POLIO GLOBAL ERADICATION INITIATIVE

ANNUAL REPORT

2012

World Health Organization

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THIS REPORT IS DEDICATED TO ALL THE FRONTLINE HEALTH WORKERS WHO GAVE THEIR LIVES, ALL IN EFFORTS TO PROTECT CHILDREN FROM LIFELONG POLIO PARALYSIS.

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EXECUTIVE SUMMARY

The year 2012 marked the final year of the Global Polio Eradication Initiative (GPEI) Strategic Plan 2010-2012 and gave birth to an emergency approach to finish polio eradication. At the beginning of the Plan three years ago, polio was rampant across 23 countries and more than 1,500 children were paralysed for life that year. The disease was widespread across the remaining endemic countries. Re-established transmission of poliovirus was continuing in four countries. Most worryingly of all, endemic polio clung stubbornly to two parts of India, despite the regular and consistent implementation of massive supplementary immunization activities.

New tools and tailored approaches, including the new bivalent oral polio vaccine (OPV), began to be implemented in all remaining endemic and re-infected areas, under the auspices of the Strategic Plan 2010-2012. By the end of its period, although the milestone of stopping all poliovirus transmission by end-2012 was missed, the Plan had brought the world to the brink of eradication.

All persistent outbreaks were successfully stopped. New outbreaks were stopped within six months. Re-established poliovirus transmission was interrupted in three of four countries – Angola, the Democratic Republic of the Congo (DR Congo) and South Sudan. The fourth country, Chad, was on track to doing so at the end of 2012. Polio was geographically increasingly restricted in Nigeria, Pakistan and Afghanistan. And India, long regarded as the most challenging place from where to eradicate polio, achieved success, putting to rest the question of the technical feasibility of eradication.

The fewest cases, in the fewest places

"Are we seeing [polio's] last stand?" asked the Independent Monitoring Board for polio eradication in October 2012. Given the trajectory of polio cases that year, they certainly weren't the only ones asking that question.

At the end of 2012, polio was at the lowest levels ever – with fewer cases in fewer districts of fewer countries than ever before. 223 cases were reported in 2012 – a greater than 60% reduction from 2011. Over the year, through the tireless dedication of the on-the-ground heroes of polio eradication, more than two billion doses of vaccine were distributed to 429 million children around the world. And although new risks have emerged, including insecurity following the tragic attacks on health workers in parts of Pakistan and Nigeria in late 2012 and early 2013, the world faces the best ever opportunity for success.

2013 marks the beginning of a new era. The GPEI will be operating under the auspices of the new Polio Eradication and Endgame Strategic Plan 2013-2018. The development of this Plan was made possible by the successes, progress and lessons learnt from 2010-2012. Those three years have established a platform from where a lasting polio-free world – free of wild- and vaccine-derived polioviruses – can be rapidly and realistically achieved.

India success sparks an emergency to finish the job

2012 was the year that India was removed from the list of polio-endemic countries. Angola and DR Congo both put a stop to re-established polio transmission.

The year began with a shake-up of the way the GPEI is structured and does business. The partner organizations shifted into emergency mode, looking to become faster, smarter and more innovative in getting the polio vaccine into the mouth of every last child. Accountability was a key focus across the board – from the heads of the spearheading partner organizations, down to the vaccinators in the field. And processes were put in place to ensure greater cooperation, not only between organizations, but between country, regional and head offices.

This shift into emergency mode was formalised when the 194 Member States of the World Health Assembly, meeting in Geneva in May 2012, declared the completion of polio eradication a "programmatic emergency for global public health". This resolution announced that the global community was committed to ending this disease and preventing its resurgence. The three remaining endemic countries – Nigeria, Pakistan, Afghanistan – launched national polio emergency action plans, overseen in each case by the respective head of state, and increased accountability measures to urgently address long-standing operational

challenges. Partner agencies of the GPEI also moved to an emergency footing, operating under the auspices of the Global Emergency Action Plan 2012-2013, to rapidly support countries' efforts through an emergency surge in technical assistance down to the district level. Partnership oversight, coordination and management architecture was put in place to maximise efficiency and accountability at every level across the partnership.

Addressing a critical funding gap and tackling the problem of international spread

Throughout the year, the risk of new polio outbreaks made many people uneasy, as vaccination rounds were scaled back or cancelled as a result of the lack of funds, leaving more children needlessly vulnerable to polio in high-risk areas. The year closed with a new outbreak, in Niger – a reminder of the human cost of spreading poliovirus. If the funds could not be raised to cover the costs of eradication and prevent further spread in 2013 and beyond, the world runs the risk of polio resurgence.

Progress – and the path to success

A key factor in the progress in 2012 has been enhanced country ownership. In all three remaining endemic countries, the full force of administration and the weight of the head of state were put into the effort – going beyond the health sector to a whole-of-society approach. New oversight and accountability mechanisms were established, to hold local level leaders accountable for programme performance. Ultimately, success will depend on sustaining this approach and intensity.

Strong commitment from the top levels of the GPEI spearheading partners and unflinching support throughout the year from the UN Secretary-General, the UN Foundation and the Bill and Melinda Gates Foundation was critical to the progress seen in 2012.

In a historic display of solidarity and commitment at the UN General Assembly in September, leaders from around the world – including the heads of state from Afghanistan, Nigeria and Pakistan, donor government officials and new donors from the public and private sector – vowed to capitalize on progress achieved in 2011 and early 2012 and to turn the World Health Assembly-declared emergency into action. Days after, millions watched the webcast of a concert in New York's Central Park to catalyse citizen action against polio, hosted by the Global Poverty Project and strongly supported by Rotary International.

