Outline: Polio Emergency Operations Plan 2012-13 focusing on Nigeria and Pakistan

1. Context:

Since the launch of the Global Polio Eradication Initiative (GPEI) Strategic Plan 2010-2012 the incidence of polio has fallen by >50%. India, one of the four endemic countries, and one of the most technically-challenging places from where to eradicate polio, has not reported a case since early 2011. There has also been encouraging progress in re-established transmission countries in particular the Sudan and Angola. Moreover, outbreaks in previously polio-free countries are increasingly coming under control, usually within 6 months of onset.

However, in Nigeria and Pakistan there was a sharp upsurge in cases in the second half of 2011 with continued circulation of two wild poliovirus (WPV) serotypes as well as international spread, despite the introduction of national emergency polio eradication plans. Reviewing the latest global polio situation, on 21 January 2012, WHO's Executive Board (EB) adopted a landmark resolution, declaring the completion of polio eradication a "programmatic emergency for global public health."[1]

In response to the emergency situation the GPEI is developing a *Polio Emergency Operations Plan 2012-2013* to support all infected countries and in particular Nigeria and Pakistan to rapidly get back 'on track', to stop residual transmission and to protect the rest of the world from the risk of reinfection. The new Plan establishes an emergency approach to polio eradication that focuses on developing appropriate leadership, structures and systems at global, national and sub-national level to support a *transformational change*. Specifically the Plan sets out activities that will:

1. accelerate the identification and correction of major bottlenecks to high quality polio vaccination campaigns, Supplemental Immunization Activities (SIAs) and AFP surveillance in infected and high risk areas;
2. better concentrate and coordinate national and international resources, especially technical and financial assistance, to polio-infected areas, including intensified resource mobilization efforts to address the significant funding gap for 2012-2013;
3. heighten accountability for the quality of eradication activities within local authorities and partner agencies and in infected areas;
4. drive innovation to address systemic problems and;
5. increase attention to routine immunization and high quality surveillance.

In Quarter one 2012 the GPEI already moved into an emergency modus operandi:

- National emergency plans in Nigeria and Pakistan (as well as other priority countries[2]) are being updated (Target completion date: March 2012).
- The Centres for Disease Control (CDC) has activated its Emergency Operations Centre and mobilized staff across the organization.

[1] WHO Executive Board Resolution 130.R10 Poliomyelitis: intensification of the global eradication initiative. Available at: http://apps.who.int/gb/ebwha/pdf_files/EB130/B130_DIV3-en.pdf
[2] Afghanistan, Angola, Chad and the Democratic Republic of Congo.

- UNICEF has established an Inter-Divisional Polio Emergency team operating under the Deputy Executive Director.
- WHO has initiated polio operations in its Strategic Health Operations Centre (SHOC).
- The Bill and Melinda Gates Foundation (BMGF) has established a foundation-wide Polio Task Team that meets weekly and coordinates the foundation's support to polio eradication.

2. Goals:

The goals underpinning this Plan are intended to achieve the existing eradication milestones set out in the GPEI Strategic Plan 2010-2012 through the aforementioned emergency approach.

Concretely the key goals of this Emergency Plan are to:

1. Accelerate and intensify support to priority regions of Nigeria, Pakistan and Afghanistan to take corrective action to ensure each country programme is, by the end of 2012, reaching the coverage levels needed to eventually stop transmission of all polioviruses;

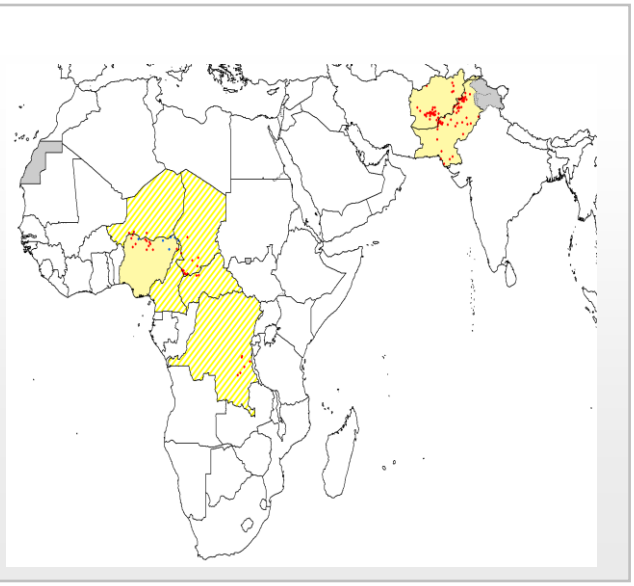
2. Sustain momentum in Chad, the Democratic Republic of Congo (DR Congo) and Angola to interrupt transmission in 2012;

3. Take corrective measures within GPEI to heighten accountability and improve coordination leading to improved outcomes at the sub-national level in these countries.

