1. Interrupt WPV transmission globally 2. Rapidly detect and interrupt any new cVDPV outbreaks	All WPV transmission stopped by end-2014 All new cVDPV outbreaks stopped within 120 days	1. Strengthening global surveillance 2. Maintaining an appropriate supplementary OPV immunization schedule 3. Enhancing OPV campaign quality to interrupt endemic transmission 4. Enhancing the safety of OPV campaign operations in insecure areas 5. Preventing and responding to polio outbreaks
Monitored by IMB		

The PEESP proposed five major activities to detect and interrupt transmission of all polioviruses. The specific mix of activities and implementation priorities have evolved over time and differ by country polio status – endemic transmission, outbreak activity, and absence of transmission but high-risk.

A. Assessment of Progress

Summary assessment¹

	Outcome	Geography	Achievement	Trend		Outcome	Geography	Achievement	Trend	
Endemic Countries	Interrupt transmission	Afghanistan	●	→	Outbreak countries	Initial response	Central Africa	●	n/a	
		Pakistan	●	→			Horn of Africa	●	n/a	
		Nigeria	●	↗			Middle East	●	n/a	
	High population immunity	Afghanistan	●	→		Follow-on response	Central Africa	●	n/a	
		Pakistan	●	→			Horn of Africa	●	n/a	
		Nigeria	●	↗			Middle East	●	n/a	
	High virus detection	Afghanistan	Afghanistan	●		→	Interrupt transmission	Central Africa	●	n/a
			Pakistan	●		→		Horn of Africa	●	n/a
			Nigeria	●		↗		Middle East	●	n/a
		Pakistan	Afghanistan	●		→	High population immunity	Central Africa	●	→
			Pakistan	●		→		Horn of Africa	●	→
			Nigeria	●		↗		Middle East	●	→
Nigeria	Central Africa	●	→	High virus detection	Central Africa	●	→			
	Horn of Africa	●	↘		Horn of Africa	●	↘			
	Middle East	●	↘		Middle East	●	↘			

¹ See Appendix III Methodology and Details Behind Progress Assessment for explanation of scoring and further comments

Summary status of endemic countries

Nigeria: The last WPV1 case was reported in July 2014 and Nigeria has not had a cVDPV case for over six months. cVDPV has been isolated through ES as late as March 2015, so circulation remains a risk. Progress is encouraging, but fragile due to concerns over pockets of low immunity and challenges associated with population movements and insecurity in the Northeast. Despite meeting surveillance performance indicators sub nationally, the identification of orphan viruses in 2014 and 2015 and areas of inaccessibility indicate the need to strengthen surveillance in parts of the country.

Pakistan: Pakistan experienced a major outbreak of WPV1 in 2014 with an increase in the number of cases and geographic distribution of transmission. Transmission continued in Q1 of 2015, with a lower incidence of polio cases than last year and environmental samples continue to demonstrate WPV in several areas. cVDPV2 transmission continues, but the number of cases has declined and now appears limited to a concentrated region around Karachi. Although subnational surveillance indicators meet expected standards, several recent in-depth surveillance reviews in key provinces have demonstrated significant gaps. The number of inaccessible children declined markedly by late 2014, and the follow-up Low Season Plan has the potential to increase immunity by focusing on missed children.

Afghanistan: Endemic transmission still occurs in parts of Afghanistan that have never been able to halt WPV1. Secondary to the outbreak in Pakistan, WPV1 cases increased in 2014, with the majority of cases due to either primary or secondary cross-border transmission. Ultimately, stopping poliovirus spread in Afghanistan will be linked to progress in Pakistan, but breaking indigenous transmission is largely dependent on improving the quality of immunization activities in the southern region. Subnational surveillance performance indicators remain above acceptable standards, but the identification of orphan viruses in 2014 and current areas of intermittent accessibility raise concerns that pockets of suboptimal surveillance persist.

Interrupting transmission of WPV

In 2013, there were 416 WPV1 cases in eight countries². This figure dropped to 359 in nine countries³ in 2014. The last WPV1 case in Africa (Somalia) occurred in August 2014. Outbreaks of WPV (see Table 1) which started in 2013 are under control, but many of the areas still remain susceptible to reintroduction. To date in 2015, WPV1 cases have only been reported in Afghanistan and Pakistan. ES samples outside Afghanistan and Pakistan have also been negative for WPV.

Stopping cVDPV outbreaks within 120 days

Six cVDPV outbreaks which started in 2013 or 2014 were stopped within 120 days. However, persistent cVDPV2 (circulation for more than six months) continues for one strain in Pakistan (last ES positive sample, April 2015) and for two strains in Nigeria (last case, Nov 14; last ES positive sample, March 2015).

The last cVDPV1 and cVDPV3 cases were found in Madagascar in 2014 and Yemen in 2013, respectively. cVDPV2 cases declined from 65 in 2013 to 54 in 2014. Thus far in 2015, there have been no cVDPV cases reported, though both Pakistan and Nigeria have had a positive environmental sample this year (see Appendix IV Programme Epidemiology Background for detail).

B. Lessons Learned and Risks

Major Activities

1. Strengthening Global Surveillance
2. Maintaining an appropriate supplementary OPV immunization schedule
3. Enhancing OPV Campaign Quality to Interrupt Endemic Transmission
4. Enhancing the Safety of OPV Campaign Operations in Insecure Areas
5. Preventing and Responding to Polio Outbreaks

Major Activity 1. Strengthening global surveillance

The annual number of acute flaccid paralysis (AFP) cases in the two endemic regions climbed steadily from 2012 to 2014 (a 24% rise for Africa and 13% for the Eastern Mediterranean region). ES has also markedly expanded. AFP surveillance indicators are consistently met in most countries at the national level. However, periodic occurrence of orphan viruses,

² 2013: 3 endemic (Nigeria, Pakistan, Afghanistan), 5 newly infected (Somalia, Cameroon, Syria, Ethiopia, Kenya).

³ 2014: 3 endemic, 4 continued transmission (Somalia, Cameroon, Syria, Ethiopia), 2 new (Equatorial Guinea, Iraq).



UNICEF/PFPG2014P-0461/Zaidi

sporadic low subnational non-polio AFP rates and persistent sub-national gaps in stool adequacy indicate pockets of suboptimal surveillance, particularly in inaccessible areas. Surveillance sensitivity decreased in the West African countries with Ebola virus disease outbreaks. As the number of WPV cases declines, greater attention will need to be placed on reviewing all subnational surveillance indicators, expanding ES and examining compatible cases to ensure no WPV transmission persists.

Closing remaining gaps in endemic and high-risk countries: Progress in improving the sensitivity of surveillance in the focus areas (northern Nigeria, Federally Administered Tribal Areas (FATA) and Khyber Pakhtunkhwa (KP) in Pakistan, and southern Afghanistan) has been gradual. State-level surveillance indicators in these areas now meet global standards. However, stool adequacy continues to lag in many sub-state levels of all of these areas and discovery of orphan viruses in 2014 (in all the endemic countries) and 2015 (Pakistan and Nigeria) indicate that surveillance is still suboptimal.

Post-outbreak assessments in the Horn of Africa and Central Africa found that although overall surveillance performance improved in these areas over the last year, sub-national gaps continue to occur. Improvements in these areas have been primarily dependent on infusions of external consultants or short term staff (e.g. Stop Transmission of Polio (STOP) programme staff) as part of a “surge capacity” initially intended to be a short-term option to meet an acute deficit. Sustaining this human capacity will be challenging and longer term solutions will be required, especially development of trained national staff.

In addition to increasing the quantity and management of surveillance staff, escalated surveillance efforts in many countries have included increasing the number of regular reporting sites, intensifying active case searches, increasing sampling of AFP contacts, using the opportunities of SIAs to supplement other routine surveillance activities and widening the group of local informants as part of establishing and scaling up community-based surveillance.

Process indicators exist to track all aspects of surveillance, from active case detection to final laboratory processing. However, in most countries, this data does not appear to be routinely collected and/or analysed to guide supervision and surveillance operations. Delays in transporting stool specimens and laboratory processing time have been shown to be a key cause of low stool adequacy rates. Nigeria has taken the lead in introducing geographic information systems (GIS) tracking of AFP cases and systematic data analysis. These activities have assisted in targeting surveillance resources to areas with gaps and providing accountability for local efforts. In-depth analysis of surveillance data (follow-up on orphan viruses, tracking collection of adequate specimens, timely and accurate shipment and evaluation of efforts targeting marginalised populations, etc.) is needed to improve the sensitivity of the network. As WPV cases decline, further attention is required to track and analyse the number, cause and location of compatible cases.

Joint WHO-UNICEF detailed case investigations for all confirmed polio cases, inadequate and hot-cases, and zero-dose cases is another initiative, which was been developed in 2013–2014 but has not yet been fully implemented throughout all areas by the programme. These investigations provide extensive information about high-risk areas and communities and can help identify mitigation measures to address existing gaps in surveillance, SIA implementation and even RI.

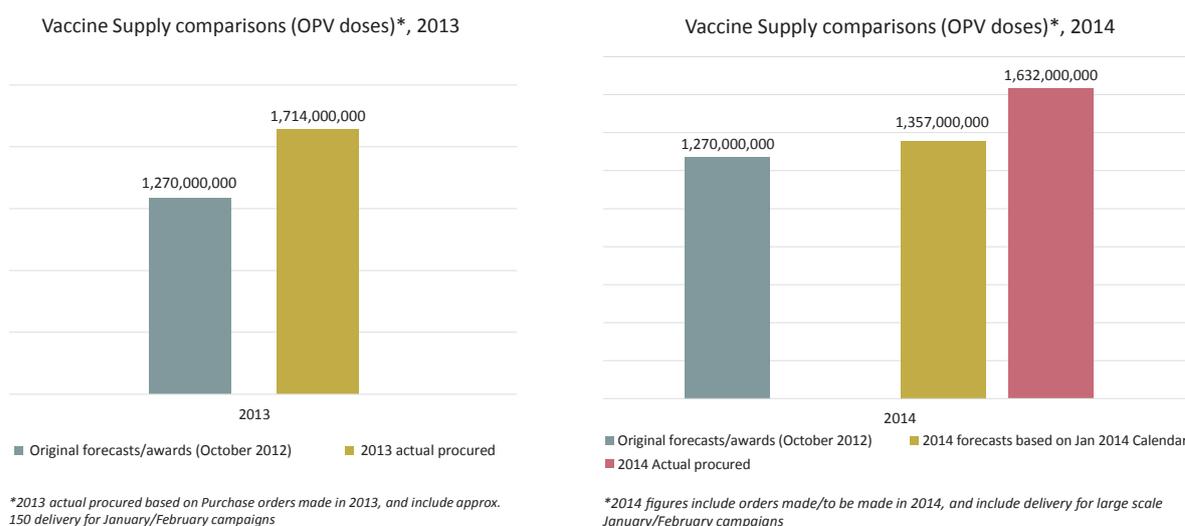
Environmental surveillance: Although ES was operational in several countries prior to 2013, sites were expanded in all the endemic countries (and many former poliovirus reservoirs) in 2014 and are now operational in all WHO regions. Nigeria now has 35 sites, including sites in Borno and Yobe; Afghanistan has 11 sites, including Helmand and Kandahar; and Pakistan has 32 sites, including two of the three poliovirus sanctuaries (no sites are operational in FATA so far). Barring occasional interludes, these sites have been able to function despite intermittent security issues through utilization of local staff.

The future role of ES as a real-time assessment tool in terms of interpretation of both positive and negative samples remains to be fully determined. Investigation of a WPV1 environmental sample in Brazil in March 2014 demonstrated this was an isolated event. However, discovery of 158 positive environmental samples (but no confirmed human cases) in Israel, Gaza and the West Bank starting in February 2013 was linked to the outbreak in Syria and generated extensive analysis of the implications of this finding among a highly IPV-vaccinated population⁴. Further analysis will also be helpful to determine how to interpret negative environmental samples based on the local context of virus transmission and population immunity. Establishing standardised monitoring, quality control and reporting methods can also be important to guide the use of ES data. The Polio Environmental Surveillance Expansion Plan for 2014–2018 envisions increasing the number of sites in both endemic and high risk countries to supplement AFP surveillance and provide enhanced detection of WPV, cVDPVs and any type 2 poliovirus after removal of the type 2 oral poliovirus vaccine. ES sites will be carefully selected for rapid detection of any type 2 poliovirus in case of a breach in facility containment.

Major Activity 2. Maintaining an appropriate supplementary OPV immunization schedule

Quality, extent and scope of global SIA schedule: The areas targeted for SIAs in 2013–2014 have generally been as predicted in the PEESP, except for the unanticipated outbreak in the Middle East. Most countries involved in the Central Africa and Horn of Africa outbreaks were originally scheduled to have SIAs, however, the geographic scope of the vaccinated area and the number of SIAs required to control the outbreak were higher than anticipated. This increased outbreak requirement, as well as an increase in the number and scope of SIAs in endemic countries, led to OPV procurement 35% and 29% above the forecast in 2013 and 2014 respectively. Although supply was secured to meet the unplanned activities, such dramatic changes in forecasts have created significant pressure on industry and reduced overall programme flexibility.

Figure 1. Comparison of original forecasts and actual procurement for OPV (2013 and 2014)



Source: UNICEF

⁴ For example, see Shulman LM, et al. Genetic Analysis and Characterization of Wild Poliovirus Type 1 During Sustained Transmission in a Population With >95% Vaccine Coverage, Israel 2013. Clin Infect Dis. (2015) 60 (7): 1057-1064. doi: 10.1093/cid/ciu1136.

The extensive number and scope of SIAs, along with improved quality of implementation, controlled the outbreaks and likely stopped endemic WPV transmission in Nigeria. However, in Pakistan and Afghanistan, the impact of the intense SIA schedule without concomitant evidence of quality improvements has not been as dramatic. Some areas have seen a decline in cases, but transmission remained high in Peshawar/KP and Quetta through Q4 2014. While some communities were visited up to 22 times in 2014, risk modelling from data in Pakistan suggests that if the same children are missed in each round, the impact of SIAs may reach saturation after as few as six rounds. In addition, interviews with communities and FLWs suggest that multiple rounds can lead to “vaccination fatigue” and hinder the quality of implementation by limiting the time for planning and analysis (See also Major Activity three in this section).

Many non-endemic countries have also continued multiple OPV SIAs due to their continued risk for poliovirus importation and risk for spread if the virus is imported. Given the lengthy process required to strengthen routine immunization in these countries (See Objectives 2 and 4), maintaining adequate population immunity is often dependent on continuing implementation of quality SIAs.

The number and scope of SIAs are major cost drivers of GPEI programme budgets. Vaccine and SIA implementation costs (split almost equally between endemic and non-endemic countries) represented over 50% of overall GPEI expenditures in 2013 and 2014, underscoring the necessity for regular rigorous review of the SIA plans as part of comprehensive programme management.

Since 2013, the GPEI has adopted a more standardized, quantitative model for SIA planning to provide a regularly updated SIA calendar (for both endemic and non-endemic countries) based on a consolidated risk assessment generated through multiple models that incorporate available epidemiologic analysis and a thorough consultative process with WHO and UNICEF regional offices and across the partnership. While endemic country programmes continue to make their own SIA decisions in consultation with their respective Technical Advisory Groups (TAGs), the GPEI uses the risk model to set a SIA calendar to mitigate risks in non-endemic countries.

While introducing a more standardised, quantitative model, this approach has led to an expansive SIA calendar due to the seemingly marginal impact of SIAs on the vulnerability indicators and incremental change in the risk determinations. Sharper tools are required for risk analysis and better assumptions for risk modelling to deploy resources to support efforts in better planning, improve and measure SIA quality and achieve impact with a focus on the truly high-risk areas (including sub-national targets). This increased focus will allow the programme to better concentrate resources for quality assurance.

Vaccine selection: The type of OPV used in SIAs can have a dramatic impact on the profile of virus transmission. In Nigeria, the strategic decision to prioritise WPV transmission led to the exclusive use of bOPV for 18 months, based on the higher efficacy against WPV1 compared with tOPV. This strategy, along with substantial improvements in SIA quality, successfully halted the spread of WPV1 but resulted in an increase of persistent cVDPV2 cases from four in 2013 to 30 in 2014. Following four large-scale tOPV campaigns and IPV use in high-transmission areas, no cVDPV2 cases have been reported after November 2014.

Of the 15 cVDPV2 outbreaks outside of Pakistan and Nigeria from 2010 to 2015, 73% were stopped by two or fewer campaigns and 87% were stopped by four or fewer campaigns. This experience indicates that cVDPV2 outbreaks may be easier to control than WPV. Vaccine selection is critical in Pakistan, where both WPV and cVDPV continue to circulate simultaneously. Given the urgent need to stop persistent cVDPV2 transmission to proceed with the withdrawal of type 2 containing vaccine in April 2016, the step-by-step strategy used in Nigeria (using bOPV first, followed by tOPV and IPV later) may not be feasible for Pakistan.

Although the PEESP highlighted the use of IPV in SIAs only as a research priority, the strong evidence that IPV can play a significant role in accelerating eradication has facilitated the vaccine’s use in targeted areas of the endemic countries.

Based on initial efficacy and efficiency studies, the GPEI developed guidelines⁵ for the targeted use of IPV in intermittently accessible areas of persistent transmission where the population has already been primed with OPV. To date, 8.7 million doses of IPV have been delivered for use in SIAs in northern Nigeria (Borno, Yobe and parts of Kano), southern and eastern Afghanistan, high-risk areas of Pakistan (Baluchistan, FATA and Karachi) and refugee camp settings in Kenya and Cameroon. While an additional 1.15 million doses of IPV are reserved for SIAs in endemic countries for the remainder of 2015, the specific role of IPV campaigns in stopping transmission in these settings requires further study and ongoing refinement.

⁵ See GPEI presentation to the IMB, “Implementation of Inactivated Polio Vaccine (IPV) Campaigns,” 30 September 2014, London.

Vaccine management: While the GPEI has been regularly able to manage global supply, the programme must strengthen in-country vaccine management. To this end, the GPEI has developed guidance on vaccine management during polio SIAs and circulated a standard operating procedure (SOP) for stock balances and vaccine utilization (SOP-VM). The West and Central Africa Region (WCAR) of UNICEF has applied this SOP-VM successfully in nine countries, including Nigeria; however, there are substantial challenges in expanding further to other areas. The other two remaining endemic countries have not yet started regular reporting. Despite technical challenges (e.g. lack of electronic, real-time inventory systems) these country programmes will need to report regularly on SOP-VM. Use of this data will be instrumental in addressing vaccine management and cold chain gaps, adjusting OPV supply forecasting, thus leading to improved cost efficiencies and better country and global planning.

Major Activity 3. Enhancing OPV campaign quality to interrupt endemic transmission

SIAs have been able to achieve sufficient population immunity to stop endemic transmission, except in Pakistan and Afghanistan, and to eventually halt recent poliovirus outbreaks. Yet, performance quality is inconsistent and many children are chronically missed.