Innovations played a lead role in 2012, including new house-based microplans making the difference in operations in northern Nigeria. The introduction of a direct disbursement mechanism in Pakistan ensured that health workers were paid directly and on time. Delegations from India to the remaining endemic countries helped transfer vital knowledge about microplanning, accountability, strategies for special populations, and data collection.

All this paid off in more children being reached in the reservoirs of the poliovirus. Polio was at the lowest levels in history. WPV3 transmission was on the verge of elimination. Nigeria was the only country which saw an increase in cases – and even there, more children were being reached with vaccine in the latter half of 2012 than in the first half, and new cases began to plummet by the end of the year.

Unacceptable loss

Tremendous sacrifices are being made to reach children. Polio workers in Pakistan and Afghanistan lost their lives in 2012 while working to protect children against polio. In Pakistan, a horrifying series of fatal attacks on health workers brought the year to a tragic close; 2013 opened with murders of health workers in Nigeria. The loss of these workers highlights the dedication and bravery of those who risk their lives so that the children in their community can receive the health services they deserve, which include not only polio vaccine but also other critical services. The Pakistani public was outraged by the killings, and the governments of both Nigeria and Pakistan re-iterated their commitment to ensuring the safety and sanctity of health facilities, workers and services. While parts of all three endemic countries remained off-limits at the end of the year, health authorities were persistent in adapting to the new political and security realities of these places, with small but important victories. Negotiation efforts led to 30,000 children living in Pakistan's Tirah Valley being vaccinated in 2012 for the first time in three years.

Eradication – and endgame

The partnership is distilling the lessons learned from 25 years of polio eradication, including from India's successful programme, into a plan to end polio and make sure it stays ended. Known as the "Polio Eradication and Endgame Strategic Plan 2013-2018", it sets out a blueprint for ceasing the transmission of both wild poliovirus and vaccine-derived poliovirus and strengthening routine immunization coverage in key target countries, provides for the safe containment of poliovirus in laboratories and lays out a roadmap to ensure that the assets, resources and knowledge of the polio programme can be harnessed to support other health interventions and services. In a historic decision, in November 2012, the Strategic Advisory Group of Experts on immunization (SAGE) recommended a globally synchronized withdrawal of type 2-containing OPV – necessitating a switch from trivalent OPV to bivalent OPV in routine immunization programmes – and the introduction of at least one dose of inactivated polio vaccine (IPV) into routine immunization programmes.

With indigenous wild poliovirus now taking shelter in parts of three countries where limited vaccination is taking place, new challenges face the programme. Children are not vaccinated in these pockets because of a lethal mix of marginalization or alienation from the mainstream, insecurity, political and civil upheaval and even conflict. The remaining endemic countries are not alone in this new reality. From the Horn of Africa to West and Central Africa, and the fragile neighbourhood of Syria and surrounding countries, the spectre of polio haunts complex emergencies. Such places, where health care and the health system collapse under the weight of these emergencies, are at particular risk of the virus. The children of these places cannot be left behind. The polio programme is working increasingly in close coordination with broader humanitarian emergency efforts to mitigate this risk.

Now that India has laid to rest the argument about whether polio eradication is technically feasible, and new emergency approaches are showing impact, this is the time for everyone to double their efforts, including the international development community. On one side of the balance, a lasting world free of polio where no child will ever know the pain of polio paralysis, and US$ 50 billion in economic benefits; on the other, resurgence of the disease resulting in 200,000 cases every year, within 10 years. All countries will benefit equally from global success. Ensuring that success is a global responsibility.

WHO/T. Moran

KEY EVENTS 2012

January

For the first time in history, **India passes a year without a case of polio.** The country's last case is Rukhsar Khatoon, a little girl from West Bengal.

February

Rotary

Rotarians around the world use the organization's anniversary on 23 February to increase awareness of polio eradication, lighting up world-famous landmarks with their "End Polio Now" message.

March

Acute financing shortage forces the scaling back of critical activities in 24 high-risk countries, including in parts of West Africa, putting more children at risk of polio.

April

Rotary International presents Nigeria's President Goodluck Jonathan, and India's Amitabh Bachchan, with the prestigious Polio Eradication Champion award.

Rotary Nigeria PolioPlus Committee

President of Nigeria Goodluck Jonathan (right) receives Rotary's prestigious Polio Eradication Champion award from Past Rotary International President Wilfrid Wilkinson

In Pakistan, a case due to wild poliovirus type 3 (WPV3) is reported. **It would be the last WPV3 case on the Asian continent in 2012 – the strain is on the verge of elimination.**

May

The World Health Assembly (WHA) declares polio eradication a "programmatic emergency for global public health" and requests the development of a comprehensive polio eradication and endgame strategy to end-2018.

June

The World Health Organization's European Region celebrates 10 years since it was certified polio-free.

The Independent Monitoring Board (IMB) concludes that emergency measures are beginning to have an impact, with polio at lowest levels ever; identifies financing as the greatest risk to polio eradication.

July

The killing of a polio worker in Gadap, Pakistan, serves as a tragic and important reminder of the risks polio workers on the frontline face and of their bravery as they protect children from lifelong polio-paralysis. In a separate attack, one WHO staff member and one international consultant were injured when their vehicle was shot at by armed men. These attacks forced the programme to adapt, and begin to operate under a new security framework.

An emergency surge in technical staff continues, as additional public health professionals continue to be deployed to support the national polio emergency plans in highest-risk districts.

Angola passes a year without polio and is officially removed from the list of countries with re-established wild poliovirus transmission.

August

World Humanitarian Day – polio staff and infrastructure continues to support broader humanitarian response efforts, in particular in Mali and the Sahel region.