3. Situational analysis [3]

Key geographic priority areas:*

- Nigeria and Pakistan (2 serotypes: WPV 1 and 3)
- Afghanistan, Chad and DR Congo (1 serotype: WPV 1)
- Angola and other infected countries



**Details to be added*

[3] Wild poliovirus previous 4 months; excludes viruses detected from environmental surveillance and vaccine derived polioviruses (Data in WHO HQ as of 14 February 2012)

4. Lessons learned, 2010-2011:

The Plan builds on the GPEI Strategic Plan 2010-2012 and incorporates major lessons learnt in its implementation over the last 2 years in both the infected countries and especially India. The major lessons are:

Table 1: Lessons learnt from the GPEI 2010-2011

Activity	Major Areas	Lessons*
SIA quality & monitoring	▫ Independent monitoring (IM) ▫ Microplanning ▫ Vaccinator selection/training ▫ Lot Quality Assurance (LQAs)	▫ SIA quality has remained low in many areas despite IM. Improving the quality of IM through better training and supervision of monitors is a top priority. ▫ The IM process and questionnaire should be reviewed and improved so that they provide more programmatically useful information (such as social data). ▫ LQAs should be used less for validation but rather for alternate randomized methods of assessing SIA quality.
Outbreak response	▫ Rapidity ▫ Flexibility ▫ Technical Support ▫ Sustained activity ▫ 3 & 6 month progress assessments	▫ Speed of response: the faster the immunization response, the better the outcome; for outbreaks with a response within 6 weeks of onset of the index case, the mean duration, and the mean number of rounds required to stop transmission, is half that of outbreaks with longer response times. ▫ Flexibility: short interval rounds (SIADs) and flexible target age groups for immunization have been characteristics of effective and successful outbreak response in 2010-11 ▫ Technical support: rapid deployment of technical support is key in ensuring that national and sub-national teams receive adequate help in planning and conducting outbreak response. ▫ Maintain activity until all transmission is stopped: the survival of residual transmission in some key outbreak zones has demonstrated that heightened activity must be maintained even after transmission appears to have stopped, to ensure that no virus survives. ▫ Assess progress: assessments at 3 and 6 months into the outbreak provide the opportunity to assess the response, both surveillance and immunization, and identify risks that can be averted through action.
AFP surveillance	▫ National and local level surveillance ▫ Follow up every 6-12 months ▫ Expanded Environmental Surveillance	▫ Supervision of surveillance needs to be improved to ensure transmission is detected at all levels including the most peripheral. In particular surveillance must be closely monitored at the sub-national level. ▫ Surveillance reviews are most effective if targeted to priority areas and followed up after 6-12 months to determine the status of implementing the agreed upon recommendations. ▫ Environmental surveillance has been found to be a very useful supplement to AFP surveillnace, as evidenced in India in 2011.
Communication & social mobilization	▫ Global communication indicators ▫ Holistic strategies	▫ The establishment and tracking of global communication indicators has helped identify programme weaknesses, which are being systematically addressed and has helped inform the development of social mobilization networks in Northern Nigeria, and Pakistan, as well as the need for additional communication staff in Chad and DR Congo. ▫ These indicators have shown the importance of collecting subnational social data in the highest risk areas to be able to plan more effective responses on the ground – going beyond