The PEESP outlined several methods for improving SIA quality. The task is to motivate and manage competent workers to reach and vaccinate missed children through implementation of accountability frameworks, better planning, training, delivery and monitoring of vaccination services using a combination of 'tried and true' measures as well as a culture of innovation in response to local situations. No single intervention will be sufficient. Although experiences from other countries can provide valuable lessons, specific operational tactics must be locally adapted.

Management and accountability: Nigeria demonstrated that establishing and enforcing accountability at all levels can dramatically improve the performance of FLWs. Nigeria implemented the accountability approach through EOCs at the national and selected state levels to provide focused oversight, coordination and supportive supervision to local workers through the joint efforts of the government and GPEI partners. The EOCs regularly analyse data to identify persistently poor performing Local Government Areas (LGAs) and direct resources to improve the local capacity. Key lessons from the EOC experience in Nigeria are 1) need for a clear command and control structure; 2) importance of targeting efforts to high risk areas; 3) maintaining a constant analysis of ongoing operations and willingness to adapt to changing programme needs; and 4) benefit of having a separate national monitoring presence at the state and local levels.

EOCs have recently been established in Pakistan at the national and provincial level but are still in the process of developing the capacity to collect and analyse the data necessary to monitor worker performance. The potential role for EOC-like processes in Afghanistan and other countries is still to be determined, but the functional roles of management and accountability remain priorities to improve SIA quality.

The issue of management and accountability must also address the programme's responsibility to vaccinators and other front line polio workers. Nigeria has taken the lead to address vaccinator quality by improving supervision provided through the EOCs and using electronic methods to distribute payments. However, assessments in Pakistan have concluded that there are serious gaps in training, supervision and timely compensation for vaccinators.

Microplanning: Assessments of SIA quality repeatedly point to gaps in microplanning as a key potential cause of missed children. Part of the quality improvement in Nigeria can be attributed to establishing basic house-based microplans (the standard for SIAs in India and elsewhere for many years). The basic lesson for all countries is that continued reviews and revisions of microplans at the local level are key to maximising efficiency and should be required before initiating additional SIAs in poorly performing areas.

Monitoring: Both endemic and outbreak-affected countries have been attempting to expand the use of post campaign measures such as lot quality assurance sampling (LQAS), market surveys, and independent monitoring to assess SIA quality. However, these activities have been curtailed in many areas of insecurity, especially in Pakistan. Even in secure areas, there has been a lack of standardised monitoring protocols and procedures for analysing results. In addition to standardising and improving the quality of current monitoring methods, further creative measures should be developed, especially for monitoring transit vaccination and other strategies focused on mobile and marginalised populations.



Global Polio Eradication Initiative 2010

Vaccination status among both WPV and non-polio acute flaccid paralysis (NPAFP) cases is widely used to track local population immunity and assess the impact of SIAs. However, this indicator is subject to recall bias. Additional sources of data can permit a triangulation of analysis. Seroprevalence surveys in Kano in 2013 and 2014 have confirmed overall increases in the quality of immunization but also demonstrated an immunity gap for type 2 despite both AFP data and LQAS monitoring showing marked improvements in overall quality. The findings of the seroprevalence survey are being used to further target LQAS and mapping of 0 dose children. Further serosurveys are planned in Nigeria and Pakistan to assess the impact of recent IPV+OPV use for targeted communities.

Special operational tactics for hard-to-reach or missed children: Limited accessibility to children in conflict-affected areas has presented an intermittent but major barrier to conducting SIAs since 2013. Special approaches have been developed in Nigeria, Pakistan, Afghanistan, and Somalia to reach children in these areas and simultaneously minimise the risk to vaccinators (See Activity 4). Further efforts are needed to not only map missed children in the key remaining poliovirus reservoirs but also to identify and implement operational tactics to reach them. These efforts include mapping and outreach specifically to nomadic groups, establishing permanent transit vaccination posts, and ensuring immunization in camps for internally displaced persons. The EOMG has also outlined possible “polio plus” activities (e.g. conducting health camps, integrating polio vaccine into other vaccination campaigns and integrating the provision of other services with polio vaccination campaigns) and an algorithm for prioritising these activities to specific country situations⁶. The key lesson is the importance of being selective and targeting implementation to the highest priority areas with follow-up to assess impact.

Social mobilization and community engagement: In communities where community mobilization networks are in place, data show there is greater social commitment for polio eradication, higher demand for vaccine and fewer missed children. Trust in the polio programme is strengthened when communities are engaged with tailored, culturally appropriate communication approaches and provided socially accepted vaccination services that meet demands. Since the implementation of the PEESP, the proportion of parents refusing OPV in the endemic countries has reduced by more than 70% from 2013 to 2015. The latest survey data from February 2015 show that refusal rates in high-risk areas of Pakistan and Nigeria are <0.2% and <0.5%, respectively. Higher levels of distrust and destructive rumours in key pockets of Afghanistan’s southern region are reflected in refusal rates of 2% among all targeted children under the age of five.

⁶ EOMG. Polio Plus: A strategy for polio eradication, 2014.

GPEI community engagement has been adapting to new political and social contexts. Polio communication products are aiming to promote broader health at a time when many communities in endemic countries may be tiring of polio specific messages and multiple requests to vaccinate their children. Polio FLWs need increased investment in their skills, pertaining not only to what they say, but how they say it. The management systems they operate under needs additional guidance on how to ensure the backbone of the eradication workforce remains motivated and informed.

In response to these needs, the role of communications has expanded to analyse and respond to barriers to vaccination and further refine why children are missed or refuse OPV. In-depth surveys now analyse the specific reasons for inability to access children in insecure or conflict-affected areas and why children in households are not vaccinated once frontline workers get to the doorstep (i.e. child absence versus refusal due to poor vaccinator performance).

The full integration of demand-driven strategies into the operational approach of vaccine delivery is a cross-cutting issue that remains a critical gap. This includes the integration of updated social data into risk assessments and micro-plans, the alignment of SIA plans with communication plans to address campaign fatigue or to adequately explain strategies such as “short-interval additional doses” (SIADs), the alignment between vaccinator selection and community trust and the linkages between overarching communication messages and the training of frontline workers to ensure the interaction at the doorstep embodies the programme’s overarching “brand” and objectives.

Major Activity 4. Enhancing the safety of OPV campaign operations in insecure areas

Insecurity and accessibility: In acknowledging the challenges created by rising levels of violence affecting polio operations, the PEESP called for an overarching framework on insecurity with tailored approaches to local situations.

At the organizational level, UNICEF and WHO have developed a joint security approach⁷ and established a Security Working Group. Security advisers in a number of key geographical areas, including all endemic countries as well as headquarters and regional offices, now regularly review and analyse local security situations. These efforts have been effective in integrating and communicating security issues more broadly into programme planning and delivery. In June 2014, the POB expanded the GPEI’s security approach to endorse the engagement of military and local law enforcement to provide protection to health workers.⁸ While emphasising the need to maintain the neutrality of the programme, GPEI has also worked with credible third-party emphasizing that as interlocutors have negotiated access, helped implement remote programmes in “inaccessible” areas or secured commitments of “non-interference” from non-state armed groups engaged in conflict in Pakistan, Afghanistan, Somalia and in the Central Africa Region.

Both the Afghanistan and Pakistan Technical Advisory Groups have advocated a more “low key” strategy based on developing local community contacts who can continue vaccination discretely, even in times of insecurity. The model of the “permanent polio teams” in Kandahar and “permanent health teams” in Borno and Yobe are now being adapted in Karachi through the use of local female community volunteers. These approaches rely on members of the community and generate improved safety for vaccinators due to their local family ties. The specific impact on local immunity has been difficult to gauge; however, the community based approach may have contributed to maintaining the percent of NPAFP cases with >4 doses at 75% in Borno in 2014 despite increasing inaccessibility throughout the year.

While sporadic targeting of vaccinators has continued in select areas, as of April 2015, the scale and geographic scope of inaccessibility continues to decline in all polio affected areas, except in Borno and Yobe in Nigeria. Overall, inaccessibility is no longer a primary cause for missed children. While renewed fighting could adversely affect programme operations, security may be used as an excuse for sub-optimal quality. While risk reduction measures are critically needed in areas where proper data analysis indicate ongoing security concerns, measures to strengthen SIA quality must continue.

Infrastructure collapse: Large-scale fighting in Syria, Iraq, Somalia, Borno in Nigeria, and parts of South Sudan have destroyed infrastructure and incapacitated health systems. The withdrawal of state structures and personnel in the most violent parts of these countries has necessitated programme innovations, including reliance on non-state groups, civil societies, NGOs, and in some cases the private sector to deliver services. These conflict affected areas have also had to implement opportunistic approaches to reach children. Based on the experiences in the Middle East, the GPEI has

⁷ GPEI. The Joint Security Approach, February 2014.

⁸ POB Decision paper. Operating in Insecure Geographies, June 2014.

developed specific guidelines for providing OPV as part of a humanitarian response in a conflict situation. However, as the current situation in Ukraine has demonstrated, overcoming political obstacles remains problematic and emergency situations present a continual risk for eradication.

Major Activity 5. Preventing and responding to polio outbreaks

Preventing outbreaks: Preventing outbreaks in non-endemic countries requires two simultaneous activities: 1) sustaining sufficient population immunity to ensure that transmission cannot be re-established and, 2) as far as possible, limiting the spread of poliovirus from endemic areas. Each of the index countries where the major regional outbreaks started in 2013 experienced a build-up of susceptibles due to poor routine immunization and lapses in SIAs caused by either government decisions (Cameroon) or fighting and the collapse of health systems (Somalia and Syria). Aside from the long-term effort to sustain high EPI coverage, the key lesson on preventing outbreaks is the need to ensure the quality of all pre-emptive SIAs. GPEI is currently developing additional guidance to countries to strengthen SIA planning, monitoring and implementation.

To address the need to contain any ongoing poliovirus transmission, on 5 May 2015, the WHO Director-General declared the international spread of WPV a PHEIC according to the IHR. Under the PHEIC, the IHR recommends that any country exporting WPV within 12 months is expected to ensure that all residents travelling internationally receive a dose of OPV or IPV between four weeks and 12 months prior to international travel. Additional countries with ongoing transmission but without evidence of exportation are “encouraged” to vaccinate travellers. These declarations have led to more aggressive vaccination practices in a number of countries, especially for travellers going by air or at recognised border crossing points.

Responding to outbreaks: The PEESP laid out an ambitious target to stop any new outbreak of WPV or cVDPV within 120 days of the index case. The Middle East outbreak was stopped in less than three months from the date of the first notification of a WPV case. The Horn of Africa outbreak lasted more than 16 months and the Central Africa outbreak more than nine months. (See Table 1). Outbreaks were stopped at the national level within the 120-day time frame for Kenya, Equatorial Guinea, Iraq and Syria. Somalia was the only country where cases continued for more than 12 months, thus meeting the criteria for having re-established transmission.

The GPEI has developed guidelines for a standardised approach to assessing outbreak responses, including a list of key indicators that should be monitored.⁹ Assessments conducted every three months as long as the outbreak continued in all of the key affected countries in 2013–2014 led to detailed action plans. However, in some countries persistent high-level advocacy has been required to obtain adequate government support and sustaining the efforts beyond the initial intensity of the outbreak response has often been problematic.

Table 1. Outbreaks of WPV1 in 2013 and 2014

Region/Country	No. of cases	No. of days from index to last case	No. of SIAs between index and last case	Comment
Horn of Africa				
Somalia	199	490	30	Importation from Nigeria
Ethiopia	10	182	8	Imported from Somalia
Kenya	14	77	5	Imported from Somalia
Central Africa				
Cameroon	9	280	8	Imported from Nigeria
Equatorial Guinea	5	91	2	Imported from Cameroon
Middle East				
Syria	36	85**	3	Genetically linked to Pakistan*
Iraq	2	56	6	Imported from Syria

* Also genetic links with environmental samples in Egypt, Israel, West Bank and Gaza.

**Based on initial case notification; an earlier case identified retrospectively.

⁹ GPEI. Ensuring the quality of polio outbreak response activities: A rationale and guide for 3 month, quarterly and six month independent assessments. 2014.



UNICEF/PFPG2014P-0456/Zaidi

Key lessons learned from the recent outbreak responses include:

- National governments must deal with the outbreak as a national emergency and be fully engaged in all phases of the outbreak response;
- A well-coordinated, multi-disciplinary GPEI rapid response team should be deployed immediately to support national response efforts incorporating multiple local stakeholders;
- Need to define appropriate outbreak zones that include countries and areas of high risk;
- Need for new SOPs for outbreak response formalising high-level government commitment and an aggressive vaccination approach with intensified surveillance;
- Importance of an outbreak coordinator and a central command structure is crucial;
- Regular follow-up is necessary to ensure that recommendations from the outbreak assessment missions are adopted and implemented;
- Regular analysis of the data and monitoring of performance from the start is required.

The GPEI has already initiated wide ranging efforts to operationalise these lessons. New SOPs for outbreak response were finalized in February 2015, and the first training for staff and consultants was completed in April 2015.¹⁰

¹⁰ GPEI. Responding to a poliovirus outbreak: SOPs for a new polio outbreak in a polio-free country. February 2015.

C. Strategic Outlook: Recommendations

Recommendations

1. Increase surveillance capacity and quality
2. Improve SIA quality with a focus on missed children and intensified social mobilization
3. Increase global and national capacity for outbreak preparation and aggressive response to cVDPV and WPV

While the specific timelines and outcomes projected in the PEESP have not been fully met, there has been substantial progress towards the primary objective of detecting and interrupting transmission of all polioviruses globally. The key risks to ultimately attaining this objective and recommendations to mitigate those risks include the following:

Recommendation 1

Risk: Multiple sub-national surveillance gaps present risk for missed poliovirus cases that threaten achieving all the objectives of the PEESP: outbreak detection, eradication, certification and legacy.

Recommendation: Increase surveillance capacity and quality

Examples of required immediate actions include rapid finalization of the global surveillance plan to shift to five countries surveyed per quarter, increase investment to implement recommendations from previous surveillance reviews, ensuring sufficient qualified staff with clear expectations of performance in high-risk areas, and full implementation of the ES expansion plan. To ensure sustainability of the GPEI accomplishments, a long-term post-eradication surveillance blueprint is needed as part of Legacy planning.

Recommendation 2

Risk: Sub-optimal quality in many areas and lack of appropriate targeting, particularly in Afghanistan and Pakistan, reduce the effectiveness of SIAs in stopping poliovirus transmission. Frequent SIAs (which may continually miss the same children) and lack of accountability and sufficient community engagement have led to worker fatigue, variable quality and inefficient use of resources.

Recommendation: Improve SIA quality with a focus on missed children and intensified social mobilization

Improving SIA quality in all geographies, particularly in Pakistan and Afghanistan, to stop transmission no later than the low season in 2016 is the programme's top priority. SIA strategies should be reoriented to focus on chronically missed children and other vulnerable sub-populations with targeted use of the most effective SIA strategies. For Pakistan, the current strategies, such as tracking coverage of 0-dose kids, reaching children between campaigns, and pairing administration of tOPV with vitamin A supplements, need to be continued. For Afghanistan, EOC-like coordination with aggressive strategies to combine OPV with health services in the southern region will help reach otherwise inaccessible children. For both countries, social mobilization should be adapted to community situations, use real-time evidence and be integrated into operational plans. The programme also needs to develop consensus criteria with countries for a rational frequency, vaccine selection and scope of SIAs, according to strategic priorities.

Recommendation 3

Risk: Incomplete follow-up to risk-reduction recommendations and lack of prompt and aggressive response have led to extended outbreaks of WPV and cVDPV. Multiple countries remain at high risk for outbreaks.

Recommendation: Increase global and national capacity for outbreak preparation and aggressive response to cVDPV and WPV

Aggressive new SOPs for outbreak response have been developed, rosters completed for global response teams and trainings for the response teams have started. Future actions for endemic and high-risk countries include development of national rapid response plans fully integrating risk communication approaches, institution of strong administrative support, strengthening of accountability, identification and training national rapid response teams and regular reviews of the SIA schedule along with intensified monitoring of SIA quality. For post-outbreak countries, follow-up is needed on implementation of risk-reduction recommendations.



Immunization Systems Strengthening and OPV Withdrawal

Immunization systems strengthening and OPV withdrawal		
Main Objectives	Outcome Indicators	Major Activities
1. Strengthen immunization services in focus countries 2. Introduce IPV and withdraw OPV globally	At least 10% annual increase in diphtheria-tetanus-pertussis (DTP3) coverage achieved in 80% of high-risk districts of all focus countries from 2014 to 2018 OPV2 withdrawn globally by end-2016	1. Increasing immunization coverage 2. Ensuring appropriate IPV, bOPV and mOPV products 3. Introducing IPV 4. Withdrawing OPV from routine and supplemental immunization activities
Monitored by SAGE		

Note: IPV introduction and OPV2 withdrawal constitute the majority of the resources allocated to Objective 2.

A. Assessment of Progress

Summary assessment¹¹

Routine immunization	Reduction in unimmunized children ¹		EPI plan quality ²	
	Achievement		Achievement	
Afghanistan	●		●	
Angola	●		●	
Chad	●		●	
DRC	●		●	
Ethiopia	●		●	
India	●		●	
Nigeria	●		●	
Pakistan	●		●	
Somalia	●		●	
South Sudan	●		●	
IPV introduction	Commitment to introduction		Introduction	
	Achievement	Trend	Achievement	Trend
Tier 1 countries	●	→	●	→
Tier 2 countries	●	↗	●	n/a
Tier 3 countries	●	↗	●	↓
Tier 4 countries	●	↗	●	↓

● Met or exceeded the target, ● Within 20% of achieving the target, ● Missed the target by >20%, ● No Data

1. Decrease in the number of under-vaccinated children with DTP3 compared to prior year (based on WHO/UNICEF data for 2013 compared with that in 2012).

2. Annual national EPI plans to include the five recommended components for the current year.

¹¹ See Appendix III Methodology and Details Behind Progress Assessment for explanation of scoring and further comments

Strengthen immunization services in “focus countries”

The development of an annual Expanded Programme on Immunization (EPI) plan to improve broader immunization goals has gone well, but coverage improvement is context-dependent and difficult to measure in a timely manner. The development of country-owned annual EPI plans has advanced in nine of the 10 focus countries and provincial plans exist for Pakistan. Two out of 10 focus countries have met the target for reduction in unimmunized children.¹² However, long lag times for processing this indicator, which is only updated annually, make the achievement and trend assessment unreliable. The data used for scoring progress from 2012 to 2013 does not reflect the impact of the polio programme during the PEESP period.

In addition to the monitoring indicators above, the programme set a target in the PEESP for polio workers to spend 50% of their time on strengthening immunization and other non-polio related activities. A recent survey across ten countries shows that the programme has achieved this result, with polio workers spending ~46% of their time on RI related activities¹³ and ~7% of their time on other activities (sanitation, natural disasters and other diseases).

Introduce IPV and withdraw OPV2 globally

As of May 19, 2015, all countries have set an IPV introduction date before the planned switch from tOPV to bOPV in April 2016 (referred to as “the switch” hereinafter) and 20 out of 126 countries have introduced IPV. Getting commitments from all countries in such a short time period is a major achievement, and the programme is working to translate these commitments into timely introductions, which are ongoing and will continue beyond the period of the MTR.