Rotary/J-M Giboux

OPV is added to broader humanitarian response activities across West, Central and the Horn of Africa

September

Stuart Ramson/Insider Images for UN Foundation

Leaders from around the world, including the heads of state of the remaining endemic countries, commit to the emergency approach at a high level event on polio eradication held during the United Nations General Assembly, hosted by UN Secretary-General Ban Ki-moon.

More than 50,000 people converge on New York's Central Park for the Global Citizen Festival. Hosted by the Global Poverty Project, the advocacy concert celebrates the progress achieved in the battle to end polio and extreme poverty.

October

World Polio Day – global awareness activities launched in support of polio eradication.

In Pakistan, a polio vaccinator is shot and killed in Balochistan.

Rotary's 'End Polio Now' logo lights up historic Frere Hall in Karachi, Pakistan.

November

The Strategic Advisory Group of Experts on immunization (SAGE) endorses the main objectives of the new Polio Eradication and Endgame Strategic Plan 2013-2018, and recommends that all countries introduce at least one dose of IPV in advance of the phased removal of OPVs.

December

A series of attacks on health workers in Pakistan shocks the world of polio eradication and beyond. The GPEI condemns the attacks on those who dedicate their lives to providing life-saving health interventions, and vows to honour the memory of those lost by finishing their work. Security operations were further intensified, to address the new security reality facing frontline health workers.

The Democratic Republic of the Congo passes 12 months without a case.

Cross-border importation is detected in Niger (linked to Nigeria); WPV1 is isolated in sewage through environmental surveillance in Egypt (related to strains circulating in Pakistan).

2012 ends with the fewest cases in the fewest countries in history.

January 2013

India completes two years with no reported wild poliovirus cases.

25 years of the GPEI: what does the future hold? *It is up to us…*

WHO/T. Moran

STOPPING TRANSMISSION OF POLIOVIRUSES

The GPEI Strategic Plan 2010-2012 has set the stage for a lasting polio-free world. Although the milestone of stopping all transmission by end-2012 was not met, by end-2012, fewer cases had been reported from fewer districts of fewer countries than ever before. Three countries remain endemic – Nigeria, Pakistan and Afghanistan, the lowest number in history. In total, only five countries reported cases due to wild poliovirus (WPV).

Recognizing both the epidemiological opportunity but also the risks and consequences of failure, the World Health Assembly (WHA) declared the completion of polio eradication a programmatic emergency for global public health. This launched the entire GPEI into emergency *modus operandi*.

At the international level within the core partner agencies, the polio emergency was being overseen at the highest levels. The five core agencies working in partnership for the eradication of polio established the Polio Oversight Board (PoB), comprised of the heads of agencies of the four spearheading partners – WHO, Rotary International, CDC and UNICEF – and the Bill and Melinda Gates Foundation. The PoB began to meet quarterly to ensure high-level accountability across the GPEI partnership. Emergency operations centres and procedures were activated across the partner agencies. New oversight and accountability mechanisms were established. An emergency surge in staff was deployed to highest-risk districts. The Independent Monitoring Board (IMB) continued to monitor and guide progress, while SAGE continued to act as the principal technical advisory group to WHO for vaccines and immunization.

In all three endemic countries, the polio programmes were operating under the auspices of national emergency action plans, overseen in each instance by the respective head of state, an all-government approach to overcoming long-standing operational challenges, and supported by an emergency surge in technical staff at the district-level. In September, the heads of the three countries gathered with world leaders in New York during the UN General Assembly to outline their programmes to eradicate polio.

By the end of the year, the impact of the emergency plans in all three countries was being seen, both in terms of virus circulation and in terms of children being reached with polio vaccine – particularly in historical reservoir areas. News was particularly encouraging on the WPV3 front. In all of Asia, no WPV3 cases had been reported since April (from Khyber Agency, in Pakistan). Globally, no WPV3 cases would be reported beyond November (from Yobe, Nigeria). WPV3 transmission was on the verge of elimination.

But at the end of the year, a new and tragic risk emerged in the form of major insecurity. In Pakistan, in December 2012, targeted attacks in parts of greater Karachi, Sindh, and some areas of Khyber Pakhtunkhwa resulted in the murder of nine polio vaccinators. Yet these events have also galvanized countries' efforts. The international condemnation was widespread: the sanctity of the work of health workers must be assured. More importantly, however, has been the sense of outrage these murders sparked in the affected countries themselves. From all sectors of public and civil society, there was resounding condemnation and a fervent resolve to complete the job of polio eradication.

In early 2013, all countries updated their national emergency action plans, drawing on the progress and lessons from 2012, and adapting them to address the new security risk which has emerged.

NIGERIA

A surge in cases due to wild poliovirus (WPV) from 2011 continued into 2012, as the country reported 122 cases (compared to 62 cases in 2011). Cases occurred in 13 states, with 90% in eight persistently-endemic states of Katsina, Kano, Kaduna, Borno, Jigawa, Sokoto, Yobe and Zamfara. The country continues to be affected by circulation of all three serotypes: WPV type 1 (103 cases), WPV type 3 (19 cases – none since November) and circulating vaccine-derived poliovirus type 2 – cVDPV2 (8 cases). In December 2012, WPV1 of Nigerian origin was detected in neighbouring Niger.

Following strong progress in 2010, 2011 had proved disappointing for Nigeria's polio eradication effort. Cases increased significantly across the north of the country. Insecurity became a growing issue in some areas of the country, further complicating polio operations.

In 2012, a new National Polio Emergency Action Plan aimed to urgently address long-standing operational challenges associated with lack of accountability and ownership. And even though case numbers continued to increase from 2011, the programme moved onto its strongest footing ever. An unprecedented level of political and societal commitment was built up. Operations improved, including in highest-risk Local Government Areas (LGAs). A strong overall baseline was established, enabling the effort to focus on filling in remaining gaps.