		refusals to collect data on all social reasons for missed children. ▫ Operations and communications activities need to work more holistically towards increasing vaccination coverage. The holistic strategies to reach underserved communities in India should be replicated to reach specific minority communities in Pakistan and Afghanistan, mobile and nomadic communities in Northern Nigeria and the Horn of Africa, as well as migrating populations in Chad, DR Congo and Angola.
Vaccines	▫ Bivalent, monovalent and trivalent oral poliovirus (bOPV/mOPV/tOPV) ▫ Inactivated poliovirus (IPV)	▫ bOPV, introduced for the first time in December 2009, made a substantial contribution to eradication in key countries. Wide scale use was instrumental in increasing the population immunity to both wild poliovirus one (WPV1) and wild poliovirus three (WPV3) in India. Bivalent OPV use is associated with a significant decline in WPV3 transmission to the lowest levels ever recorded globally. ▫ bOPV, tOPV, and mOPV all have roles in maintaining high levels of population immunity, and in responding to outbreaks. A mix of vaccine use allows for optimal immunity to all serotypes; however, the impact is still heavily dependent on actual coverage achieved in routine and SIAs. ▫ research conducted in 2010-2011 shows that fractional doses given intradermally are roughly equivalent to full doses given intramuscularly; one fractional dose of IPV in naïve infants primes/seroconverts ~95% of subjects. ▫ fractional-dose IPV should result in major cost-savings (and a targeted price per immunizing dose of $0.5 or less should be attainable).

**Illustrative: Further details to be added including action steps and indicators for tracking their application.*

5. Programmatic priorities by Geographic area:

I. Enhancing accountability and management of core eradication strategies

(a) Oversight processes

Nigeria and Pakistan

In Nigeria, Pakistan and other key countries, revised and strengthened emergency action plans have been drafted and are being vetted through national and international consultative processes, to ensure the full incorporation of lessons learnt in 2010-2011 and new innovations. The action plans will be finalized by end March 2012. The heads of state of Nigeria and Pakistan have enhanced oversight by establishing special focal points/leaders who report directly to the President in Nigeria and the Prime Minister in Pakistan. In both countries, a National Task Force appointed by the head of state will monitor district and sub-district performance and direct corrective actions.

International

Within the core partner agencies the polio emergency is now being overseen at the highest levels. A new Polio Oversight Board formalizes communications between the heads of these agencies on a quarterly basis to provide oversight to ensure high-level accountability and fully exploit the strengths of each organization across all levels. A Polio Emergency Steering Committee, which includes executives from these five

partners, as well as high-level members of the Governments of Nigeria and Pakistan, will meet monthly.

Moreover, to streamline international oversight processes and to enhance support to the country teams, periodic partner missions will be organized using standardized Terms of Reference, which will include assessing progress against the goals set by each country, bottlenecks and opportunities and discuss the same with the stake holders in the country with specific recommendations (See Section 8 for details).

(b) Real-time programme performance monitoring

Nigeria and Pakistan

Outline under development by national polio teams and will be finalized together with the updated emergency plans.

International

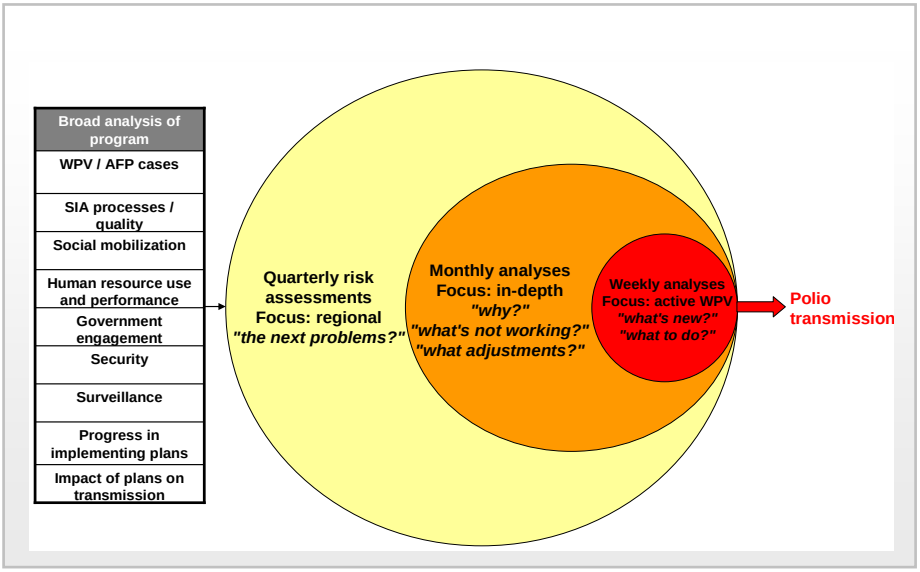
Central to the emergency agenda will be drilling down to data that shows why polio persists, and rapidly adapting strategies, activities and resource allocation based on that information. A new inter-agency country support team will be charged with ensuring that the wealth of polio data is fully exploited to guide the programme in identifying obstacles and tracking progress in overcoming those obstacles, on a weekly basis. The team will work with country teams, particularly in key endemic countries, to analyse available information to identify the problems, develop solutions, and track implementation across all levels of the partnership. In parallel, all partners will assist governments and priority national polio programs to improve data management, accuracy, and analytical capacity so that information is rapidly available to those who need it most.