The progress reporting on actual introductions will be a particularly critical indicator for the programme in 2015 in the lead-up to the switch. The targets set by quarter escalate in an exponential fashion, implying it will be possible for the programme to make significant absolute progress but still be under target. For example, between the final quarter of 2014 and the first quarter of 2015, seven additional countries introduced IPV, whereas the target was to add 23 countries. The expectation of a cumulative 126 countries introducing by Q4 2015 poses a much larger challenge.

B. Lessons Learned and Risks

Major Activities

1. Increasing immunization coverage
2. Ensuring appropriate IPV, bOPV and mOPV products
3. Introducing IPV
4. Withdrawing OPV from routine and supplemental immunization activities

Major Activity 1: Increasing immunization coverage

Since the creation of the PEESP, the programme has increased efforts to strengthen RI in 10 priority countries. The original indicator, annual increases in DTP3 coverage in high-risk districts, was modified in 2014 to focus on reduction in unimmunized children. When confronted with the poor quality of administrative data on the revised indicator, the IMG proposed in July 2014 to track a number of additional process indicators (e.g. % of districts with microplans, % of sessions held and % of districts with supply chain interruptions) where country data collection systems provide such data. Since then, the programme has struggled with getting timely data. The complexity of measuring RI and the diversity of the monitoring systems in the 10 focus countries limits the programme’s ability to course correct in real time.

Implementation has varied across the 10 priority countries. Where the programme has successfully executed the RI activities laid out in the PEESP (i.e., management, microplanning, mobilization and monitoring), in-country EPI-GPEI programmes have been well integrated and aligned on priorities. In contrast, competing governance structures and separate hierarchies between EPI and GPEI programmes, as is the case of Pakistan and Afghanistan, has led to sub-optimal implementation of RI strengthening activities laid out in the PEESP.

Some examples of best practices that have led to strong RI coverage include:

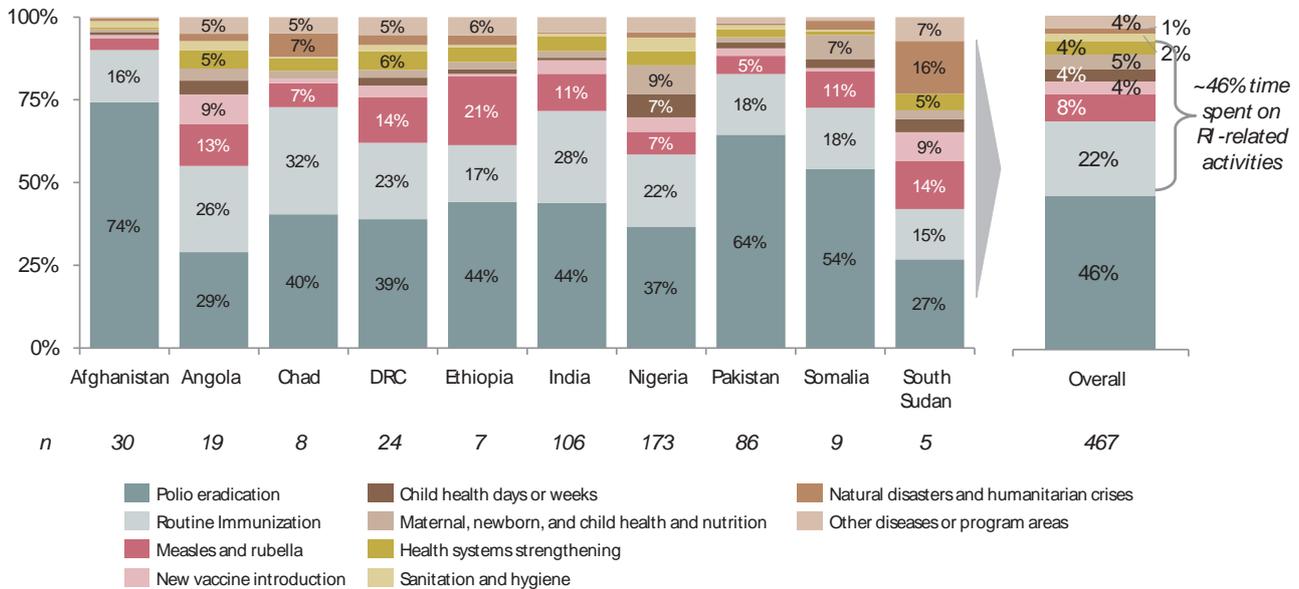
- Clear government commitment to RI strengthening and closing the funding gap (e.g., India);
- Accountability frameworks that clearly outline the role of partners and governments (e.g., India and Nigeria);

¹² Source: WHO/UNICEF best estimates.

¹³ Includes RI, measles, rubella, new vaccine introductions, child health days/weeks, maternal newborn and child health, health systems strengthening.

- Monitoring of government involvement, missed immunization areas, reasons for low RI coverage and quality of social mobilization data allowed for the continual revision of micro-plans. This led to the inclusion of settlements at high-risk for polio in RI micro-plans and mobilization of partially vaccinated children to complete immunization series (e.g., India);
- GIS-mapping led to the successful identification of communities that are regularly missed. These communities were prioritised in subsequent microplans and GIS-tracking of health workers was used to monitor the implementation of those microplans to ensure that even the most remote communities received EPI services (Nigeria).

Figure 2. Estimated Time Allocation of Polio Personnel by Country¹⁴



Data from a survey of time allocation of polio personnel in 10 countries (Figure 2) suggests that the programme has met its overall target of polio worker time spent on strengthening immunization systems and services (50%). However, these allocations vary greatly from country to country (26% to 73%), with workers in Afghanistan and Pakistan spending the least amount of time on activities outside of polio. In India, Chad and Nigeria, administrative data show that where polio staff are most active (measured in terms of the amount of time spent on non-polio activities), there have been increases in RI coverage. In these countries, polio staff contributions have covered a wide range of areas from supporting state and district immunization task forces, to monitoring RI systems such as cold chain, to tracking and mobilizing children and communities that have not been fully vaccinated. Three factors contributed to the effective deployment of polio workers for RI:

- 1) High-functioning and collaborative arrangements between GPEI and RI programme structures;
- 2) Special funding to support increased effectiveness of polio-funded personnel for RI activities;
- 3) Staff accountability frameworks for polio personnel include clear RI strengthening activities.

Key challenges continue to measuring RI performance and estimating the specific impact of the polio programme on coverage or RI strengthening. All GPEI partners agree that a strong RI system, where it already exists, is a great asset to the polio endgame. Partners also agree that polio-funded personnel have potential to contribute to RI strengthening, but the effective use of resources hinges on improving the joint governance of the polio and RI programmes and enabling the RI community to interact with polio workers to optimise their input. A continuum can exist between polio’s contribution to RI during the endgame period and the broader health agenda after the endgame is achieved via the transfer of polio assets. However, differing expectations persist on the responsibility of GPEI – both financially and programmatically – to build a strong RI system where it does not yet exist. Going forward, increased collaboration and joint ownership between the polio and RI community is needed to close the expectations gap.

¹⁴ Source: BCG Study Polio funded personnel’s involvement in routine immunization and broader immunization goals (2015)



Bill and Melinda Gates Foundation

Major Activity 2: Ensuring appropriate IPV, bOPV and mOPV products

IPV supply is expected to be very tight for at least the next 18 months. A number of factors have contributed to this situation. On the supply side, two global manufacturers have experienced difficulty in delivering promised supply on time. On the procurement side, uncertain and changing plans from countries on the date, scope and procurement channel for introduction make forecasting difficult. For large countries such as India, which is planning its first ever nation-wide introduction, no prior experiences exist to base supply forecasts. Finally, the use of IPV in SIAs was not originally factored into the PEESP. This strategic change for interrupting transmission has now created a very real trade-off in the allocation of scarce IPV supply between campaigns and introduction into RI.

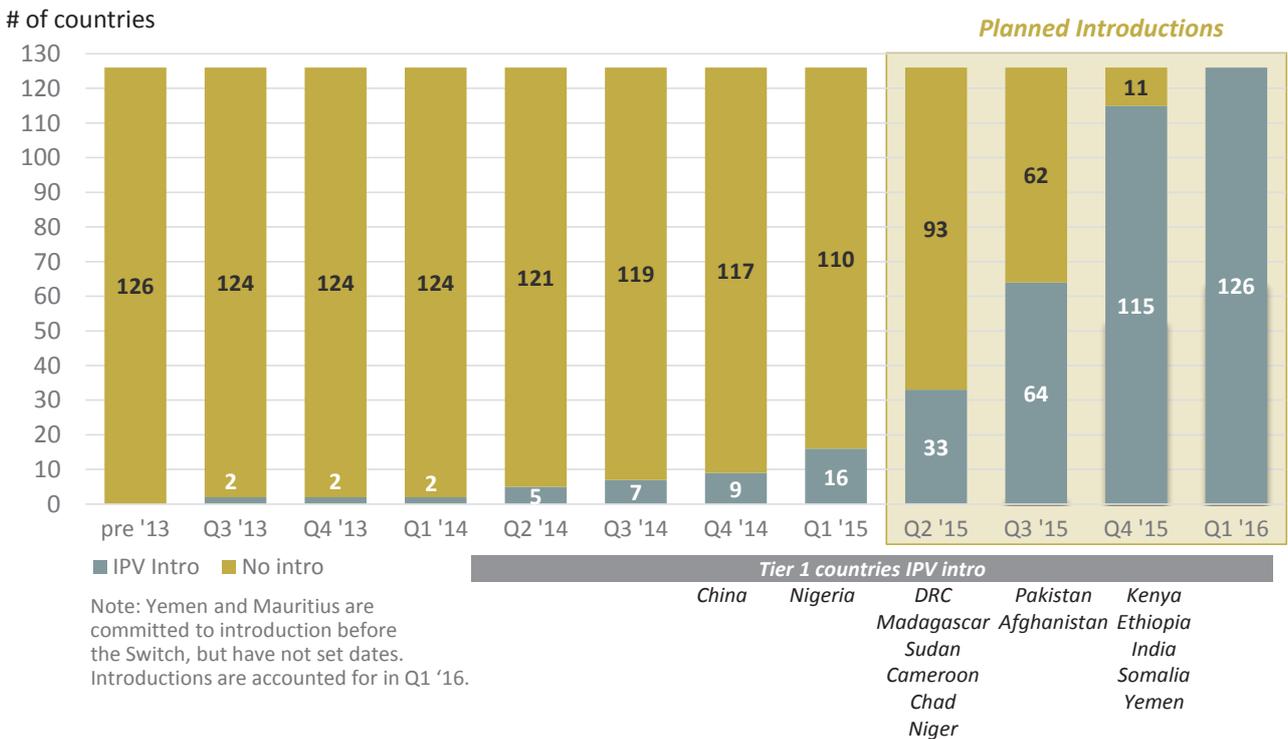
Supply of bOPV is not expected to be a problem, although ensuring timely registration and availability for self-procuring countries poses a challenge. The programme is pursuing increased transparency and coordination with manufacturers to form a warning system and escalation protocol for self-procuring countries that may not be procuring adequate bOPV supply. Ensuring a minimally burdensome registration process for manufacturers given the short duration of use for this vaccine is a current priority. The WHA passed a resolution in May 2015 to allow the use of bOPV in RI based on WHO prequalification instead of national registration or while national registration is ongoing.

A mOPV type2 bulk supply of 500M doses is secured, and the protocol for its use was developed and endorsed by SAGE in 2014. The programme is currently in negotiations to ensure that 100 million doses of finished product are filled from the above bulk. All of the above has been prepared to ensure that supply of various products will be available in time for the planned switch date of April 2016. However, the programme is also working through contingency plans to ensure sufficient supplies (e.g. another year of tOPV) in case the switch needs to be postponed.

Major Activity 3: Introducing IPV

The planned introduction of IPV for polio eradication will represent the fastest global introduction of any routine vaccine in recent history by a factor of 4–5X.¹⁵ From January 2013 to May 2015, the number of countries making a commitment to introduce IPV has increased by 126, setting a record for the fastest obtainment of commitments to introduce a vaccine. In addition to rigorous project management and operational planning, this achievement was made possible through an effective partnership with Gavi, regional leadership from WHO and UNICEF, intentional integration and promotion of synergies with EPI programmes, a coordinated advocacy effort and targeted provision of financial and technical assistance to countries. This experience lends credence to the programme’s ability to pull off the even more ambitious goal of rolling out the fastest vaccine introduction in history.

Figure 3. IPV Introduction plan (as of May 18, 2015)



To meet PEESP timelines, 106 countries will need to introduce IPV between May 19, 2015 and April 2016. Delays against this ambitious introduction plan have the potential to jeopardise the switch timeline. While a process is in place for assessing readiness and tracking IPV introduction, a number of countries have experienced delays relative to their plans. The biggest reason for delays is a lack of vaccine supply, which has affected primarily tier 3 and tier 4 countries. Other reasons include funding delays, limited cold chain capacity, competing activities (e.g., measles campaigns, SIAs) and competing for vaccine introductions. These issues do not currently jeopardise the switch timelines, but there will be limited flexibility in the second half of 2015 to accommodate delays.

The introduction of IPV into RI will continue to have impact and associated costs after the completion of eradication. A key challenge for the global health community will be to chart a smooth transfer of financial responsibility for this activity post-eradication. Countries need to play a role in demanding support from the global community to ensure IPV receives funding even after polio is gone.

Major Activity 4: Withdrawing OPV from routine and supplemental immunization activities

Within the scope of the MTR period, only OPV2 removal will be discussed, although this will set an important precedent for overall OPV withdrawal in the 2019–2020 time period. This activity also covers all the sub-activities that are included in the April 2016 switch. The scale and complexity of the activities to prepare, implement and monitor the switch represents a massive global operation.

The Switch Protocol developed and disseminated to SAGE in October of 2014 lays out a high-level sequence of events needed for the switch. Based on the successful experience of obtaining IPV introduction commitments, the IMG created

¹⁵ Based on data in GPEI Status Report (Jul-Dec 2014) comparing the historical rate of vaccine introductions for HiB, Hepatitis B, and Rotavirus to the planned rate of vaccine introduction for IPV



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a tracking tool with detailed assignments and timelines attached to more than 100 activities to implement the protocol. This data was supplemented by a range of activities to build awareness in-country: operational guidelines and planning guides, communication briefings, workshops and webinars about the switch and dry-runs in several countries.¹⁶

The programme has been managing expectations across stakeholders to plan firmly for an April 2016 date. Some countries were underinvesting in planning due to doubts about the viability of the current timeline, particularly around eliminating cVDPV2. SAGE addressed this in April 2015 by declaring that the programme is on track to meet the five criteria¹⁷ and trigger (absence of persistent cVDPV2 globally) for the April 2016 switch date. This also has important implications for proactively managing tOPV stock at the global level: balancing the need for sufficient tOPV to meet the high demand in Q1 2016 for pre-switch immunity boosting campaigns, while minimising too much tOPV remaining with manufacturers.

In-country implementation will likely be the biggest challenge of all. Getting the right communication and training to health workers will be critical to minimise misinformation. Securing and destroying all tOPV supply will also be a major undertaking, particularly as the programme currently lacks full visibility into the global inventory across cold chain, pharmaceutical companies and countries. Providing countries with the appropriate technical and financial assistance to manage communication, training, monitoring and waste management will be critical for ensuring smooth operations.

¹⁶ For example, India's dry run is scheduled for end of May 2015

¹⁷ 1) IPV introduction into OPV only-using countries; 2) Access to bOPV licensed for routine immunization; 3) Surveillance & response protocols for type 2 poliovirus; 4) Phase 1 containment, with appropriate handling of type 2 materials; 5) Verification of wild poliovirus type 2 global eradication.

C. Strategic Outlook: Recommendations

Recommendations

4. Strengthen collaboration and joint accountability between polio and broader RI community
5. Prioritise strategic IPV use
6. Focus on tOPV to bOPV contingency planning

Recommendation 4

Risk: Lack of clarity on the role and contributions of GPEI in RI will continue to result in suboptimal deployment of polio assets, both financial and human, throughout the remainder of the PEESP.

Recommendation: Strengthen collaboration and joint accountability between polio and broader RI community

To-date, GPEI has set its own expectations for how it contributes to RI, often measured through the amount of polio worker time spent on non-polio activities. Greater clarity is needed from the GVAP partners regarding GPEI's specific role in enhancing RI prior to eradication and the GVAP's role in leveraging polio assets. Specifically, clarity is needed on how GVAP sees polio fitting into the broader RI vision across three time periods: during the period of active polio transmission, in the period after transmission has ceased but before eradication is achieved and in the transfer of assets after eradication. This shift in mind-set from a one-way setting of expectations to a two-way dialogue should be accompanied by stronger engagement and coordination across GPEI and GVAP leadership, a valid set of indicators that reflect polio's contribution to RI, improved documentation from both polio and RI country teams on what is required and is being provided, how GVAP and countries can plan to leverage polio assets and updated polio staff accountability frameworks in-country¹⁸ to reflect the changes above. This shift in mind-set also sets the foundation for the transition of funding for post-eradication activities.

Recommendation 5

Risk: Introduction of IPV in an unprecedented number of countries in a short time period is an ambitious goal that is extremely challenging and threatened by limited IPV supply.

Recommendation: Prioritise strategic IPV use

IMG and EOMG are working together to mitigate the impact of the IPV shortage. As of May 19, IMG decided to delay IPV introduction of 10 countries in Tier 3 and 4 until 2016 to accommodate IPV supply for campaigns. Supply is so tight that there may be no further IPV available for SIAs and outbreak response until Q3 2016. Given this reality, the programme should review and update existing guidelines, provide clear decision-making criteria around when and how much IPV to use in campaigns, determine how many doses will be set aside to address new cVDPVs and should ensure compliance with these decisions.

Recommendation 6

Risk: Planning around the OPV2 cessation timeframe continues to be challenging due to uncertainties of cVDPV2 eradication and in-country preparation for implementation of the switch.

Recommendation: Focus on tOPV to bOPV contingency planning

The IMG has initiated contingency planning on a worst case scenario of delaying the switch in the case of unsuccessful cVDPV2 eradication. Over the next six months, the programme should accelerate and increase the breadth of its contingency planning in order to address any residual cVDPV2 risk and determine the next steps for vulnerable countries that may not have introduced IPV due to supply constraints. To implement the switch, the programme needs to shift gears from global planning to more detailed country planning and increasingly rely on regional leadership to drive and monitor progress. Some funding and technical assistance for planning, coordination, advocacy, communications, training, monitoring, logistics and waste management may be needed for high-risk countries. The programme also needs to develop a longer term risk mitigation plan to address new cVDPVs post OPV withdrawal.

¹⁸ For example, the accountability framework in Nigeria provides clear actions for managers to take, ranging from appreciation letter to non-renewal of contract, linked to specific performance indicators.



Containment and Certification

Containment and certification		
Main Objectives	Outcome Indicators	Major Activities
1. Certify the eradication and containment of all WPV by end-2018. 2. Enhance long- term global security from poliomyelitis.	Global polio eradication certified by end-2018.	1. Containing polioviruses 2. Certifying the eradication of WPVs
Monitored by the Global Certification Commission (GCC)		

The primary objective is to certify the eradication of all wild polioviruses by end-2018 and enhance long-term global security from poliomyelitis by ensuring sustained containment of all polioviruses.