The National Polio Emergency Action Plan was finalized and officially launched by His Excellency President Goodluck Jonathan in March 2012. A Presidential Task Force was established, chaired by the Minister of State for Health Dr Mohammad Pate, to oversee its implementation. State-level task forces mirrored federal administrative structures, and overseen by Deputy State Governors.

Emergency action plan – key elements

- Focus on known high-risk areas: available technical, financial and personnel resources focused on improving operations in the known, identified 107 high-risk Local Government Areas (LGAs).
- Emergency operations centres (EOCs): to further facilitate planning, implementation and monitoring of activities, national and subnational EOCs were established. 'Dashboards' tracking data and programmatic updates regularly monitored activities, including local-level preparedness for vaccination campaigns. By end 2012, EOCs were operational in Abuja and five high-risk states, including Kano.
- Tracking of local-level engagement: the engagement of LGA Chairpersons in polio activities was actively being monitored and reported to state task forces.
- Intensified social mobilization: UNICEF launched a Volunteer Community Mobilizer Network, operational in 22,000 settlements in high-risk LGAs, to secure full societal and community engagement, including through religious and traditional leaders. A household-based communications strategy was rolled out in high-risk wards particularly in the north-west, and expansion of the network of Volunteer Community Mobilizers is continuing.
- Revised team structure and selection: the composition of vaccination teams and supervisors was evaluated and restructured, to include a specific community leader; daily workloads were revised.
- Improved SIA microplanning: new guidelines for developing microplans were established and rolled-out. Importantly, the new microplans are house-based, rather than community-based. The new household-based microplanning process was fully rolled out in the endemic states, and has been augmented by the use of GIS technology in key area and completed in seven states. GIS tracking of vaccination teams was initiated in July, and conducted in 70 LGAs in five states.
- Intensified monitoring: LQAS became the gold-standard to evaluate the quality of implementation, supported by concurrent monitoring of immunization activities.
- Strengthened surveillance: subnational gaps in surveillance for acute flaccid paralysis (AFP) continued to be filled, supplemented in high-risk, urban areas by environmental surveillance.
- Reaching underserved, hard-to-reach groups: special strategies focused on hard-to-reach or underserved population groups, including nomadic populations, and – in some areas – populations living in areas with insecurity.

- Emergency surge in staff: an emergency technical surge was deployed to high-risk LGAs and optimized. WHO maintained support for its 2,500 strong human resource surge, with ongoing efforts to improve staff management and accountability processes. UNICEF expanded its communications capacity in LGAs in high-risk states. More than 1,800 volunteer community mobilizers were deployed to the highest-risk settlements, with further expansion planned in 2013.
- Close alignment of polio and routine immunization: within the context of the 'Saving One Million Lives Initiative', launched by HE President Jonathan in October 2012, synergies between the polio programme and broader public health systems were sought, in particular with routine immunization. The Plan aims to save one million lives by 2015, by focusing on improving maternal and child health, malaria control, child nutrition, prevention of mother-to-child transmission of HIV, routine immunization and polio eradication. Polio staff actively supported routine immunization efforts, by focusing on the Reaching Every Ward approach. In particular, activity plans covered all immunization activities, with synergies being aligned in the areas of training, microplanning, communications, logistics, data collection, assessment of performance indicators and cold chain refurbishment.

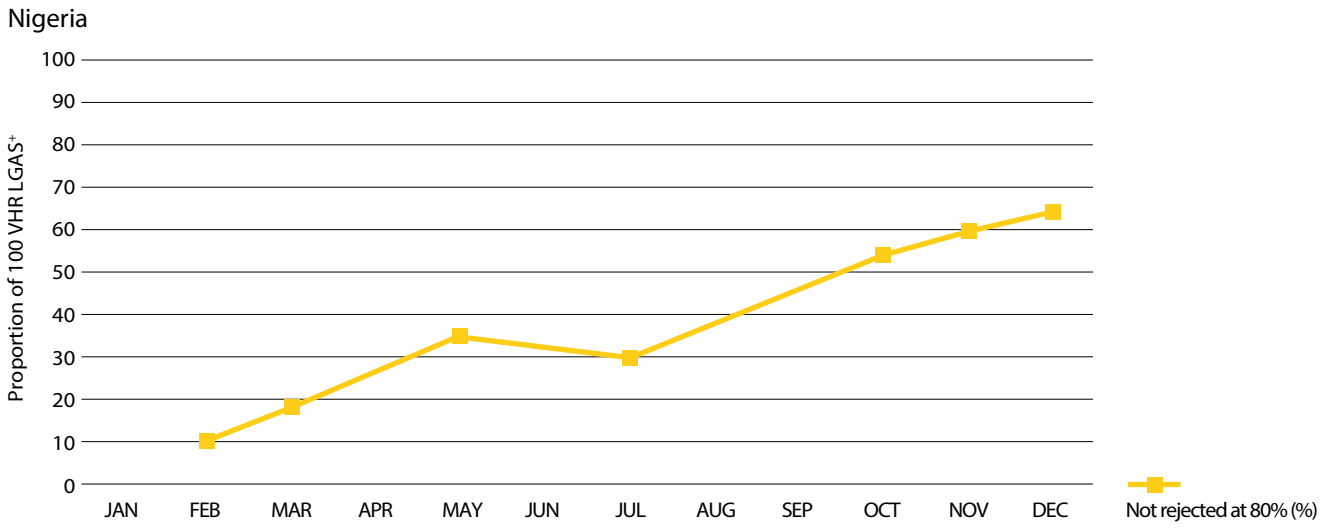
Impact at end-2012

The impact of the emergency action plan was clearly being seen by end-2012. Although the country reported more cases in 2012 than in 2011, case numbers began to rapidly decline towards the end of the year and in early 2013. Of the 122 cases reported in 2012, only 21 occurred in the last quarter, with only two cases in December. WPV3 transmission was on the verge of elimination, with its most recent case dating to November. Cases due to cVDPV2s were also at lowest levels since 2005.