A set of cross-agency analyses will incorporate sub-national data, including communications data. This will allow the programme to go beyond the current analyses that clearly identify where children are being missed, move to more systematic analyses that reveal the various operational, social and political reasons why children are being missed, and track progress and effectiveness in addressing the "whys".

A weekly epidemiological and programmatic report will serve as the centrepiece of a series of analytical products to drive decision-making. The weekly analyses will be complemented by monthly in-depth analyses of each polio priority area and quarterly risk assessments that scan the broader horizon to identify potential future problems and actions that can be taken to prevent their occurrence (Figure 1).

The analyses will be made available publicly and to national polio programmes, the Polio Emergency Steering Committee, and the Polio Oversight Board (see Section 8 for details on these new bodies) to assess the programme and guide decision making.

Figure 1: Cross-agency polio analytical products



(c) Improved management practices and personnel accountability

Nigeria and Pakistan

Outline under development by national polio teams and will be finalized together with the updated emergency plans.

International

All partners are reviewing their existing accountability frameworks with a view to improving programmatic and personnel performance and management.

Training programmes will be introduced to reinforce the main accountability principles and strengthen professional and technical skills through workshops targeting leadership, management and front-line teams. Training materials are being developed and trainings will be conducted by end Q2 2012. Standard indicators will be refined for each level to monitor and compare performance across countries.

(d) Communication and social mobilization

The on-going lack of systematic and reliable data on missed children continues to hamper both communication and operational planning on the ground. There is also a need to create more 'pull' for the programme, by mobilizing genuine community demand for polio vaccination, as well as building the trust of communities where both overt and covert resistance to campaigns continues to be a problem. The key priorities in this area include:

The key priorities in this area include:

- Strengthening monitoring systems to improve collection of critical social data.
- Revising communication strategies to better utilize monitoring data, focusing more tightly on reducing the numbers of chronically missed children.

- Scaling-up social mobilization networks rapidly in the highest risk areas of priority countries, ensuring strong management of mobilizers in Pakistan (2,000), Afghanistan (2,100), Nigeria (2,457), Chad (7,000), DR Congo (13,000) and Angola (14,000).
- Rolling out intensified multi-media campaigns that re-energize broad public support and increase the sense of accountability by local and national leaders.

II. Intensifying the application of key lessons learnt

(a) International Technical Assistance

A key lesson learnt from 2011-12 has been the need to substantially increase external technical assistance to accelerate eradication and build capacity in areas of particularly weak systems. Consequently, standing capacity and surge capacity for technical support to countries is being significantly supplemented in the following settings:

Nigeria and Pakistan

Intensified technical assistance will be provided all the way to the sub district levels as was done in India.

Afghanistan, Chad, DR Congo and Angola

Intensified technical assistance will be provided to the state/provincial levels.

For both endemic and re-established transmission countries such technical assistance will comprise:

- long term support in key transmission zones to strengthen the capacity of agency teams and to achieve high quality immunization, communication and social mobilization and surveillance activities.
- operations management support to agency teams.
- epidemiological and data support to national agency teams.
- support for specific activities, including surveillance assessments, quality reviews, assessment of innovations, management reviews, etc.

New outbreak situations[4]:

- immediate support for the initial investigation and assessment of the outbreak and the planning of the response.
- support for achieving high quality in the immunization response activities, including effective communication and social mobilization.
- support to rapidly enhance surveillance quality in outbreak and at-risk areas
- assessment at 3 and 6 months of progress and remaining risks.

Note: Details of human resource deployments, at what levels, for what activities and over which timelines, to be added.

[4] Which can be in polio-free countries or polio-free areas of currently infected countries.

(b) Improved SIA monitoring

Recognizing the weaknesses of the independent monitoring processes initiated in 2009-10 in all recently infected areas, current IM will be complemented by LQAs and potentially other methods to immediately and accurately identify areas of major programme failure in SIA delivery for corrective action and recovery.