A. Assessment of Progress

Indicator	Original Due Date	Achievement	Trend	Comments
Align GAPIII with new endgame strategy and timelines	2013	●	N/A	Achieved, but with delay from original timeline.
				WHA Resolution May 2015 urging Member States to implement and certify containment per GAP III.
				Additional clarity regarding national certification schemes and enforcement strategies is being developed
Certify WHO South-East Asia Region as poliofree	2014	●	N/A	
Complete new Phase I of GAPIII	Jul-16	●	➔	Phase I (Gap III) must be redone in all countries. IPV manufacturers must institute new containment measures.
Deliver WHO report to WHA on WPV2 eradication	2015	●	➔	Global Certification Commission to meet in Sept 2015 to affirm WPV2 eradication with expected report to WHA in 2016.
Begin implementation of Phase II of GAPIII	2015	●	➔	WHA Resolution in May 2015 to address GAP III. Initial global and regional meetings held in early 2015 and others planned in 2015-6 to support training and advocacy for Phase I and II.

● Goal achieved

● 80% of goal achieved
Progress indicates goal will be achieved within 1 year of original due date, without significant change to current activities

● <80% of goal achieved
Progress indicates goal will NOT be achieved within 1 year of original due date, without significant change to current activities

The progress of objective 3 is measured by a series of indicators that need to be met before attaining the ultimate goal of global certification of poliovirus eradication. The milestones established for the period of the MTR are noted in the Assessment table above. Key intermediate steps are required at the national or regional levels for both containment and certification of eradication to reach the expected milestones.

The major stakeholders involved in implementing containment include poliovirus research and diagnostic facilities and polio vaccine manufacturers using WPV2 or Sabin2 as of 2016. National government regulatory agencies are ultimately responsible for confirming that appropriate measures are taken to minimise risk of release of poliovirus from these facilities. The Global Action Plan for containment is now in its third edition and outlines relevant biorisk management system requirements for handling wild, Sabin and Sabin-derived polioviruses. The document has been revised to align with the requirements and timelines imposed by the Endgame Strategy. The phases described in the revised GAPIII are substantially different from those described in previous editions of this document.

For this reason, all countries are expected to update them, beginning with Phase I, specifically identify, and appropriately contain or destroy WPV2 by end-2015 and OPV2/Sabin2 materials by July 2016. Phase II will begin in 2016.

In 2014, South-east Asia became the fourth region to attain polio-free certification following the Americas region (1994), the Western Pacific region (2000) and the European region (2002). The GCC is responsible for validating global eradication based on reports filed from each of the regions. Countries are now expected to confirm to their Regional Certification Committee (RCC) that no WPV2 circulation has been reported within their boundaries since 1999. Based on reports from the RCCs, in September 2015, the GCC is expected to formally affirm that WPV2 circulation stopped globally more than 15 years ago and report their decision to the WHA by May 2016.

B. Lessons Learned and Risks

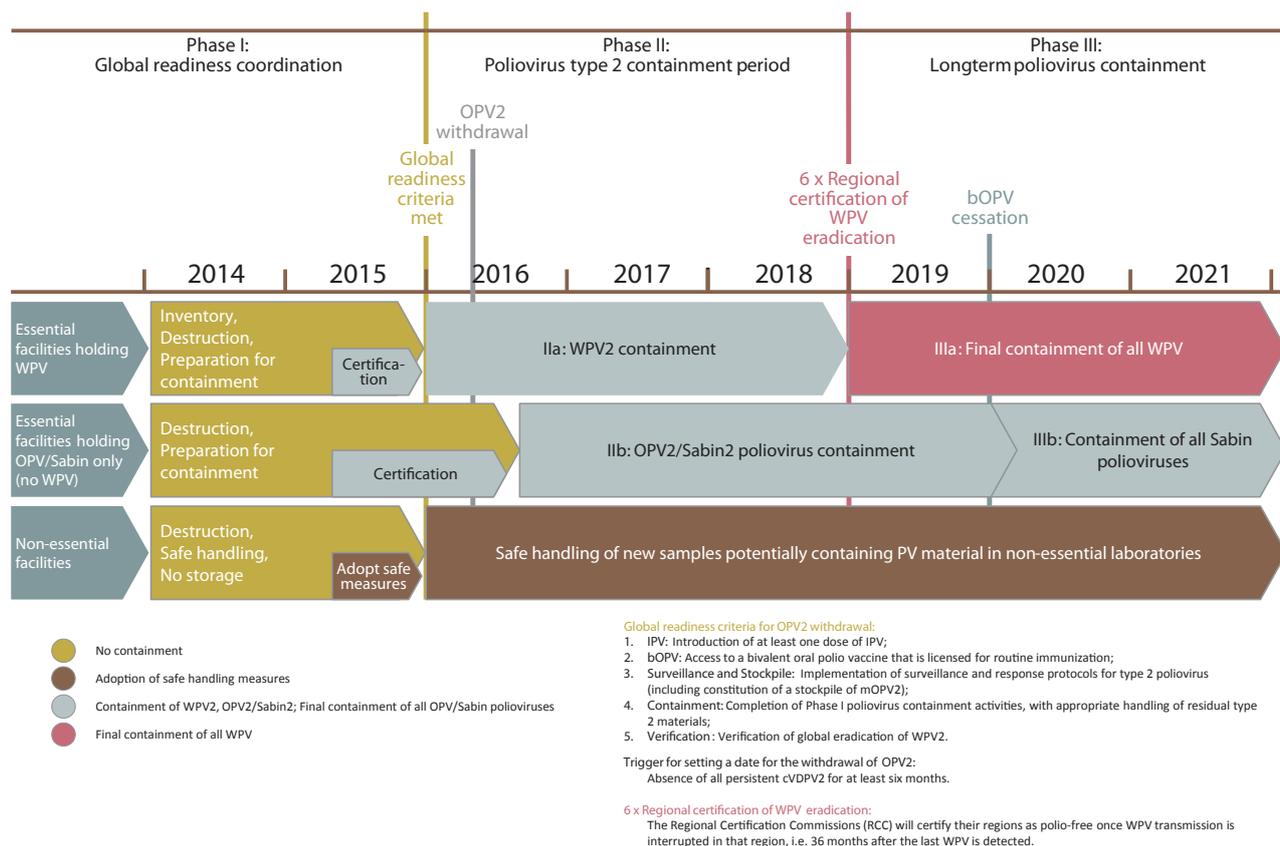
Major Activities

1. Containing Polioviruses
2. Certifying the Eradication of WPVs

Major Activity 1: Containing polioviruses

The global strategy for minimising risks associated with poliovirus facilities consists of risk reduction by destruction of poliovirus materials in all but certified essential poliovirus facilities and biorisk management of such essential facilities by strict adherence to required safeguards. Containment needs to be implemented in three phases (See Figure 4).

Figure 4. Timeline for containment (2014-2021)



The GAP originally anticipated that all three OPV strains would be withdrawn simultaneously. By introducing the plan to have a phased withdrawal of OPV strains, starting with type 2 in April 2016, the Endgame Strategy imposed a significantly accelerated timeline for containment activities. GAPIII now calls for destruction or containment of all WPV2 including vaccine-derived strains (VDPV) by the end of 2015 and type 2 OPV/Sabin materials within three months of OPV2 withdrawal. SAGE has included the completion of phase I poliovirus containment activities, with appropriate handling of residual type 2 materials, as one of the five readiness criteria for proceeding with global tOPV withdrawal in April 2016. Wide-ranging global, regional and national activities are required to meet this deadline.



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Protocol finalized with stakeholders: The first step to revise GAPIII and align containment guidelines with the Endgame Plan has been completed¹⁹ and endorsed by WHO Executive Board in January 2015. A proposal to ensure the commitment of countries to comply with the revised GAPIII guidelines was adopted at the WHA meeting in May 2015.

GAPIII implementation: WHO convened discussion with Salk-IPV vaccine manufacturers and relevant National Oversight Bodies for Containment (NOBCs) to discuss the implementation of GAPIII. Containment certification specifications are currently being developed to address a number of manufacturers’ concerns. Given the challenges to meet the end-2015 deadline, strong safeguards will be required in the interim until full compliance is reached.

National capacity to implement the containment requirements and monitor compliance needs to be strengthened in all countries. Thirty-six countries in the African region and three in the Eastern Mediterranean region have not yet completed the inventory of polioviruses requested under the original Phase I – demonstrating the scope and extent of follow-up that may be involved to achieve compliance. Some countries have yet to identify their NOBC. WHO has drafted a technical assistance plan to ensure those responsible have access to adequate technical and financial resources.

The identification of WPV2 by the timeline is within reasonable reach in countries that have reported completion of Phase I in the past, as WPV2 are a subset of the identified WPV materials. However, special efforts are anticipated to be needed in OPV-using countries with multiple research facilities to identify non-polio laboratories with stool collections potentially containing OPV2/Sabin2 viruses that must be destroyed or contained. Similar challenges are expected for dealing with institutions using live poliovirus for therapeutic purposes.

GAPIII envisions that type 2 viruses will eventually be contained only in “essential facilities” that can demonstrate that appropriate and validated risk procedures have been established and continuously implemented. Defining and identifying which facilities are eligible to become “essential” remains to be completed. NOBCs are expected to certify facilities according to GAPIII. Certification reports are to be submitted to RCCs for evaluation. In support of this process, RCCs, NOBCs or concerned facilities may request that WHO verify the compliance of certified facilities in keeping with GAPIII.

To meet the new timeline, WHO has developed a GAP III implementation plan that lays out an aggressive agenda to provide support and oversight for attaining each milestone. However, ultimately, the responsibility for containment rests with national authorities.

¹⁹ WHO GAP to minimize poliovirus facility-associated risk after type-specific eradication of WPV and sequential cessation of OPV use. Geneva: World Health Organization (2014).



Global Polio Eradication Initiative 2010

Major Activity 2. Certifying the eradication of WPVs

Regional certifications of eradication: For the four WHO regions that have been certified polio-free, the priority is to maintain certification-standard levels of AFP surveillance and ensure appropriate containment of remaining type 2 polioviruses. While the regional summary indicators are usually adequate, some individual countries have struggled to sustain certification-standard surveillance over prolonged periods of time. In most countries, AFP surveillance is now integrated into overall communicable disease surveillance systems. Especially for countries that border endemic regions, regular monitoring of AFP indicators and periodic reviews of the surveillance systems may be warranted to guard against complacency.

Although the African and Eastern Mediterranean regions have continued endemic transmission in certain areas, many countries within these regions that have been polio-free for at least three years and with certification-quality surveillance, have prepared certification documentation for their RCCs. RCCs in both endemic Regions continue to review documentation from member states towards eventual regional certification of WPV eradication. The Eastern Mediterranean RCC has collected documentation on polio-free status from 18 of 23 member states. The African RCC, as of end-2014, has collected documentation on polio-free status from 25 Member States; however, 12 of these 25 countries experienced WPV importations after completing their documentation. This experience highlights again that all countries remain at risk as long as transmission continues anywhere.

GCC affirmation of globally interrupted WPV2 circulation: SAGE has also recommended that the global eradication of WPV2 should be confirmed prior to withdrawal of tOPV. All countries have been requested to submit a formal statement to their respective RCC confirming when WPV2 was last detected in their country (if ever). Meeting the deadline for GCC consideration may be dependent on countries' timely compliance with the request for information on their WPV2 status.

C. Strategic Outlook: Recommendations

Recommendations

7. Rapidly accelerate support for GAPIII implementation

Recommendation 7

Risk: Challenges to meet new GAPIII requirements imposed by sequential withdrawal of OPV threaten meeting criteria for the switch from tOPV to bOPV in 2016.

Recommendation: Rapidly accelerate support for GAPIII implementation

Multiple stakeholders, particularly national government regulatory agencies and vaccine manufacturers, must significantly accelerate their activities to meet the new timelines presented in the revised GAPIII. Within the next six months, the GPEI, principally WHO, should assist by organising regional GAPIII implementation/certification workshops, developing specifications for containment certifications and training rosters of experts to carry out facility visits for verification of GAPIII compliance.



Legacy Planning

Legacy planning		
Main Objectives	Outcome Indicators	Major Activities
1. Develop a plan to ensure polio investments contribute to future health goals, through documentation and transition of GPEI lessons learnt, processes and assets	Polio legacy plan developed by end-2015	1. Attain legacy planning stakeholder alignment 2. Develop polio legacy plan 3. Initiate implementation of polio legacy plan
Monitored by the WHA		

A. Assessment of Progress

Indicator	Original Due Date	Achievement	Trend	Comments
Initiate global legacy planning process, including stakeholder consultations, asset mapping and capturing lessons learnt	2013	●	N/A	
Complete broad consultation process on polio legacy	2014	●	N/A	
Establish polio legacy plan	2015	●	➔	Some countries delayed in polio legacy planning due to eradication status and delays in undertaking the process.

● Goal achieved

● 80% of goal achieved

Progress indicates goal will be achieved within 1 year of original due date, without significant change to current activities

● <80% of goal achieved

Progress indicates goal will NOT be achieved within 1 year of original due date, without significant change to current activities

Objective 4 of the PEESP, which is largely on track, aims to ensure that investments made to eradicate polio contribute to future health goals, through systematic documentation and transition of the GPEI's knowledge, lessons learned and assets. The three principal aspects of polio legacy work are mainstreaming essential polio functions; sharing knowledge and lessons learned; and transitioning assets (people, physical assets, supporting tools/systems and enabling factors) to other health priorities.

Three indicators were established covering the period 2013-2015: 1) initiating a global legacy process; 2) completing a broad consultation process; and 3) establishing polio legacy plans. The first two indicators are on track with the creation of the Legacy Management Group (LMG) to guide the planning process at the global level and reach out to a wide variety of stakeholders including participants at WHO regional meetings, workshops and discussions with the PPG; bilateral discussions with major donors; briefings at technical meetings; and engagement with SAGE and IMB. Country-level discussions are well underway in India and have recently started in Nigeria.

One of the main principles of legacy planning is that it should not distract from polio eradication activities. Certain risks are associated with the third indicator because of the status of polio eradication in some countries and the potential that others who have already interrupted transmission may be slow to begin legacy planning.

Given that legacy planning is a new activity of the GPEI, it is not surprising that there is an overall lack of understanding of the legacy planning process among the GPEI partner organizations, donor partners and at the regional and country levels, including why it is needed, what is at stake, how to go about it and why it is urgent to start planning now.

Indicators to monitor the progress of country-level implementation of polio legacy plans were not included in the monitoring framework of the PEESP and will be useful at the global- and country-level to track the mainstreaming of essential polio functions and fully leverage the assets and lessons learned of the polio eradication programme for other health priorities.

Over the past two years, the GPEI has developed an evidence base, conducted legacy pilot planning studies in Democratic Republic of Congo (DRC) and Nepal and drafted a Legacy Planning toolkit that includes the following resources for distribution at country level: Guidelines for Preparing a Transition Plan (including the role of GPEI partners, government, and donor partners), Frequently Asked Questions, Communications presentation, Global Lessons Learned, India Lessons Learned in Polio Legacy Planning, and a Lessons Learned framework. The toolkit provides guidance on the three main activities of polio legacy planning and is meant for use at the regional- and country-level and is relevant for GPEI partner staff, donor partners, government representatives, and others stakeholders.

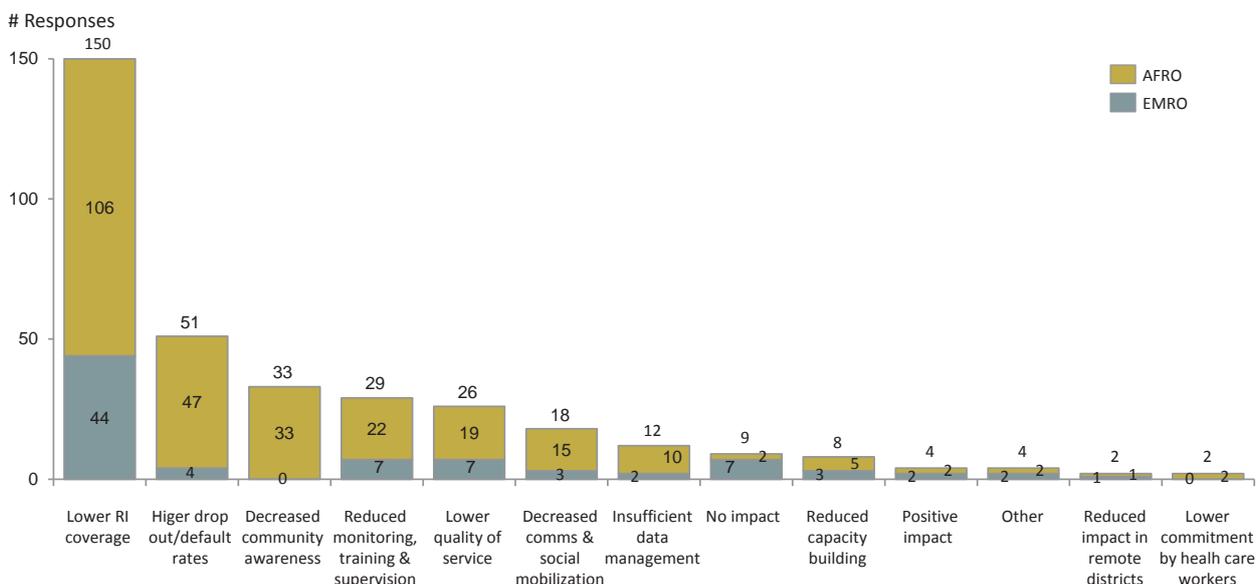
Of note is the stated interest of donors to be fully engaged in the legacy planning process. Examples to date include the technical-level workshop with the PPG in October 2014, the Canadian mission’s convening of a donor meeting in Nigeria to discuss legacy planning and comments made at the PPG workshop on the mid-term review in April 2015. Opportunities for further donor engagement in Objective 4 will be important to identify as polio legacy planning moves forward to ensure that donor interests can be fully represented in the process.

B. Lessons Learned and Risks

The evidence base reflected in Figure 2 (Objective 2) provides a good argument for countries to begin legacy planning now. A study of the 10 priority countries in Objective 2, corroborated with self-reported data from Nepal, revealed that polio-funded staff spend a significant amount of time on other health priorities such as routine immunization and measles and rubella.

In addition, polio-funded staff responding to the same survey projected the negative effects on routine immunization with the discontinuation of the polio programme. The disparity in pay between polio workers and other health workers also indicates that there is not a clear path to transitioning human resources from the polio eradication effort to other responsibilities. Of particular concern are countries with dysfunctional health systems, such as Somalia, where the reduced capacity of an already weak infrastructure will not be able to support other health priorities.