Most importantly, the epidemiological improvements correlated with improvements in vaccination status of children, as verified by LQAS. The proportion of high-risk LGAs reaching the target threshold of 80% coverage increased from 10% at the start of the year, to 64% by the end of the year, and further improvements were noted at the start of 2013. At the end of 2012, 80% of children were fully immunized (with more than 3 doses of OPV).

Surveillance sensitivity continues to be strengthened. All states are meeting the non-polio AFP indicator of ≥ 2/100,000 children aged <15 years of age. Environmental surveillance continues to be expanded, and is now operational in three states (Kano, Lagos and Sokoto).

Improvement in SIA quality for select Nigeria Local Government Areas[a], 2012[b]



[a] December 2012. Nigeria using latest LQAS methodology.
[b] Trends based on data generated with LQA
+ Very high-risk Local Government Areas.
Source: WHO.

"I wish to reaffirm Nigeria's steadfast commitment to eradicate polio. We believe we must do it and we are progressing."

This is what HE President Jonathan told delegates at a high-level event on polio eradication at the UN General Assembly in New York, in September 2012.

Looking to 2013

In 2013, focus will be on continuing to address long-standing operational challenges, but also to address emerging risks such as insecurity, in particular following the tragic and deadly attacks on health centres in Kano in February 2013.

The national emergency action plan for 2013 has been adapted, building on past lessons, and pursuing tailored approaches to address challenges in:

- LGAs where performance has stalled;
- LGAs where performance has decreased; and,
- in areas where access to populations has been compromised due to insecurity.

Underpinning this tailored approach is a new risk classification system, aimed at improving the delivery of resources to areas where they are most needed. In 2013, across the high-risk states, 129 LGAs have been classified as 'very very high risk', 'very high risk', or 'special situation' (security-affected LGAs in Borno and Yobe states).

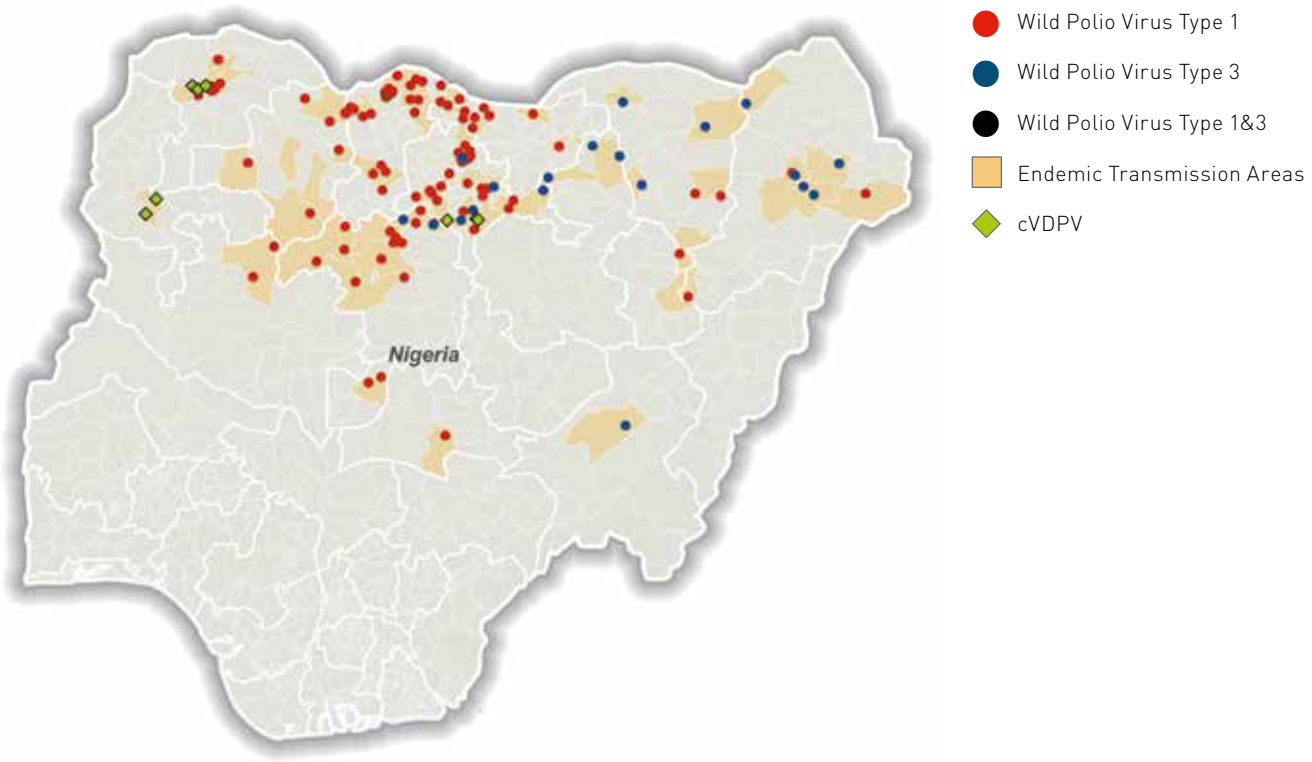
Across all areas, strengthened efforts will be made to track the direct engagement and oversight by LGA Chairpersons, through the state and national EOCs. Further subnational EOCs will be established.