(c) Accelerated improvement of Routine immunization

Enhancing routine immunization will be given a higher profile under this Emergency Operations Plan, linked to the trivalent oral poliovirus/bivalent oral poliovirus (tOPV/bOPV) switch and single-dose inactivated poliovirus (IPV) introduction in DPT3. The GPEI is working with the GAVI Alliance to identify joint strategic approaches, including areas of immediate focus in 2012.

(d) Expanded use of Environmental surveillance (ES)

ES will be enhanced in target priority countries as follows:

- *Nigeria*: expanding surveillance in Kano (additional sites) and other Northern states (e.g. Borno and potentially others) with persistent transmission of WPV.
- *Pakistan*: maintaining the extensive system already established.
- *Chad, DR Congo and Angola*: establishing ES sequentially. Building laboratory capacity in South-Africa, DR Congo and (probably) Cameroun.

(e) Enhanced access in conflict areas

In areas with high levels of insecurity such as the conflict areas of the Southern region of Afghanistan and FATA in Pakistan, as well as parts of Northern Nigeria (Borno, Yobe, Kano) the effectiveness of polio eradication activities (SIAs, AFP surveillance) can be seriously compromised. Enhanced efforts will have to be made to improve access, through, *inter alia,* communication with all partners to the conflict, negotiations, and improving grassroots community involvement in implementing and overseeing immunization campaigns.

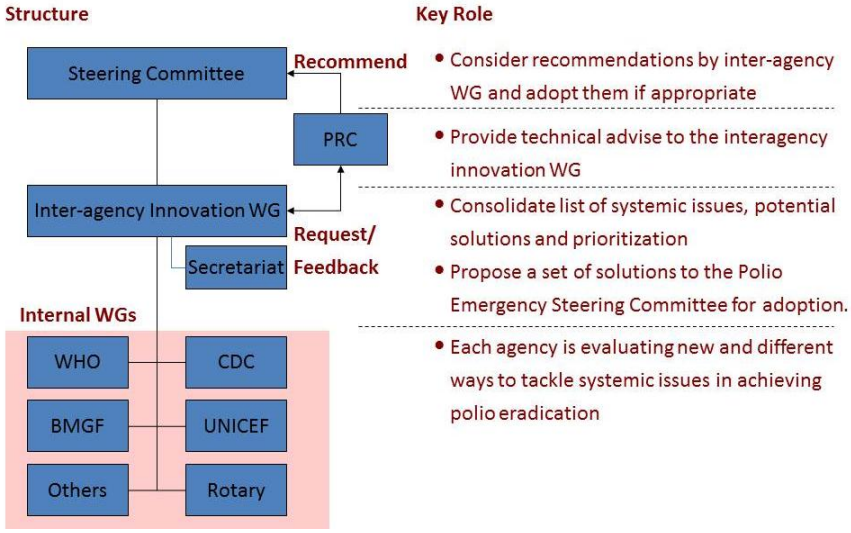
III. Accelerating innovation

Historically, GPEI has identified and adopted multiple innovations, including those which are operational (e.g., finger marking, tally sheet, LQAS, GIS use) and those which are scientific (e.g., bOPV and mOPV, real-time PCR). Recognizing the urgent need to accelerate the exploration and adoption of innovative solutions to address systematic problems in polio eradication, GPEI has established a new structure and methodical approach to innovation, which will be integral to this Plan.

Structurally, a partnership decision was made to establish a) a cross-functional working group in each of the partner agencies to systematically explore innovations and b) an inter-agency working group, charged with bringing together innovations being evaluated in each agency. Each agency is currently developing a list of priority ideas. With inputs from each working group, country teams and Regional Offices, and with guidance from the Polio Research Committee, the inter-agency working

group will propose a set of solutions to the Polio Emergency Steering Committee for adoption (Figure 2).

Figure 2. Innovation work stream: structure and roles



Key innovations that will be explored and introduced in an accelerated manner under this Plan are in the following activity areas:

(a) Broader target age groups for outbreak response

Broader target age groups have been identified in response to the epidemiology of outbreaks (Tajikistan, Congo, China) and to margins of risk (DR Congo, Central African Republic (CAR)) in the past 2 years. The approach appears to have value in rapidly increasing overall population immunity where there are significant immunity gaps in older children and adults. Outbreak response planning will therefore be flexible to allow for broader target age groups where necessary.