Figure 5. Project Effect on RI from Discontinuation of the Polio Programme



Survey question: "What would be the impact on routine immunization if your team was no longer able to contribute?"
Source: RI IMG Polio Survey

Two polio legacy pilot studies in Nepal and DRC demonstrate what is at stake with the closing of the GPEI. Both of these countries provide examples of “legacy in action,” meaning that polio-funded staff are already providing significant support to other health priorities. In Nepal, polio-funded personnel provide the “backbone” of surveillance activities in the Immunization and Preventable Disease (IPD) programme, which is the only surveillance system for vaccine preventable diseases in the country. According to a government official, “Without IPD, without Surveillance Medical Officers, surveillance would just go away in Nepal.” DRC represents another example of “legacy in action”: polio-funded personnel are deeply integrated into the DRC health system, supporting surveillance and immunization, delivering other health services and providing field infrastructure. According to the study, without these polio assets, critical capacities in DRC would be at risk in the absence of polio funding.

While legacy planning has the potential to benefit a wide range of health priorities, including emergency response as demonstrated by the Ebola outbreak experience, the potential detrimental impact on routine immunization when polio funding goes away cannot be ignored. It will be important in the legacy planning process to deliberately find synergies with routine immunization and reinforce collaboration between the groups working on routine immunization and legacy planning.

India provides the best example of a country that has begun the legacy planning process and can provide valuable lessons learned from their experience. Two presentations from India are included in the Legacy Planning toolkit to share that country’s lessons learned with others. For example, “transitioning services in the epidemiological reality” (of being declared polio free) was a strategic priority included in the WHO Country Cooperation Strategy for India 2012—2017. At the recent India Expert Advisory Group meeting in March 2015, both WHO and UNICEF made presentations on progress to date in the transition of polio-funded assets to government for both mainstreaming essential polio functions and using the capacity built in polio eradication for other health priorities.

An important lesson learned from India is the need for country-level ownership of the legacy planning process to drive transition planning to support other health priorities identified by the government. It should be noted that India is somewhat unique as it was already providing some domestic funding support for polio eradication activities. In some cases, external technical assistance may be required to support the legacy planning process as will financial support to ensure that adequate time and resources are dedicated to the process of developing and executing legacy plans. To the extent possible, legacy planning should complement plans to strengthen RI and the impending switch from tOPV to bOPV to avoid the burden of countries’ needing to develop another plan related to the polio end game.

The figures below shows the transition of funding sources for the National Polio Surveillance Project (NPSP), established by WHO and the Government of India to support the government with early detection and investigation of children with recent paralysis. It now serves other health priorities beyond polio.

Figure 6. Funding sources for NPSP, India for Biennium (2012-2013)

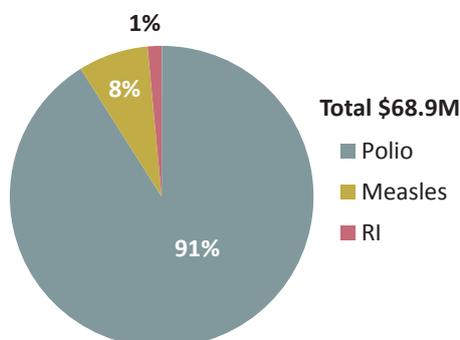
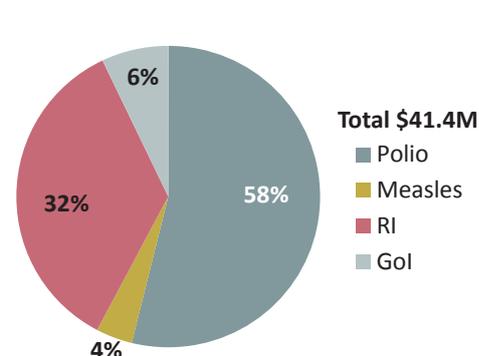


Figure 7. Funding sources for NPSP, India (2014)



Likewise, support for the Social Mobilization Network (SMNet), a programme communication network initiated by UNICEF and established to ensure that all children in the areas of deployed community mobilisers were vaccinated against polio, is also being transitioned from GPEI partner funding to other sources of funding.

OBJECTIVE 4

Figure 8. Funding sources for India Country Office (2013)

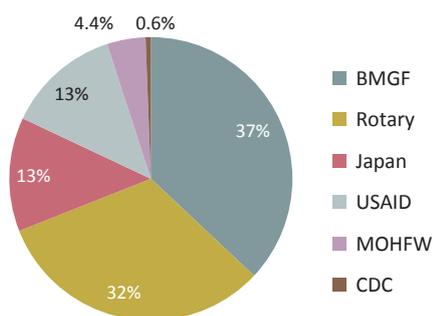
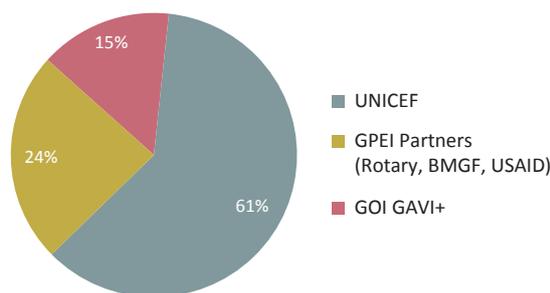


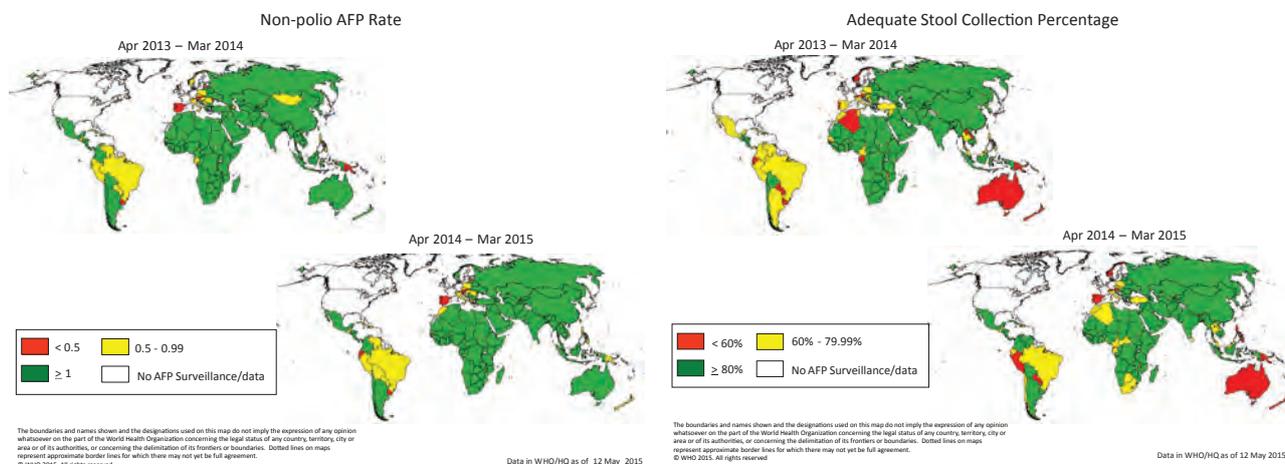
Figure 9. Funding sources for UNICEF Polio and RI (2014)



The transition process for both of these activities is complex and requires extensive engagement with a variety of stakeholders. It is rich with lessons learned that will be informative for other countries undergoing the transition planning process.

Another important lesson learned related to mainstreaming essential polio functions is the potential for surveillance systems to significantly decline after a region has been declared or certified polio-free. For example, experience from the Americas shows that polio surveillance indicators declined after that region was certified polio-free in 1994 and surveillance indicators in several countries in the European and Western Pacific countries do not meet international surveillance standards.²⁰ Once polio is eradicated, a surveillance system integrated into a strong national disease surveillance system, including the use of ES, is critical to maintaining a polio-free world.

Figure 10. Non-polio AFP Rate and Adequate Stool Collection Percentage Maps (2013-2014)



C. Strategic Outlook: Recommendations and Risk Mitigations

Recommendations

- Increase the visibility and urgency of legacy planning work
- Increase sustained surveillance capacity and quality

The urgency of beginning the legacy planning process cannot be overstated now that polio eradication is imminent and the reality that polio funding is time limited is setting in. It is estimated that the entire legacy planning and implementation process will take up to several years; concurrent with the established timeline to certify the world polio-free. Action must be taken now to expedite the process.

²⁰ Aylward, R.B. et al. Disease eradication as a public health strategy: a case study of poliomyelitis eradication. Bulletin of the World Health Organization, 2000, 78 (3) pp. 285-297.



Global Polio Eradication Initiative 2010

Recommendation

Risk: Due to the heavy reliance on polio funding for routine immunization, especially in the African region, and the need for strengthening basic health systems in many countries, failure to plan for mainstreaming of essential polio functions jeopardises sustaining a polio-free world and continuing routine immunization programmes.

Recommendation: Increase the visibility and urgency of legacy planning work

National government ownership of, and donor partner engagement in, the legacy planning process are required. To maximize impact, the GPEI must work closely with donor partners to identify strategic entry points and opportunities for donor engagement with legacy processes across levels. The early availability of the Legacy Planning toolkit in June 2015 to stakeholders at the global/regional/country levels, with a robust engagement strategy, is needed to move legacy planning forward and facilitate the transition of GPEI assets to routine immunization and other health priorities, document lessons learned and “legacy in action” and mainstream essential polio functions.

Recommendation

Risk: The level of polio surveillance needed during the period after the interruption of the transmission and before the certification of the eradication of polio and post-certification may be different. There is a risk that countries may not sustain the required high level surveillance after interrupting transmission and / or certifying eradication.

Recommendation: Increase sustained surveillance capacity and quality

A long-term surveillance strategy with clearly identified milestones through 2018 and beyond, taking into account countries current status and risk for outbreaks, is needed. The role of ES should be included in such plans as a key, cost-effective component to maintaining a polio-free world.



Cross-cutting Areas

Success of the PEESP strategy is dependent on additional key enabling factors. Those include: 1) strengthened performance management and accountability; 2) enhanced advocacy at different levels as well as communication with external and internal stakeholders; 3) increased data standardization, monitoring capacity, and analysis; and 4) additional support of resource mobilization.

A. Strengthening Performance Management and Accountability

While detailed plans with targets and outcomes exist at national and district levels for endemic countries, the inability to impose meaningful consequences for failing to achieve targets poses a threat to the PEESP's full execution. Evidence from India demonstrates the positive impact of prioritising effective performance management systems across all levels, especially for the networks of front line workers (FLWs). The selection, training and prompt payment of strong workers are all critical issues requiring urgent attention. In addition, the EOC mechanism has proven to be effective in providing one consolidated forum with government oversight and leadership on national and subnational levels. This has contributed to building commitment and shared responsibility.

At the global level, the GPEI continues to raise issues to the United Nations General Assembly and consistently keep polio on the WHA agenda, stressing global-level accountability and implementation of International Health Regulations for non-compliance in reducing risk of international spread. It is critically important at this stage of the programme to enhance the engagement of concerned countries at global level and promote the application of International Health Regulations as part of the countries' global accountability on risk of international spread.

Recommendations

8. Strengthen management capacity and accountability

Recommendation 8

Risk: Lack of adequate management system for the selection, training, supervision and prompt payment of workers has often led to poor staff performance that negatively affects community acceptance and programme credibility.

Recommendation: Strengthen management capacity and accountability

Strengthen performance management systems in endemic, outbreak, and high-risk geographies. Ensure sub-national ownership of the polio eradication activities, especially for FLWs. Likewise, ensure strong training, supervision and prompt payment is provided to FLWs.

Other recommendation(s): Advocate for the adoption of accountability mechanisms in Afghanistan.

B. Advocacy

The PEESP outlined three issues related to political and societal commitment that may threaten the success of eradication efforts: 1) the loss of momentum often sustained during periods of political change, including elections and governmental transitions; 2) the risk that subnational-level political entities will resist national government commitment to eradication, complicating cooperation; and 3) the risk of communities' reduced or limited interest in polio eradication activities.

Whether addressing an outbreak situation or endemic transmission, political momentum for the polio programme is best secured when well-coordinated global advocacy efforts complement national advocacy initiatives. Therefore, GPEI partners need to fully support the development of both "external" advocacy plans to coordinate global, regional, national and subnational stakeholders, and an "in-country" advocacy plan to address key administrative and operational challenges.

Advocacy interventions are most successful if triggered at the right time with the right players. GPEI's recent advocacy with the Government of Madagascar is a successful example of engagement at the national level. GPEI partners worked collaboratively and quickly initiated specific actions targeting government leadership. The coordinated GPEI advocacy efforts resulted in the approval of additional SIAs in response to the second VDPV and the first assessment to be undertaken by an international team of experts. While strong commitment at the national level is essential, as the programme shifts its focus to "high-risk areas", the systematic, well-timed engagement of administrative authorities, law enforcement authorities, and community and religious leaders at the subnational level will be necessary to ensure programmatic success as well as the security of polio workers. The type of engagement with local authorities has allowed the programme to access areas that were earlier inaccessible to vaccination teams in Pakistan and Afghanistan.

Looking forward, the GPEI must maintain polio eradication on the global agenda, and continue securing the support of donor governments, multilateral organizations, private-sector organizations, civil society partners, the media and relevant religious institutions. This diverse group of stakeholders can advocate in multilateral fora, such as the African Union, the Organization of Islamic Cooperation, the World Bank, UNGA, the Economic Community of West African States, the Group of Seven (G7) countries, and the Gulf Cooperation Council, to encourage polio-affected and high-risk countries to effectively implement their national plans.

Recommendations

9. Increase advocacy at subnational levels and improve communication with external and internal stakeholders

Recommendation 9

Risk: Lack of national and subnational commitment and ownership can undermine programme impact.

Recommendation: Increase advocacy at subnational levels and improve communication with external and internal stakeholders

Develop and operationalise national and local level advocacy plans that strengthen national commitment to polio eradication and allocation of domestic resources in endemic, outbreak and high-risk geographies, encourage national and subnational accountability for programme activities.

Other recommendation(s): Encourage advocacy in support of polio eradication by a wide-range of stakeholders, including donor governments, multilateral organizations, private-sector organizations, civil society partners, the media and relevant religious institutions.

C. Data for Decision Making

The availability of accurate, timely data for effective programme planning and monitoring is limited by inconsistent data collection and incomplete analysis. A number of programme areas require more refined indicators (e.g. percentage of vaccinator payments made on time and polio programme contribution to routine immunization activities). Some process indicators, such as number of AFP site visits or percentage of female vaccinators, are available but not consistently reported or followed-up. In other situations, monitoring data exists but analysis is insufficient to triangulate or reconcile inconsistent results.

A number of dashboards and databases exist and are managed by partners globally and at the country level. Although some data is being shared, this is a labour intensive and manual process. In addition, more technical details, such as indicator definitions, geocodes, and metadata sometimes differ, making it difficult to compare data across geographies. Also of concern, though less frequent, is the inconsistent reporting of the same indicator within a country or region which can lead to confusion and inefficiencies.

The vision going forward is for an inter-agency initiative to improve data management and analysis across the GPEI at all levels. However, considering the context and scale of the programme, the initiative needs to be prioritised at the country level to ensure standardised definitions, geographic areas, sources of information, and maps. Digitising data at the lowest administrative level will facilitate real-time decisions in the field. As Nigeria has demonstrated, local data from Vaccinator Tracking Systems or similar monitoring results can be shared and analysed directly among the partners in EOCs to improve campaign quality.



GPEI Gavi/GMB Akash

Recommendations

10. Increase data standardization, monitoring capacity and analysis

Recommendation 10

Risk: Lack of standardized data, poorly conducted monitoring, and lack of thorough analysis or limited sharing of data has led to fragmented and incomplete understanding of programme performance in some areas.

Recommendation: Increase data standardization, monitoring capacity, and analysis

Ensure robust global, national and subnational level data analysis, wide spread sharing of results, and increased capacity at various levels to support real-time, data-informed decision making.

D. Resource Mobilization

The integrated resource mobilization and communications strategy aims to operationalise pledges in a timely fashion and secure US\$5.5B to support the PEESP. The GPEI will achieve this goal by maintaining or increasing traditional donor commitments; bringing in new and non-traditional donors; increasing domestic financial contributions from polio-affected countries; and identifying innovative financing mechanisms to help fund the programme. The Vaccine Summit in 2013 raised \$4B and helped to galvanise donors, secure multi-year commitments, and engage new, non-traditional donors in support of polio eradication.

Thanks to the tremendous generosity of its various donors, GPEI has operationalised more than \$1.8B in funds since the Vaccine Summit in 2013. This additional \$1.8B along with the \$1B operationalised during the Vaccine Summit takes GPEI's total operationalised pledges to approximately \$2.8B.

While significant progress has been made, there remains a need to operationalise additional pledges in the amount of \$2.2B. Moreover, GPEI continues to seek additional donor resources of roughly \$0.5B to reach the PEESP target of \$5.5B. Monetising these funds has been challenging and negatively affects the GPEI's ability to adequately plan for critical activities identified in the PEESP.

However, monetising the balance of funds pledged at the Vaccine Summit has been challenging and negatively affects the GPEI's ability to adequately plan for critical activities identified in the PEESP.



UNICEF/NYHQ2015-0659/Rich

Coordinated and targeted advocacy actions by all partners, supported by robust communications outreach needs to be strengthened to secure the political commitment needed to operationalise these pledges. In addition, cash flow for the programme remains an issue. While donors have responded generously, changes in national policy mean that an increasing number of donors are providing short-term and earmarked funds, as well as funding activities outside the Strategic Plan's budget FRR. This limits the programme's ability to fund core activities and react nimbly to changing and evolving needs. Another challenge that the programme needs to adapt to is that as the programme reaches the endgame, funding is needed for a wider range of activities. These requirements may be new to some donors and more intensive advocacy is needed.

The evolving donor environment also affects GPEI's resource mobilization strategy and donors continue to emphasize the importance of impact, transparency and accountability, and increasingly integrated programming. The POB has created a Finance and Accountability Committee (FAC) to ensure accurate, transparent, and timely GPEI financial reporting to address donor needs as well as inform programmatic decisions and to oversee the effective and appropriate use of financial resources across the partnership.

GPEI has also engaged donors more deeply by including them in in-person POB meetings and upcoming FAC meetings, both of which increase visibility by key stakeholders in the programme. In addition, more regular communication through instruments, such as Polio News and regular emails from the POB Chair, have kept stakeholders informed about programme outcomes and operations. Continuing these types of engagements is critical to demonstrate the impact of the programme to donors and stakeholders, so that they remain supportive of the GPEI and committed to the long-term strategy.

Domestic resources are a critical element of the programme, both for the financing of the programme and as a demonstration of national ownership by governments. Domestic financing and innovative finance mechanisms such as Islamic Development Bank, World Bank and JICA buy down loans have brought much needed funding. However, processes are often slow and the programme has had to identify bridge funding while waiting for agreements to be finalized. Finding ways to more efficiently implement innovative financing mechanisms will prevent cash shortfalls and increase financial stability.

Recommendations

11. Update resource mobilization and allocation strategy

Recommendation 11

Risk: Lack of coherent strategy, supportive data, and regular communication can adversely affect resource mobilization. In addition, increased donor provision of short-term funding and earmarking funding and/or funding activities outside the FRR challenges the programme in terms of its ability to react to evolving needs.