The engagement of communities, and traditional and religious leaders, will continue to be fostered. The Volunteer Community Mobilizer Network continues to be expanded, and social data analysis is expected to provide further understanding for children being chronically missed.

Operational plans for insecure areas feature the introduction of Permanent Health Teams (PHTs), conducting wall fencing vaccinations around insecure areas, expanding transit vaccinations, implementing Short Interval Additional Dose Activities (SIADs) and engaging non-traditional partners.

A polio-free Nigeria would be a significant public health achievement, going far beyond its borders. The only country in Africa with remaining endemic transmission of the virus, a polio-free Nigeria would essentially equate to a polio-free Africa.

WPV and cVDPV2 cases, Nigeria – 2012



PAKISTAN

In 2012, cases due to wild poliovirus (WPV) declined by more than 70% in Pakistan compared with 2011, with 58 cases reported (compared with 198 cases in 2011). The bulk of transmission occurred in the three known endemic areas of Khyber Pakhtunkhwa (KP) and Federally Administered Tribal Areas (FATA) and greater Karachi (Sindh). From these areas, sporadic importations occurred into polio-free areas of the country, as further confirmed by the isolation of WPV in environmental samples. A circulating vaccine-derived poliovirus type 2 (cVDPV2), centred in the greater Quetta area, resulted in 16 cases and spread to neighbouring Afghanistan. Of note, the country reported only two WPV3 cases, all from a single area, Khyber Agency (FATA) and none since April 2012. This area now represents the last known reservoir of WPV3 in all of Asia, and the strain is on the verge of elimination on the continent.

The year 2012 saw unprecedented progress in terms of polio eradication, as an augmented national polio emergency action plan addressed long-standing operational challenges in key areas, resulting in more children being reached for the first time and in cases significantly declining. At the same time of this unprecedented progress, the programme also saw itself faced with unprecedented new risks.

In December, frontline health workers engaged in polio eradication activities were attacked in two parts of Pakistan, resulting in the murder of nine polio vaccinators, with several more injured. Widespread condemnation followed, and a determined sense by all sectors that these attacks would not deter from the progress achieved nor of achieving the goal of a polio-free Pakistan.

In July, in North and South Waziristan in FATA, local leaders issued a ban on immunization campaigns which continued for the rest of the year and into 2013. The ban affects approximately 200,000 children unreachable for vaccination teams, meaning children in these areas are at particularly high risk of contracting polio.

The 2012 augmented national emergency action plan was built on the foundation of an initial plan launched in 2011, and further addressed long-standing challenges relating to inadequate accountability at the local level, suboptimal quality of tactical implementation, and in some areas hampered access to children due to insecurity.

The national implementation of the plan was overseen by the Prime Minister's office, with Ms Shahnaz Wazir Ali appointed as special Focal Person for Polio Eradication, responsible for overall implementation of the plan. Critically, it was characterized by two key aspects: 1) an all-government approach by engaging other sectors of public administration to support its implementation; and, 2) its administrative functions were mirrored consistently across the provincial, district and union-council levels, with strong emphasis on new accountability mechanisms for programme performance. As part of this, District Commissioners were now held responsible for overall implementation; and, Union-Council Medical Officers for local planning and implementation.

Emergency action plan – key elements

- Polio control rooms at all levels: polio control operations rooms became operational in high-risk districts, assessing campaign preparedness, monitoring and corrective action, and overseeing district and Union-Council level staff for quality of implementation. Provincial and national polio control rooms evaluated progress and challenges at these respective levels.
- Emergency surge in staff: technical support was increased in clearly identified, worst-performing high-risk districts and Union-Councils. WHO and UNICEF put in place an emergency surge in technical staff of more than 1,300 extra personnel to support activities.
- Understanding communities: systematic and targeted social mobilization activities continued to assess community perceptions and strategies to secure community engagement were tailored in response. The support of religious, traditional and community leaders continued to be systematically secured.
- Targeted strategies: with more than 80% of cases from Pashto-speaking populations from worst-performing areas, special strategies focused on identifying and reaching mobile and underserved groups, particularly Pashto-speaking populations.
- Optimising team performance: vaccinator team performance and composition, and supervisory

functions, were regularly reviewed and adapted as appropriate to maximize team performance. Direct disbursement mechanisms were set up to ensure direct provision of funds to vaccinators, further ensuring appropriate selection and timely payment of frontline health workers.

- SIADs: The Short Interval Additional Dose (SIAD) strategy was a major strategic SIA approach, particularly in known transmission and high-risk areas. Additionally, the target age group was increased to children aged <15 years, in newly-accessible areas or population groups, to more rapidly boost immunity levels including among older children who may not have benefitted from immunization previously.
- Better monitoring: quality of operations was more clearly assessed, as Lot Quality Assurance Sampling (LQAS) became the gold-standard evaluation tool.
- Increasing access: building on experiences from 2011, local-level access negotiations were used to access children in Khyber Agency, FATA, which had not been reached since 2009.
- Strengthening surveillance: surveillance sensitivity was strengthened, supplemented in key areas by environmental surveillance (expanded in 2012 to five additional sites).

"Eradicating polio is a national priority for Pakistan and is also a personal mission for my family."

His Excellency President Asif Ali Zardari, at the special high-level Summit on polio eradication at the UN General Assembly in September 2012.