(b) Rapid assessments earlier in outbreak responses

Late detection and inadequate quality of response have increased the time and resource needs to control outbreaks; transmission was thought to have been interrupted for some outbreaks, but was later found to continue undetected because of surveillance problems. To assure that outbreaks are interrupted in the shortest possible time, the programme will implement joint national and international assessments at 3 months and 6 months following onset of the outbreak, to assess the quality of immunization and surveillance response activities, and identify risks for continued transmission. Additionally, an assessment will be carried out 6 months after the last case, to ensure that all steps have been or will be taken to fully interrupt transmission.

(c) Global Information Systems (GIS) mapping

GIS mapping should be implemented in as many polio-infected countries as possible, specifically high risk districts/LGAs (e.g. those with any poliovirus case within six months, low coverage in LQAs and targeted for outbreak response), to better define the geographical areas of responsibility for the teams and first level of supervisors.

The objectives of the activity should be to (i) mark the administrative and team boundaries (ii) chalk out routes of the teams and (iii) then translate the boundaries and routes into satellite images for onward transmission to supervisors and the teams to guide their activities.

(d) Global Positioning Systems (GPS) tracking of vaccination teams

GPS tracking of vaccination teams has been initiated in Nigeria. It will be further expanded in the high-risk areas (e.g. northern Nigeria) to track the optimal movement of the teams during campaigns and ensure full coverage of priority areas.

(e) Vaccination of travellers

WHO, through its annually updated publication (also on the WHO website) on 'International Travel and Health', publishes a list of 'polio-infected' countries each year, advising travellers to be fully vaccinated before travelling to that country.

For the last two years, International Travel and Health has also included advice to travellers *from* polio-endemic areas to be vaccinated before leaving their country, in order to reduce the probability of wild poliovirus importation into polio-free areas.

WHO guidelines on this topic will be revisited following the 65th World Health Assembly (WHA) in May and again at the end of 2012.

(f) IPV campaigns

Pilot IPV campaigns will be proposed for completion in 2012 in a high-risk area and potentially a high-risk population in each of Nigeria and Pakistan to determine whether large scale use could help to rapidly boost immunity to interrupt transmission. The objective will be to maximize immunity to poliovirus for each contact. Pilot IPV campaigns will also determine factors that affect coverage (the goal would be to achieve same coverage as with OPV only campaigns). If successful, targeted routine use of IPV in areas of greatest risk (Northern Nigeria) will be introduced starting in late 2012-13 supplemented by campaign use in special populations (i.e. migrants, travelling populations out of inaccessible areas).

(g) tOPV-bOPV switch to boost immunity against WPV serotypes 1 and 3.

Ensure preparatory work for a switch in early 2014 is on track, including:

- policy decision for switch by appropriate oversight committees and by the WHA
- interruption of persistent vDPV outbreaks (i.e. Nigeria)
- availability, and sufficient production capacity, of affordable IPV with introduction beginning at least 6 months before switch
- regulatory approval for intradermal IPV administration
- licensure of bOPV by remaining national producers

6. Programme Performance Targets*:

Jan.-June 2012	4 SIAs, at least 2 with at least 80% coverage.
June-Dec. 2012	3 SIAs with at least 90% coverage.
Jan.-June 2013	4 SIAs with at least 90% coverage.
June-Dec. 2013	3 SIAs with at least 90% coverage.

** measured in each district/LGA reporting wild poliovirus in the previous 6 months, both endemic and re-established transmission countries/outbreak countries.*