Recommendation: Update resource mobilization and allocation strategy

Fully implement POB commitment to transparency in use of resources and increased communication with donors to build trust in the programme and encourage donors to provide more flexibility and predictability in funding to respond to evolving needs.

Other recommendations: Update donor advocacy, communication and resource mobilization strategy to reflect changes in mid-term review and ensure continued political and financial commitment to polio eradication that will withstand a crowded resource mobilization environment.



Financial Update

As part of the MTR, GPEI has reviewed the overall financial situation of the partnership. This includes a backward-looking review of spending, inclusive of where spending has diverged from the original plan, as well as forward-looking projections. This narrative will address the current funding situation as well as the potential situation going beyond 2015. To look at financial needs beyond 2015, a model has been developed to allow GPEI to consider a number of scenarios.

This narrative will be structured into the following sections: A) Look back, B) Current Funding Situation and C) Future Financial Needs.

A. Look Back

Depicted in the table (**Table 2**) below are the GPEI variances to the budget for 2013 and 2014, by objective.

Objective	2013			2014			Cumulative		
	2013 Budget	2013 Actual	Difference Underspend/ (Overspend)	2014 Budget	2014 Actual	Difference Underspend/ (Overspend)	Cumulative Budget	Cumulative Actual	Difference Underspend/ (Overspend)
Objective 1	\$930.8	\$836.6	\$94.2	\$961.8	\$833.4	\$128.5	\$1,892.6	\$1,670.0	\$222.7
Objective 2	\$52.4	\$35.7	\$16.6	\$111.4	\$110.1	\$1.3	\$163.8	\$145.8	\$18.0
Objective 3	\$5.0	\$0.9	\$4.1	\$8.7	\$8.4	\$0.4	\$13.7	\$9.3	\$4.5
Objective 4	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-
Indirect Costs	\$65.4	\$57.8	\$7.6	\$71.7	\$63.0	\$8.6	\$137.1	\$120.8	\$16.3
Grand Total	\$1,053.6	\$931.0	\$122.6	\$1,153.7	\$1,014.8	\$138.8	\$2,207.3	\$1,945.9	\$261.4

As shown in the table above, GPEI has spent less than budgeted in both 2013 and 2014. The largest contributor to the underspend is Objective 1, Polio Virus Detection and Interruption. The largest driver of the underspend in Objective 1 is lower than budgeted spending on Technical Assistance (TA) and Social Mobilization. These two categories combined account for more than two thirds of the underspend in both 2013 and 2014. Budgets have assumed that all positions will be filled; however, the proportion of unfilled positions ranges between five and 20% for a given time and location. Given the locations where GPEI operates, it is not altogether surprising that the vacancy rates are higher than perhaps typical in other similar organizations. While it is highly unlikely that all positions will be filled by the end of 2015, there is an ongoing concerted effort to fill these positions. Additionally, GPEI experienced some delayed campaigns or in some cases the scope was reduced due to security concerns. Such factors that drove lower than budgeted spending were partially offset by higher cost of outbreaks, along with higher than anticipated costs for planned campaigns.

Objective 2, Immunization Systems Strengthening and OPV Withdrawal experienced delays operationalising their work plan in the first half of 2013. In addition, routine immunization support for four countries experienced delays in implementation in 2013, with a portion moving into 2014. In 2014 actual expenditure was in line with the expected budget and we expect this trend to continue going forward.

Objective 3, Containment and Certification of Poliovirus Eradication, while significantly smaller, has also had a slower start than originally planned due to delayed hiring for the containment function and delayed start of some regional certification activities – partly owing to an epidemiologically challenging 2013. As with Objective 2, spending was much closer to budget in 2014 and will likely remain that way going forward.

Objective 4, Legacy Planning is currently not included in the FRR, but it is expected that there will be some modest transition planning costs that will be included later.

Over the past two years, GPEI has learned that a number of interventions have been effective in achieving progress on polio eradication. These learnings have informed our thinking on expenditures going forward. Some vaccination tactics, including new and different ways of reaching missed children and improving access, have proven their worth in security-challenged areas, or in nomadic areas, and the related costs are integrated in the new budget. This added emphasis on reaching missed children will be a potential driver for increased spending on social mobilization, which will likely decrease the trend-to-date on lower social mobilization spending. Further, the resources required to improve SIA quality (from micro-planning to intra- and post-campaign independent monitoring, LQAS and in select areas, addition of semi-permanent SIA coordinators at district level) have been expanded. Surge has been essential in endemic countries. We have learned that the original budget was too aggressive in its assumptions related to the rate of decrease of this resource post-interruption. Looking forward, as we get closer to eradication, the bar is raised on the sensitivity of the surveillance systems, and we will need to temporarily add resources to ensure that the virus is gone (this includes further expansion of ES). We now have a much clearer picture of what the tOPV withdrawal will entail, and therefore need to factor in related country-level costs and technical support. While we believe that the switch will proceed in 2016, it is important to note that a delay in the tOPV/bOPV switch could have financial implications for out-year budgets. That is, a delay in the global switch from tOPV to bOPV will likely result in an increase in campaign associated costs for GPEI. All at-risk regions, will need to keep immunity levels high through additional campaigns until the switch does occur, potentially delaying the ramp down of campaign activity in Africa despite the possible interruption of WPV. In addition, some costs to prepare for and facilitate the switch may shift from 2016 into 2017. These learnings and future initiatives will be used to develop scenarios for the rest of the 2013–18 period.

Lastly, from a general financial management perspective, the challenge of reporting financial information across multiple financial systems (WHO, Gavi and UNICEF) with different accounting procedures, data structures and capabilities was underestimated during the establishment of the PEESP. Given that some programme assets, especially people, continue to work across strategic objectives, a significant amount of manual effort is required to produce reporting that enables managerial insight into GPEI costs. GPEI is committed to continuing to address these challenges to ensure that programmatic leadership, as well as donors have the information that they need. As part of last year's management review, the POB has established a committee called the FAC, led by a member of the POB (Dr Chris Elias), to oversee these two important goals of timely, accurate data for programme leadership, as well as financial transparency for donors. The FAC is working closely with a team under the auspices of the GPEI SC, the Finance Management Team (FMT), to continue to improve the overall financial reporting of GPEI. Together, the FAC and FMT will continue to make progress on this important goal of timely, accurate financial information.

B. Current Funding Situation

Table 3. Current Funding Situation

Objective (\$M)	2013 Expenditures	2014 Expenditures	2015 FRR Budget	13-'18 Projected
Polio Virus Detection and Interruption	892	889	1,064	4,537
Immunization systems strengthening and OPV withdrawal	38	117	296	940
Containment and Certification	1	9	10	48
Legacy Planning	-	-	-	-
Total Expenditure / Requirements [A]	932	1,015	1,369	5,525
Funds Available [B]	1,323	1,174	774	2,843
Funding Surplus / (Gap) [B - A = C]	391	159	(595)	(2,682)
Pledged + Projected Funds [D]	n/a	n/a	432	2,185
Funding Surplus / (Gap) [D + C = E]	n/a	n/a	(163)	(496)

As July 2015

As described in the cross-cutting section, due to the generosity of its donors, GPEI has operationalised approximately \$2.8B in pledged funds. However, the program still needs need to operationalise an additional \$2.2B in pledges and identify approximately \$0.5B to reach the PEESP target of \$5.5B.



Global Polio Eradication Initiative 2010

As of May 2015, GPEI targets operationalising an additional \$0.4B in pledged and projected resources in 2015. If GPEI is able to operationalise those pledges there remains a gap of roughly \$0.2B to fully fund the activities planned for this year.

This highlights that there is still significant funding needed to ensure that the critical work to interrupt poliovirus transmission continues without delay. To ensure that funds are available for both planned and emergent activities, GPEI needs to have timely payments from donors as well as fewer earmarked funds. The latter is a trend that has complicated GPEI's ability to fill pressing funding gaps and has given rise to emergency requests for funds because funds on hand are earmarked by donors for other activities.

C. Future Financial Needs

As GPEI looks forward, there are significant unknowns as it regards the financial resources that will be required to achieve a polio-free world. By September 2015, we should know if we have interrupted poliovirus transmission in Africa. Later this year, we can assess if trends in Pakistan and Afghanistan suggest interruption is possible by the end of 2015. Given this uncertainty, modelled scenarios are very important in planning for a number of eventualities associated with interruption in the endemics. To this end, GPEI has developed a model to examine multiple scenarios. These scenarios evaluate the needs for all Financial Resource Requirements (FRR) categories. Due to their large impact on the financial requirements, however, special attention is paid to the impact of changes to the date of interruption in endemic countries, the number of SIA campaigns planned, and required staffing levels for technical assistance, social mobilization, and surveillance, both pre-interruption and post-interruption.

The single largest driver of cost is the date of interruption for the endemic countries. Interruption drives the level of intensity and duration for the largest costs for GPEI, namely SIA campaigns and related costs. Of all the factors influencing the GPEI budget, none have an effect on the budget as great as the date of interruption. Therefore, the most critical factor in each of the scenarios described below is the date of interruption assumed for Nigeria, Pakistan and Afghanistan.

The following four scenarios are meant to show a reasonable estimate of the range of costs to eradicate polio:

The **low scenario** is meant to be a plausible estimate of the lowest cost scenario if realistic, but also optimistic assumptions prove to be true. This scenario assumes that interruption in Nigeria occurred in 2014 and that interruption in Pakistan and Afghanistan will occur in 2015. In addition, it assumes estimated cost ranges come in at the low end of their ranges and assumes the fastest decline in SIAs and associated activities after regional interruptions occur.

We have included two intermediate scenarios. The only difference between the two intermediate scenarios is the assumed date of interruption in Pakistan and Afghanistan.

The first **intermediate scenario (A)** depicts higher costs associated with a delay of interruption in Pakistan and Afghanistan to 2016. This scenario is higher than the low scenario primarily due to this delay. Additionally, this scenario assumes increased estimated cost ranges relative to the low-end estimate, and assumes a rate of decline in SIAs and associated activities after regional interruption consistent with current country plans (which is a slower decline than the assumptions in the low scenario).

The second **intermediate scenario (B)** has all the same underlying assumptions except for the interruption date in Pakistan and Afghanistan, which is set for 2017.

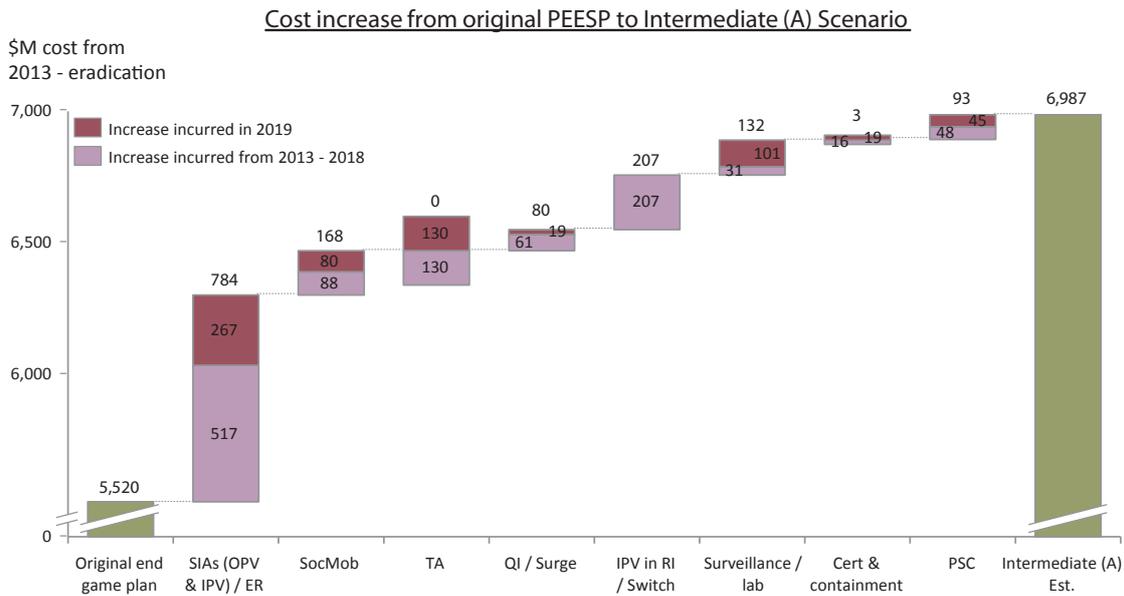
The **high scenario** is meant to be a plausible estimate of the highest cost scenario if realistic, but also pessimistic assumptions prove to be true. This scenario depicts a delay of interruption in Pakistan and Afghanistan to 2017 and interruption in Nigeria not occurring until 2015. Again, the biggest driver of the increased cost from the intermediate scenario are the delays in interruption assumed. Further, this scenario assumes estimated cost ranges come in at the high end of the range and assumes a slightly slower rate of decline in SIAs and associated activities after regional interruption.

The results of these four scenarios are depicted below (**Figure 11**):

Scenario:	1	2	3	4				
	Low	Intermediate (A)	Intermediate (B)	High				
Nigeria interrupts:	2014	2014	2014	2015				
Pak/Afg. interrupt:	2015	2016	2017	2017				
All other assumptions:	Optimistic	Intermediate	Intermediate	Pessimistic				
Global interruption:	2015	2016	2017	2017				
Global certification:	2018	2019	2020	2020				
Post-certification costs:	2019-2025	2020-2026	2021-2027	2021-2027				
	'13 – cert.	Post-cert.	'13 – cert.	Post-cert.	'13 – cert.	Post-cert.	'13 – cert.	Post-cert.
	\$5.7B	\$0.8B	\$7.0B	\$0.8B	\$7.8B	\$0.8B	\$8.8B	\$1.2B

The low scenario, which includes optimistic assumptions for both cost levels and interruption dates, is relatively close to the original PEESP estimate of \$5.5B. Depending on how things progress in Pakistan and Afghanistan this year, this scenario could potentially allow GPEI to come in with very little extra funding required to finish the eradication effort. However, if interruption in Pakistan and Afghanistan slips to 2016, and less optimistic cost assumptions prove to be true, then there is a sizeable increase in the total resources required to achieve eradication. An additional year of intense SIA campaigns, as well as other supporting costs would drive the total cost to certification up to \$7.0B, an increase of \$1.3B, and an additional year with certification occurring in 2019. Similarly, the intermediate (B) scenario reveals that if Pakistan and Afghanistan slip to 2017 the total cost to certification would increase to \$7.8B, and certification would take place in 2020. Lastly, the pessimistic scenario contemplates a re-emergence of the virus in Nigeria this year, thereby pushing interruption to 2015 and Pakistan and Afghanistan interruption to 2017. This is coupled with higher cost assumptions, which yield a cost to certification of \$8.8B. Again, it is important to note that the underlying assumptions from the low scenario to the intermediate scenarios to the high scenario are progressively less optimistic at each successive level moving from optimistic to pessimistic, so it is not solely the date of interruption that drives the higher cost between each scenario. This should be viewed as a continuum of possibilities given various interruption dates, rates of decline in SIAs, as well as other important assumptions such as IPV introduction levels and surveillance costs. Therefore, the actual cost will likely be somewhere in the range depicted above depending on where a variety of costs ultimately come in.

To better understand the underlying drivers of a potential increase from the original PEESP estimate to the intermediate (A) estimate the following chart shows the drivers should the intermediate (A) scenario prove to be the scenario we face (Figure 12):



FINANCIAL UPDATE

In this example, the primary driver of change in costs from the original plan to the Intermediate (A) scenario is that failure to interrupt in Pakistan and Afghanistan until 2016 would delay our ability to ramp down SIA activities and associated costs as quickly as assumed in the original plan which targeted global interruption in 2014. This delay along with the continuation of pre-certification campaign activity into 2019 (seen in the dark red boxes above) accounts for most of the cost increase seen in SIAs, social mobilization, and surge activities. IPV costs are significantly higher than the original estimate due to a change in vial size compared to the original assumptions made in 2012, while the increase in surveillance represents both a strategic decision by GPEI to invest more heavily in closing surveillance gaps and a continuation of pre-certification surveillance funding into 2019.

Moving from the optimistic to the intermediate to the pessimistic scenarios, the combination of less optimistic cost assumptions, along with additional years of intense activities due to delays in achieving global certification, would result in progressive cost increases

It is important to note that roughly two-thirds of the cost increase between scenarios is attributable to a slip in interruption date. This emphasized the point that while important innovations and cost-saving measures should be implemented, they should not overshadow the most cost effective long-run goal of interruption. In fact, if we assume that we have interrupted in Nigeria and their activities will ramp down to a level of about half of their 2015 spending levels until global certification, each year that we fail to interrupt in Pakistan and Afghanistan will cost roughly \$800M per year until global interruption is achieved. Therefore, vigilance and sustained effort to interrupt in the remaining endemics is of paramount priority.

It is also important to note that leading up to certification, legacy planning will be very important as there will be certain costs, which are a subset of the broader potential legacy costs, that will continue well into the post-certification time period. These known costs are noted in the scenarios table above. For example, surveillance, laboratory, and vaccine stockpiles will be needed to ensure that the world is in fact polio free and to respond to an outbreak should one occur. These polio eradication core functions will ramp down post-certification and will need to be transitioned post-certification and efforts should begin to engage countries, agencies and donors to sustain a polio free world.

In conclusion, while the GPEI does not know precisely what financial scenario it faces yet, it has acknowledged that any amount of funds must be managed in a thoughtful way. As mentioned above, the FAC and the FMT will be an integral part of overseeing the appropriate use of funds and setting appropriate policies for changes to budgets. Also, the FAC will ensure that donors are updated on GPEI’s financial situation on a regular basis and will work with donors to develop the necessary and appropriate reporting to meet accountability standards. GPEI thanks its donors for their generosity in this very important partnership to rid the world of polio once and for all.