Impact at end-2012

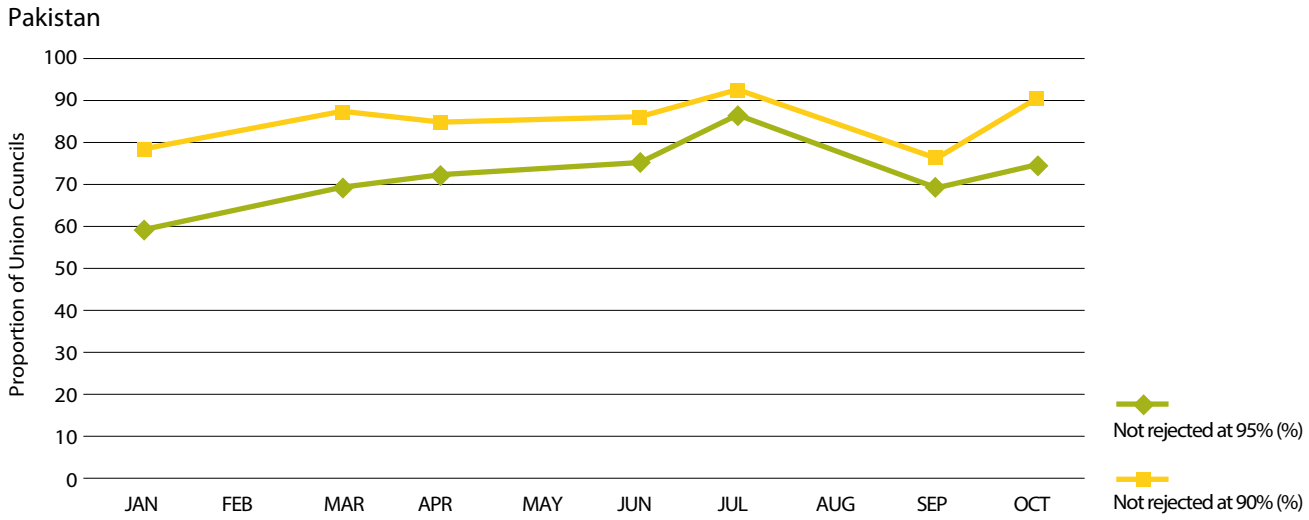
Cases due to WPV declined by more than 70% compared with previous year.

WPV3 transmission was on the verge of elimination in the country (and all of Asia), with only two cases reported from a single area (Khyber Agency, FATA), and none since April 2012.

The genetic biodiversity of poliovirus transmission declined to four lineages, compared to 11 lineages in 2011.

Vaccination coverage improved, including in key reservoir areas. The proportion of highest-risk districts achieving the estimated target threshold needed to interrupt transmission of 95% peaked at 74% in October (compared to 59% at the start of the year).

Improvement in SIA quality for select Pakistan districts[a],2012[b]



[a] Data based on past LQAS methodology, which has been updated per new global guidelines.
[b] Trends based on data generated with LQAS.
NB: November and December 2012 data are not represented as LQAS was not conducted in Karachi and Khyber Pakhtunkhwa province due to insecurity.
Source: WHO.

Looking to 2013

At the start of 2013, the Government of Pakistan had already developed and launched its updated national emergency plan, building on the lessons and progress achieved in 2012 and adapted to the new security risk that emerged in December 2012.

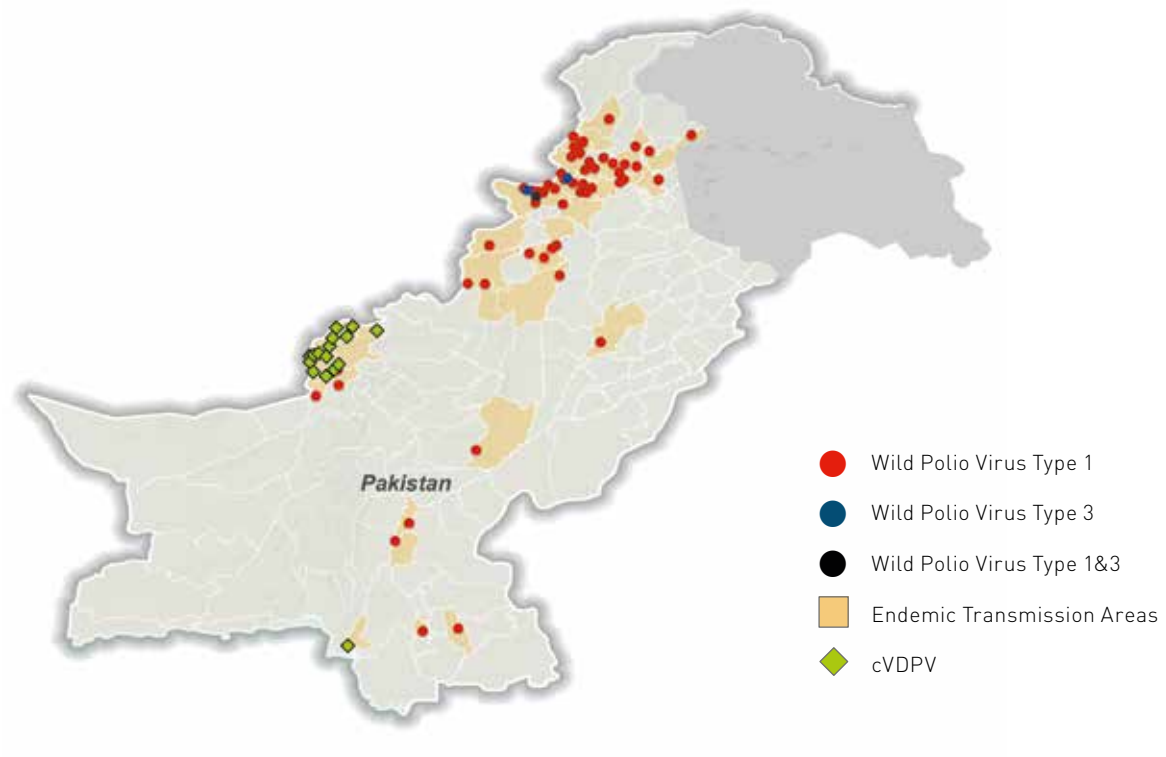
SIAs continued in the early part of 2013, enabled by ongoing security assessments at district and Union-Council levels, conducted jointly with law enforcement agencies to determine decisions at the local level about campaign implementation and security measures. Special plans for operating in insecure and inaccessible areas were developed and being implemented. Increased negotiations will aim to increase access in areas where SIAs have been suspended.