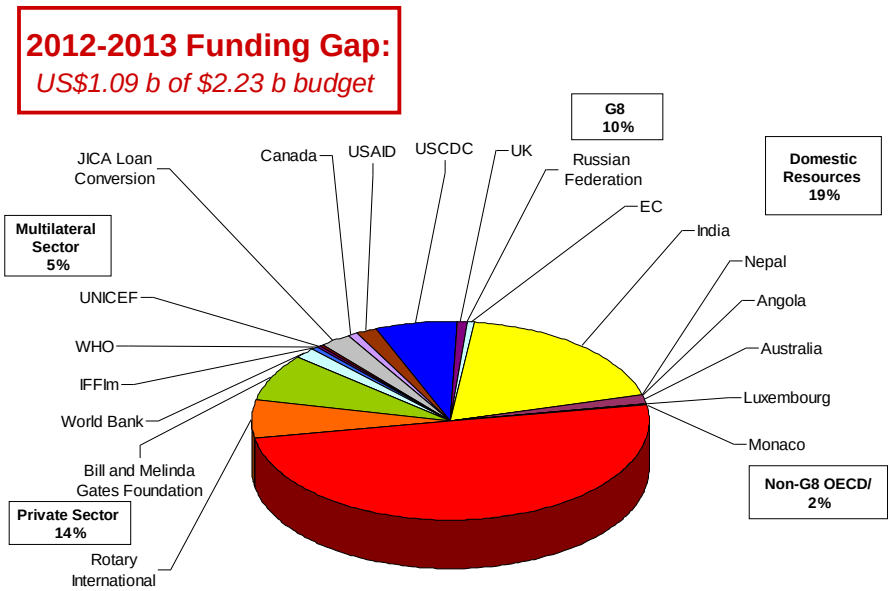
7. Budget and financing

The budget for the 2012-13 period covered by this Emergency Operations Plan is US$ 2.23 billion and comprises core costs, planned supplementary immunization activities and emergency response and WHO/UNICEF programme support costs. With current contributions of US$ 1.14 billion this leaves a gap of US$ 1.09 billion.

Note: The budget figure does not include the cost of IPV campaigns. This component of the budget is currently under development.

In order to fill the funding gap political support and attention to meeting the Strategic Plan milestones through the specific goals of this Plan remains key. Reducing the significant gap of US$ 1.09 billion will require, in addition to ramped up and innovative approaches to resource mobilization, cost-cutting and efficiency savings. Mapping and implementing these operational cuts and efficiencies will be critical in 2012.

Figure 3. Financing 2012-2013: US$ 1.14 billion contributions



8. Coordination, oversight and monitoring

Recognizing the urgent need to fully exploit the relative strengths of WHO, Rotary International, CDC, UNICEF and BMGF, strategic oversight to countries' polio eradication efforts will now be driven by a Polio Emergency Steering Committee composed of senior executives from the five key agencies and the governments of Nigeria and Pakistan. It will aim to ensure cross-agency alignment in priority-setting and support to countries. It will direct three new inter-agency groups:

- Inter-Agency Country Support Group to coordinate support to countries' eradication efforts, especially Nigeria, Pakistan/Afghanistan, Chad, DRC, and outbreak countries (see Change area 2)
- Inter-Agency Innovation Working Group to Identify systemic challenges and root causes and drive innovations to improve operations (see Change area 3)
- Inter-Agency Advocacy and Communications Group to mobilize resources (bringing together the existing Polio Advocacy and Global Polio Communications groups for closer alignment of strategy and implementation)

A Polio Oversight Board will provide oversight of the GPEI, ensure high-level accountability and fully exploit each agency's resources, with representation from the heads of spearheading partners and BMGF.

The Independent Monitoring Board will continue to monitor and guide the progress of the GPEI Strategic Plan.

Annex 1: Timeline for developing Polio Emergency Operations Plan (2012-13)

Date	Activity	Milestone
Week of 06/02	Partner comments on framework for outline paper (by 08/02)	
	Drafting of outline paper (5 - 8 pages)	
	Outline paper shared with partners (10/02)	
13/02	Partner feedback on outline paper	★
16/02	Outline paper shared with SAGE (for 17/02 meeting) and donor partners	
24/02	Outline paper updated based on SAGE feedback and shared with countries, donor partners, and interested parties	
27/02 to 22/03	In-country stakeholder consultations, including on National Emergency Plans, in Nigeria (27-28 Feb.) and Pakistan (Technical Advisory Group, 21-22 Mar.)	
05/03	First donor consultation (via teleconference)	★
23/03	Full working draft of Plan (v.1) developed (including feedback from Nigeria, Pakistan and donors) for core partner review	
30/03	Core partner feedback on full draft plan (v.1)	★
03/04	Updated draft plan (v.2) submitted to SAGE and shared with donor partners	
11/04	In person donor consultation (Global Partners Group)	
17/04	Meeting with SAGE on draft plan for final review and input	★
23/04	Plan finalized and submitted to WHO Governing Bodies for 65th World Health Assembly (deadline: 26/04)	
21/05	65th World Health Assembly discussion and decision	★