Appendix I. Interview List

Objective 1

- Aidan Oleary (UNICEF/Pakistan)
- Allen Craig (CDC, EOMG)
- Arshad Quddus (WHO, EOMG)
- Brigitte Toure (ESARO)
- Chris Maher (EMRO)
- Halima Dao (WCARO)
- Hamid Jafari (WHO, SC)
- Jalaa Abdelwahab (UNICEF, EOMG)
- Jay Wenger (BMGF, SC)
- Jean Marc Olive (HoA TAG, Afghanistan TAG, Pakistan TAG)
- Jeff Partridge (BMGF)
- Mbaye Salla (AFRO)
- Michael Galway (EOMG)
- Oyewale Tomori (Nigeria Expert Review Committee)
- Peter Crowley (UNICEF, SC)
- Pierre Grand (WHO, EOMG)
- Tim Petersen (BMGF)

Objective 2

- Ann Ottosen (UNICEF, IMG)
- Apoorva Mallya (BMGF, IMG)
- Emily Wootton (Gavi)
- Jon Abramson (SAGE)
- Jos Vandelaer (UNICEF, IMG)
- Maya Vandenant (UNICEF, IMG RI)
- Michel Zaffran (WHO, IMG)
- Peter Figueroa (SAGE)
- Rudolf Eggers (WHO, IMG RI)
- Simona Zipursky (WHO, IMG)
- Steve Sosler (Gavi, IMG)
- Tasleem Kachra (BMGF, IMG)

Objective 3

- Mark Pallanch (CDC)
- Nicoletta Previsani (WHO)
- Ousmane Diop (WHO)
- Rudi Tangerman (WHO)

Objective 4

- Andrew Freeman (WHO)
- Anjali Kaur (UNICEF, LMG)
- Gena Hill (CDC, LMG)
- Lea Hegg, (BMGF, Vice Chair, LMG)
- Nicole Deutsch (UNICEF, India)
- Steve Cochi (CDC, Chair, LMG)
- Sunil Bahl (NPSP)

Cross-cutting

- Anand Balachandran (WHO)
- Clare Creo (PACT)
- Jalpa Ratna (PACT)
- Sona Bari (WHO)

Finance

- Angela Powell (UNICEF)
- Apoorva Mallya (BMGF)
- Brian Elliot (WHO)
- Carolyn Wiedman (UNICEF)
- Chris Elias (FAC Chair)
- Clare Creo (WHO, PACT)
- Diane Kepler (UNICEF)
- Gustavo Monasterios (WHO)
- Jalpa Ratna (UNICEF)
- Jay Wenger (BMGF, SC)
- John Germ (Rotary)
- Keiko Valente (UNICEF)
- Kris Tsau (PACT)
- Michael Galway (BMGF)
- Michiyo Shima (UNICEF)
- Nick Jeffreys (WHO)
- Pierre Grand (WHO, GPEI RM Finance)
- Randy Baclig (WHO)
- Ticky Esoh (WHO)
- Tim Petersen (BMGF)
- Tony Dutson (Gavi)
- Valpuri Berg (WHO)

Appendix II. Document Review List

Objective 1

- Jan-June 2014 Status Report
- Jul-Dec 2014 Status Report
- MMWR. Assessing and Mitigating the Risks for Polio Outbreaks in Polio-Free Countries – Africa, 2013–2014
- GPEI Status Reports: Apr 2013, Sept 2013, Apr 2014, Sept 2014, April 2015
- IMB Reports: 7th (May 2013), 8th (Oct 2013), 9th (May 2014), 10th (Oct 2014), 11th (May 2015)
- GPEI response to IMB recommendations from 6th to 10th IMB Reports
- Surveillance: current status and work in AFRO and EMRO, presentation at 11th IMB
- *Conclusions and Recommendations* from Afghanistan Technical Advisory Group on Polio Eradication, December 2013 and June 2014
- *Conclusions and Recommendations* from the Meeting of the Expert Review Committee on Polio Eradication in Nigeria (ERC), March 2013, Nov 2013, Apr 2014, Sept 2014, Jan 2015.
- Summary Report from the Technical Advisory Group Meeting on Polio Eradication for Pakistan, Nov 2013, Jun 2014
- Nigeria National Emergency Action Plan (NEAP), July 2013-June 2014
- National Emergency Action Plan 2014 For Polio Eradication in Pakistan
- Afghanistan National Emergency Action Plans, 2014 and 2015

Objective 2

- POB Readiness for Switch (Dec '14)
- POB RI Strengthening (Dec '14)
- POB Scorecard Analysis (Apr '15)
- GAVI Technical Update for POB (Dec '14)
- TFI Objective 2 (Dec '14)
- IMG Global Switch – Tracking Tool (Mar '15)
- WHO IPV Status Report (Mar '15)
- OPV Cessation Protocol (Oct '14)
- SAGE Recommendations (Oct '14)
- SAGE Recommendations on Switch (Apr '15)
- GVAP Action Plan
- Polio legacy / transitioning to routine immunization, lessons learned from India
- 2013 GPEI Annual Report
- 2014 GPEI Status Report (Jan – Jun)
- IMG Workshop Materials (3/30 – 4/2)
- IMG Chair Engagement (4/2)
- 2014 GPEI Status Report (Jul-Dec)

Objective 3

- Report of the Fourth Meeting of the core Global Certification Commission (Nov 2013)
- Report of the Third Meeting of the core Global Certification Commission (Aug 2012)
- Report from the Africa Regional Certification Commission to the Task Force on Immunization (TFI), Africa (Dec 2014)
- Nineteenth Meeting of the Regional Commission for the Certification of Poliomyelitis Eradication in the Western Pacific Region (Nov 2013)
- South-east Asia Regional Certification Commission for Polio Eradication Report (Mar 2014)
- Additional RCC reports from EURO and EMRO
- Report from GAPIII Implementation Workshop for IPV Manufacturers, National Regulatory Authorities for Containment & National Poliovirus Containment Coordinators (24-26 Feb 2015)

Objective 4

- Legacy communication presentation (Mar 2015)
- Legacy transition planning guidelines (Mar 2015)
- Polio Legacy Transition Planning FAQs (Mar 2015)
- POB legacy planning decision paper and presentation (Dec 2014)
- AFRO TFI presentation (Dec 2014)
- PPG legacy planning presentation and meeting report (Oct 2014)
- Global Polio Eradication Initiative: Lessons Learned and legacy (Nov 2014)
- UNICEF IEAG presentation (Mar 2015)
- WHO/NPSP IEAG presentation (Mar 2015)
- Lessons learned framework-guidelines for documentation of lessons learned at the country level
- Achieving GVAP goals-India presentation
- IEAG Conclusions and recommendations (Mar 2015)
- PPG MTR Workshop Report (Apr 2015)

Cross-cutting

- Polio Eradication & Endgame Strategic Plan 2013-2018
- Harmonization and Sharing of GPEI Programme Data. Draft concept note (Apr 2015)
- Nigeria National Emergency Action Plan (NEAP) (Jul 2013 - Jun 2014)
- National Emergency Action Plan 2014 for Polio Eradication in Pakistan
- Polio Eradication: Planning, Budget & Resource Mobilization. UNICEF Internal Document (2014)
- GPEI Resource Mobilization Update. Draft (Apr 2015)

Finance Sources

- GPEI Financial Resource Requirements Publications
- Polio Eradication & Endgame Strategic Plan 2013-2018

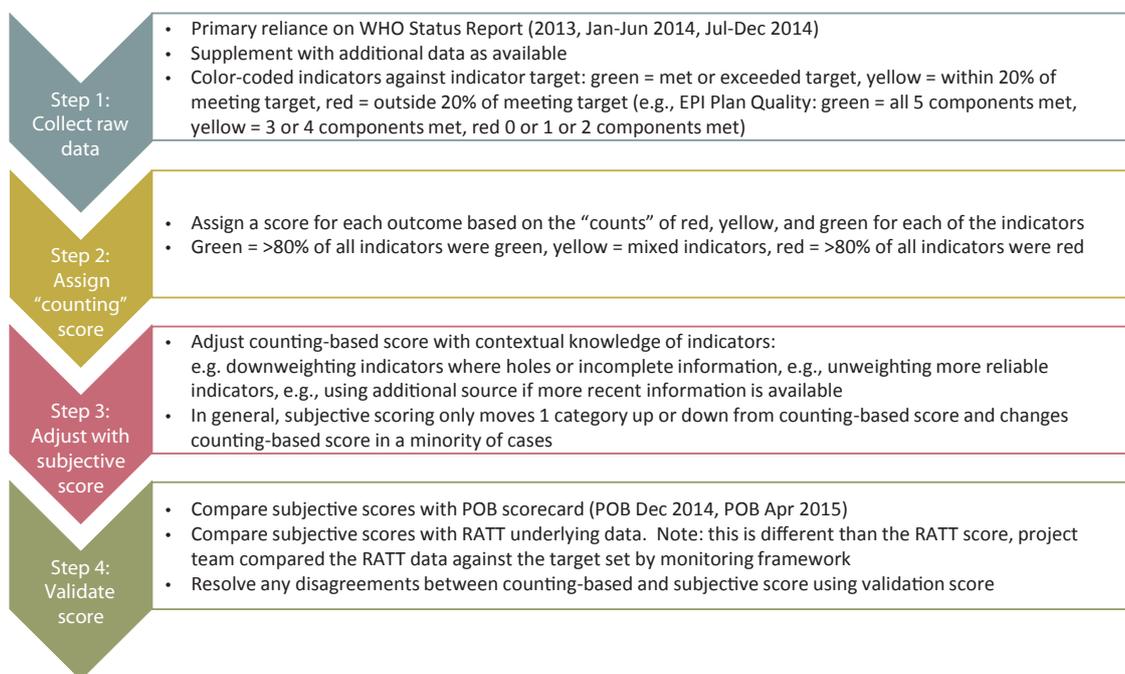
Appendix III. Methodology and Details Behind Progress Assessment

A. Scoring Methodology

Progress is measured against the monitoring framework indicators approved by the PPG in June 2014. Each Objective corresponds to several outcomes (e.g., high virus detection) and each outcome links to specific indicators and targets (e.g., npAFP rate >2 per 100K, stool adequacy >80%, and lab receipt to isolation <14 days).

The MTR report assigns an achievement score and trend to each outcome by geographic region. Scores are based on 1) objective counts and 2) subjective adjustments. Objective counts are based on the tally of indicator achievement, as reported in WHO 2013-2015 Status Reports, POB 2014-2015 Scorecards and RATT underlying data. Subjective adjustments are based on contextual knowledge such as certain indicators are more meaningful than others for a particular outcome. For full methodology, please see figure below.

Figure 1. Analytical Process for Assessment of Progress



B. Assessment Interpretation

Achievement scoring varies by Objective and outcome based on indicator complexity and the quality of the underlying data. The rating attempts to capture the overall achievement since 2013 until May 2015. For a detailed explanation of each achievement score, please see the commentary in section C. At a high level, achievement scores can be interpreted as following:

- (Green) = outcome meets or exceeds target as of May, 2015
- (Yellow) = outcome is close to meeting or exceeding target
- (Red) = outcome is off target

Likewise, trend scoring varies by Objective and outcome based on how much data is available for each indicator over time. For example, the interrupt transmission outcome (Objective 1) trend is based on the number of annual WPV and cVDPV cases in the past 5 years; whereas the commitment to IPV introduction outcome (Objective 2) trend is based on the % change in number of countries committed in Q1 2015 vs. Q4 2014. The score attempts to reflect the overall

trend since 2013 with emphasis given to the status in the last 6 months (e.g. November 2014-April 2015). Please note that for some indicators (i.e. related to outbreaks, etc.) trend analysis is not relevant since the activity has already been completed and/or represents a single point in time achievement. Data for “Reduction in unimmunized children” reflects coverage data improvements from 2012 through 2013. While an achievement score was given to reflect this coverage as a baseline, no trend score was given since the PEESP only began in 2013. At a high level, trend scores can be interpreted as following:

- ↑ = achievement improved considerably
- ↗ = achievement improved slightly
- → = achievement steady
- ↘ = achievement deteriorated slightly
- ↓ = achievement deteriorated considerably

C. Scoring Commentary

Objective 1

Outcome	Geography	Achievement	Trend	Comments
Interrupt transmission	Afghanistan	●	→	Last WPV3 in 2010 and last cVDPV in March 2013. Total number of WPV1 cases increased from 14 in 2013 to 28 in 2014 yet remained concentrated in same 7 high risk provinces in South and border regions with Pakistan. Majority of cases are limited to a single genetic cluster with either primary or secondary circulation related to importations from Pakistan. Environmental samples persistently positive for WPV in the South. Stopping transmission will be closely linked to progress in Pakistan.
	Pakistan	●	→	Last WPV3 in 2012; cVDPVs declined in 2014; however, explosive outbreak of WPV1 in 2014, primarily in known polio reservoirs where security concerns severely limited access. Transmission continues in early 2015 but below same time last year. Environmental samples continue to be positive in known high risk areas in spite of multiple SIAs.
	Nigeria	●	↗	Last WPV3 in 2012. Increase in cVDPV2 cases in 2014 but decline over last half of the year with last case in Nov. Marked decline in WPV1 in 2014; last case in July. Environmental samples negative since Nov 2014. Progress considered fragile due to population movements and insecurity in the North-East region bordering areas of Central Africa with known surveillance and immunity gaps.
High population immunity	Afghanistan	●	→	Overall number of SIAs conducted has increased, including several with use of IPV. Performance indicators are mixed. Some improvements in the South, including decline in 0 dose NPAPF, but 18% of all WPV cases in 2014 were 0 dose. Innovative outreach measures have been instituted, yet multiple areas in the South and East remain only intermittently accessible. Key challenge to reach internal nomad and cross border migrant populations from Pakistan.
	Pakistan	●	→	Sporadic monitoring indicates that SIA performance quality still apparently sub-optimal in key areas. SIAs are most likely continuing to regularly miss the same pockets of children. However, some children in previously inaccessible areas now being reached due to changes in security, increased SIAs among IDPs, and innovative measures such as SIADs with expanded use of female volunteers. Slight decline in % of NPAPFs with 0 dose in FATA, the area with most number of WPV.
	Nigeria	●	↗	Percent of 0 dose NPAPF cases has steadily declined and percent of those with >3 doses of OPV has steadily risen in 2014. LQAS from high risk districts report strong performance but some decline in quality in 2015 rounds. Innovative measures taken to reach nomads and those in inaccessible areas, but continuing to reach IDPs may be problematic due to volatile security situation in the North East.
High virus detection	Afghanistan	●	→	Surveillance review in March 2015 found global surveillance indicators are consistently met; however, presence of orphan viruses in 2014 even in 2015 and persistent subnational gaps in stool adequacy indicate pockets of suboptimal surveillance, particularly in inaccessible areas.
	Pakistan	●	→	NPAPF rates continue to meet standards at both national and sub-national levels; however, stool adequacy rates have been persistently below requirements in many key sub-national areas. Orphan viruses continue to be reported in 2014 and 2015.
	Nigeria	●	↗	National and sub-national surveillance indicators continue to meet expected surveillance standards. Isolated LGAs persist with inadequate stool adequacy rates. Orphan virus found in early 2014 and concerns remain about maintaining surveillance in inaccessible areas.

Outcome	Geography	Achievement	Trend	Comments	
Endemic Countries	Initial response	Central Africa	●	n/a	Slow Initial response in Equatorial Guinea but satisfactory in Cameroon.
		Horn of Africa	●	n/a	Adequate response time in Somalia and Ethiopia.
		Middle East	●	n/a	Initial response within 4 weeks.
	Follow-on response	Central Africa	●	n/a	First Cameroon SIA within 4 weeks but almost 10 weeks for EQ.
		Horn of Africa	●	n/a	Multiple SIAs implemented within first 3 months of the outbreak.
		Middle East	●	n/a	>3 SIAs within 3 months of first case notification in both Syria and Iraq. Assessments completed for ME.
	Interrupt transmission	Central Africa	●	n/a	Initial SIAs in Cameroon sub-optimal allowing transmission to spread to EQ. Outbreaks eventually stopped with last WPV in Cameroon in Aug 2014 and in EQ in Jul 2014.
		Horn of Africa	●	n/a	Large outbreak continued in Somalia for over 1 year with spread to Kenya and Ethiopia. All WPV1 finally curtailed and now >6 months without a reported case.
		Middle East	●	n/a	Outbreak in Syria stopped within 3 months; last case over 1 year ago. Small outbreak in Iraq stopped within 2 months. Positive environmental sample in Israel led to a national OPV SIA.
High population immunity	Central Africa	●	→	Immunity sufficient to stop transmission in EQ within 14 weeks, but low level transmission persisted in Cameroon for 40 weeks before being stopped. Percent of 0 dose NPAFP cases still high in Cameroon. Entire region considered to be at potential risk for re-establishment of transmission due to challenges in maintaining high population immunity.	
	Horn of Africa	●	→	SIAs insufficient to stop transmission in Somalia for >1 year. Particularly difficult to reach nomad populations and border populations in many inaccessible areas. 0 dose NPAFP cases widespread in Ethiopia. No further reports of cVDPVs since two reported in South Sudan in September 2014. Some improvements reported over last 6 months in outreach efforts targeting nomads throughout HoA. Entire region remains susceptible to re-established transmission due to high population movements and volatile security situation which create challenges for maintaining high population immunity.	
	Middle East	●	→	SIAs have continued but chronic insecurity has hampered immunization and immunity gaps persist. High percent of Iraqi NPAFP cases continue to have <1 OPV dose. Entire region susceptible to re-establishment of transmission due to fragmented immunization systems and persistent insecurity.	
High virus detection	Central Africa	●	→	NPAFP rates meet standards at national and sub-national levels but stool adequacy poor in several areas. Some improvements shown in last 6 months in Cameroon but gaps in EQ. Neighboring areas of CAR with sub-optimal surveillance severely hampered by inaccessibility.	
	Horn of Africa	●	↘	Large areas with poor quality surveillance in 2013, some improvements in 2014 but declines over the last 6 months in Kenya and persistent pockets of sub-optimal surveillance, especially among nomadic populations and inaccessible areas in south-central Somalia and Ethiopia. Increasing insecurity in S Sudan.	
	Middle East	●	↘	AFP generally adequate but persistent gaps in stool adequacy in pockets throughout the region. Indicators declining in Iraq and parts of Syria over the last 6 months due to increase insecurity.	

Objective 2

Outcome		Geography	Achievement	Trend	Comments
Endemic Countries	Reduction in unimmunized children	Afghanistan	●	n/a	<ul style="list-style-type: none"> Indicator: % decrease in the number of under-vaccinated children with DTP3 compared to prior year as estimated in the annual WHO UNICEF Estimate of National Immunization Coverage and reported in the POB Apr 15 2015. Scoring: <ul style="list-style-type: none"> ● (Green) = Fully Met (>10%), ● (Yellow) = Partially Met (>0-9.9%), ● (Red) = Not Met (No change or negative % change). The indicator is reported annually so trend is not captured.
		Angola	●	n/a	
		Chad	●	n/a	
		DRC	●	n/a	
		Ethiopia	●	n/a	
		India	●	n/a	
		Nigeria	●	n/a	
		Pakistan	●	n/a	
		Somalia	●	n/a	
		South Sudan	●	n/a	
	EPI plan quality	Afghanistan	●	n/a	
		Angola	●	n/a	
		Chad	●	n/a	
		DRC	●	n/a	
		Ethiopia	●	n/a	
		India	●	n/a	
		Nigeria	●	n/a	
		Pakistan	●	n/a	
		Somalia	●	n/a	
South Sudan		●	n/a		
IPV introduction	Commitment to introduction	Tier 1 countries	●	→	<ul style="list-style-type: none"> Indicator: % of OPV-only using countries (126 in total) formally committed to IPV intro by end-2015 as reported in the POB Apr 15 2015. Scoring: <ul style="list-style-type: none"> ● (Green) = Fully Met (100%), ● (Yellow) = Partially Met (50-99%), ● (Red) = Not Met (<50%). Trend is measures as change from last quarter.
		Tier 2 countries	●	↗	
		Tier 3 countries	●	↗	
		Tier 4 countries	●	↗	
	Introduction	Tier 1 countries	●	→	
		Tier 2 countries	●	n/a	
		Tier 3 countries	●	↓	
		Tier 4 countries	●	↓	

Source: POB Scorecard, April 15, 2015

Objective 3

See MTR report, Assessment of Progress

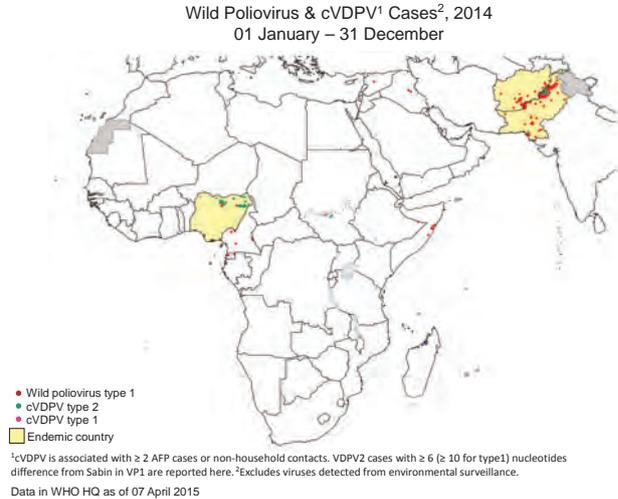
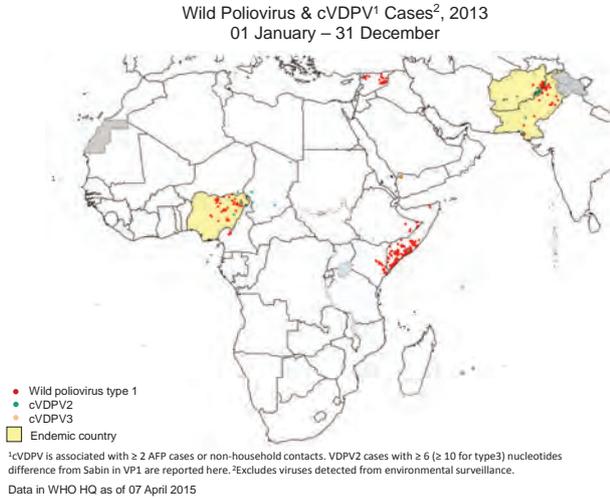
Objective 4

See MTR report, Assessment of Progress

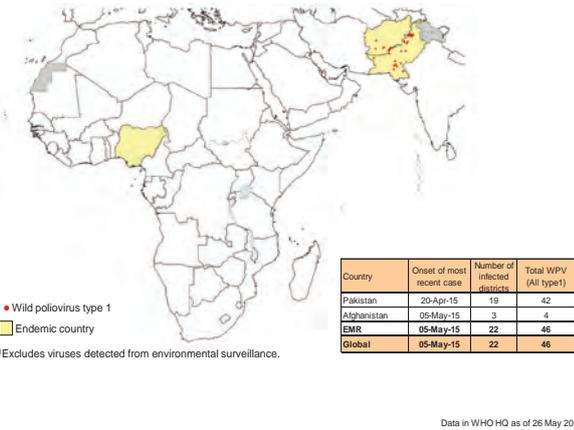
Appendix IV. Programme Epidemiology

Background

Figure 2. WPV and cVDPV cases in 2013, 2014 and last 6 months



Wild Poliovirus Cases¹, Previous 6 Months (onset of paralysis 27 Nov 2014- 26 May 2015)



cVDPV¹ Cases², Previous 6 Months (onset of paralysis 27 Nov 2014- 26 May 2015)

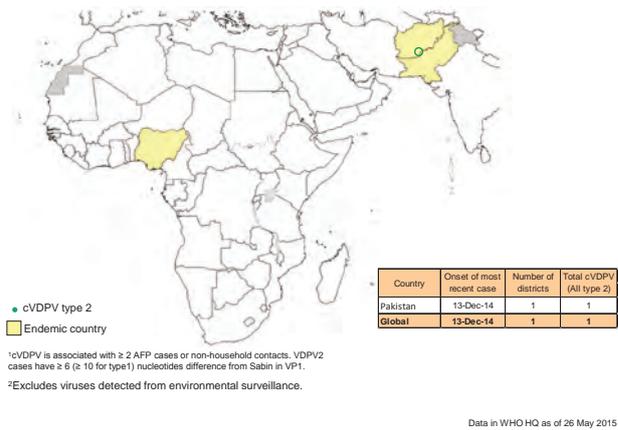


Figure 3. AFP surveillance indicators at first administrative level, for AFP cases with onset 25 February 2014–24 February 2015, WHO African, Eastern Mediterranean, and European Region countries

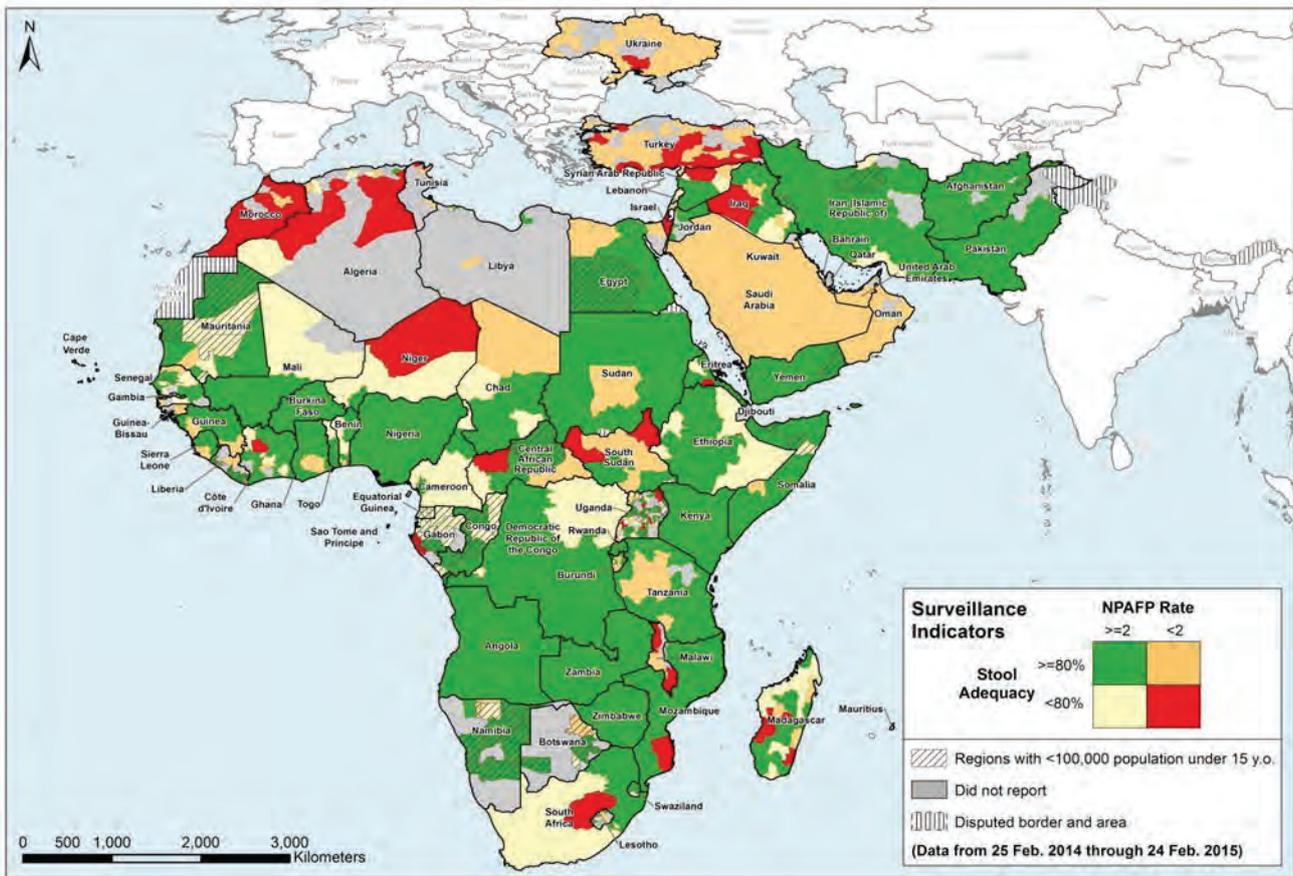


Table 1. cVDPV cases, 2013-2014

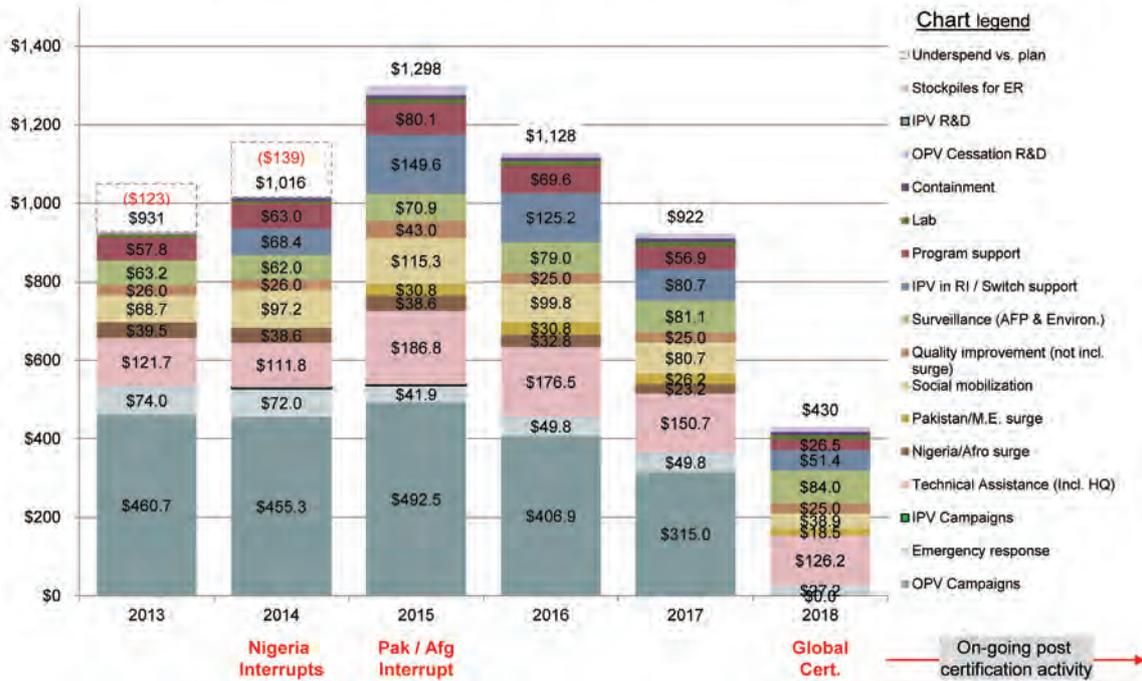
Type	County	Onset of first case	Onset of last (or most recent) case	Length of outbreak (days)	Cases		
					2013	2014	2015
cVDPV2	Pakistan	NA	13 Dec 14	>6 months	48	22	0
	Nigeria	NA	16 Nov 14	>6 months	4	30	0
	S Sudan	09 Sep 14	12 Sep 14	3		2	
	Cameroon	09 May 13	12 Aug 13	95	4		
	Niger	11 Jul 13	11 Jul 13	0	1		
	Chad	20 Jul 12	12 May 13	296	4*		
	Afghanistan	13 Mar 13	13 Mar 13	0	1		
total					65	54	
cVDPV1	Madagascar**	29 Sep 14	29 Sep 14	0		1	
cVDPV3	Yemen	12 Jul 13	12 Jul 13	0	1		

*also 12 cases in 2012. **also reported aVDPV1 with onset of 31 January 2015.

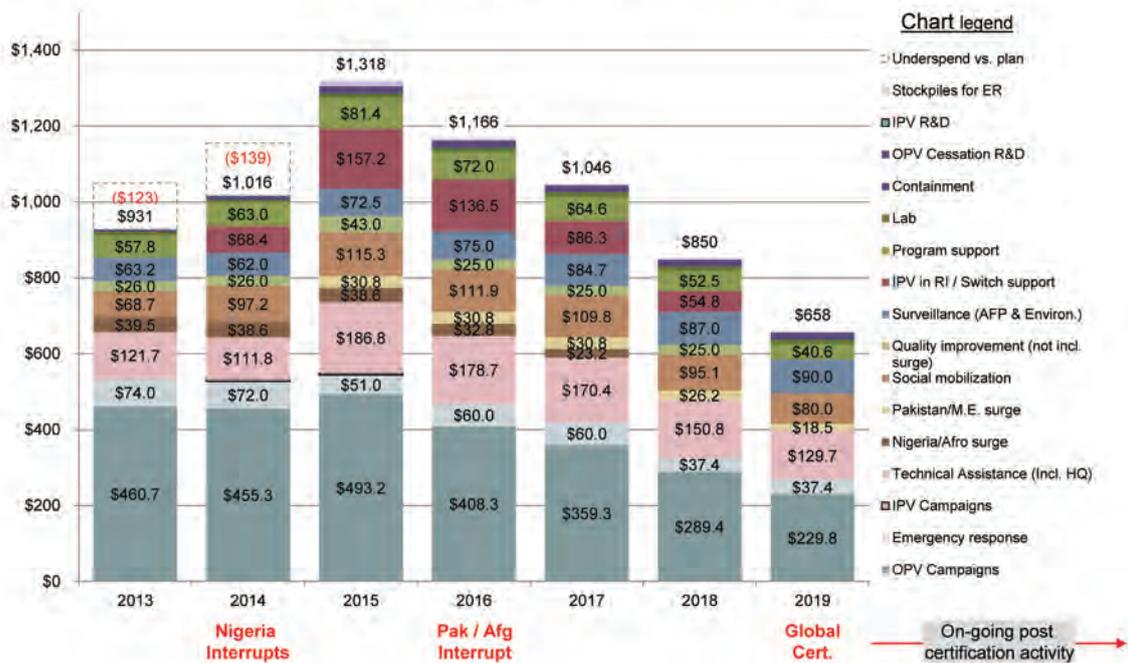
Source: WHO

Appendix V. Financial Update

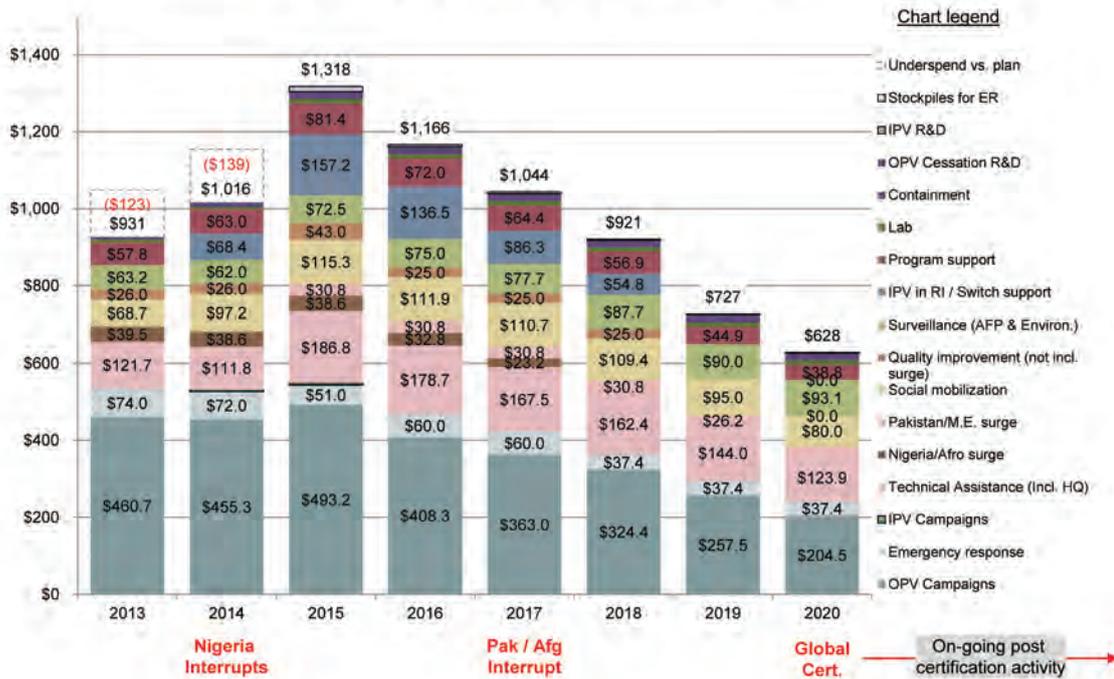
Low estimated costs to global certification 2013-2018, by Activity (\$USM, not including India self-funded costs)



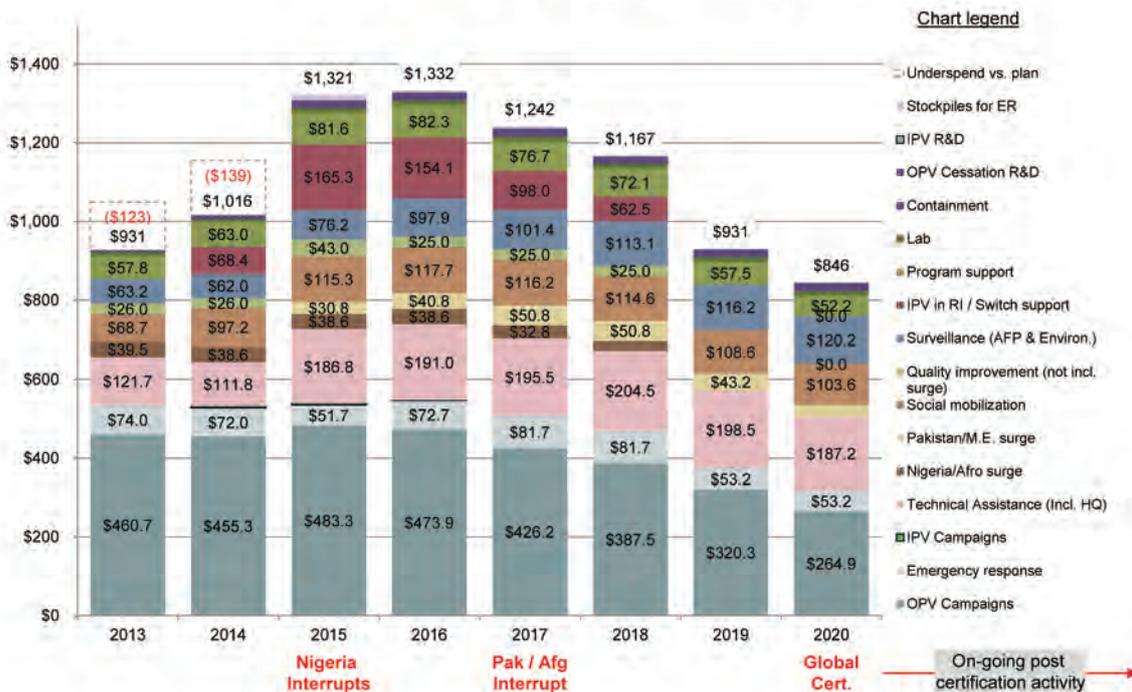
Intermediate (A) estimated costs to global certification 2013-2019, by Activity (\$USM, not including India self-funded costs)



Intermediate (B) estimated costs to global certification 2013-2020, by Activity (\$USM, not including India self-funded costs)



High estimated costs to global certification 2013-2020, by activity (\$USM, not including India self-funded costs)



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