There is widespread determination from all levels of public and civil society that polio eradication is not only feasible, but operationally and realistically achievable in the very near-term. 2013 is widely seen as a key opportunity, and an aggressive SIADs schedule will be implemented.

Focus in particular will be to ensure the continued full support and engagement by new federal and provincial governments, to assure appropriate oversight and implementation of the national emergency action plan.

New, area-specific communications strategies will aim to further strengthen the support of communities and religious leaders, particularly in the face of the new reality.

WPV and cVDPV2 cases, Pakistan – 2012



December 2012 – Frontline health workers attacked in Pakistan

From 17-19 December 2012, several attacks in greater Karachi, Sindh and parts of Khyber Pakhtunkhwa occurred, resulting in the murders of 9 frontline health workers with 2 more injured.

These attacks sparked widespread outrage and condemnation from all levels of public and civil society, not just in Pakistan but indeed globally. Any attack on health workers anywhere is unacceptable. The safety of health workers must be respected, and the provision of health services must be kept neutral to any conflict. Such attacks deprive some of the most vulnerable populations – especially children – of basic life-saving health interventions.

New measures were implemented in efforts to create an environment where children can be safely reached with essential interventions by frontline health workers.

The attacks sparked widespread outrage and condemnation. New measures were implemented to help ensure the safety of health workers, supported by a *'our strength is our female workers – respect them'* campaign.

AFGHANISTAN

In 2012, cases due to wild poliovirus (WPV) declined by more than 50% in Afghanistan compared with 2011, with 37 cases reported (compared with 80 cases in 2011). Endemic WPV transmission continued in one region of the country, Southern Region, primarily in the provinces of Kandahar and Hilmand. From these areas, sporadic importations occurred into polio-free areas of Afghanistan, notably to Farah province in the west of the country. Isolated cases in Eastern Region occurred as a result of importations from Pakistan. Concerted efforts succeeded in preventing polio from re-establishing a foothold in other parts of the country. Circulating vaccine-derived poliovirus type 2 (cVDPV2) emerged locally, and due to spread from Pakistan, resulting in eight cases in the second half of the year.

Following a disappointing 2011 that saw a surge in polio cases due to an ongoing decline in vaccination coverage in Southern Region, Afghanistan's eradication effort moved into overdrive, beginning with the highest levels of government.

His Excellency (HE) President Hamid Karzai personally launched the national emergency action plan. Its implementation is being overseen by the Honourable Minister of Public Health Dr Suraya Dalil and Dr Faizullah Kakar, specifically-appointed Focal Person at the Office of HE President of Afghanistan. An Inter-ministerial Task Force supports the Plan in an 'all government' approach.

Concerted efforts focused on Southern Region, both to increase access and address local management challenges.

In total, four National Immunization Days (NIDs) were implemented in 2012. In the transmission zones and high-risk zones, an additional four Subnational Immunization Days (SNIDs) were implemented. Vitamin A and de-worming tablets were co-administered two times during the year.

The national emergency action plan was developed to urgently address long-standing flaws in management and accountability, and – in some areas – to increase access to populations due to insecurity. New approaches were instigated, and resources were focused on 13 identified highest-risk districts. Polio 'control rooms' were established in all highest-risk districts, at provincial level and at national level, to enable real-time monitoring and corrective action as necessary.

Emergency action plan – key elements

- Permanent polio teams: permanent vaccination teams from the local communities were put in place, in highest-risk and security-compromised districts, able to circulate on a rolling basis to deliver additional OPV doses in between large-scale SIAs.
- Technical surge: more than 300 additional staff were deployed to highest-risk districts. Management training has been conducted for 80 staff. Functional District Management Teams, led by full-time District Polio Managers, were established in highest-risk districts.
- Scale-up of SIADs: the Short Interval Additional Dose (SIAD) strategy was beginning to be scaled-up to more rapidly boost immunity levels among populations living in hard-to-reach areas.
- Refined post-SIA monitoring: to ascertain a clearer assessment of programme performance (and enable corrective measures), new real-time independent monitoring activities were rolled out.
- Strengthened microplanning: areas and populations (and population movements) were more clearly defined, and appropriate number of local personnel for vaccination teams and supervision were recruited and trained, in efforts to more systematically reach all populations.
- Assessing community perceptions: extensive surveys of community perceptions towards vaccinations were continuously evaluated, and social mobilization strategies targeted accordingly. Engagement of religious, traditional and community leaders was secured. A comprehensive new social mobilization strategy, 'Ending Polio is my Responsibility', has been rolled-out, including through mass media.
- Access negotiations: in districts (and sub-districts) of insecurity, local-level access negotiators and humanitarian organizations active in conflict areas were engaged.

- Accountability at all levels: underpinning the implementation of the new Plan was systematic accountability for programme performance at all levels, through assessment and monitoring by provincial polio teams. The engagement and accountability of provincial and district governors is monitored, and assistance provided by other ministries and international partners.

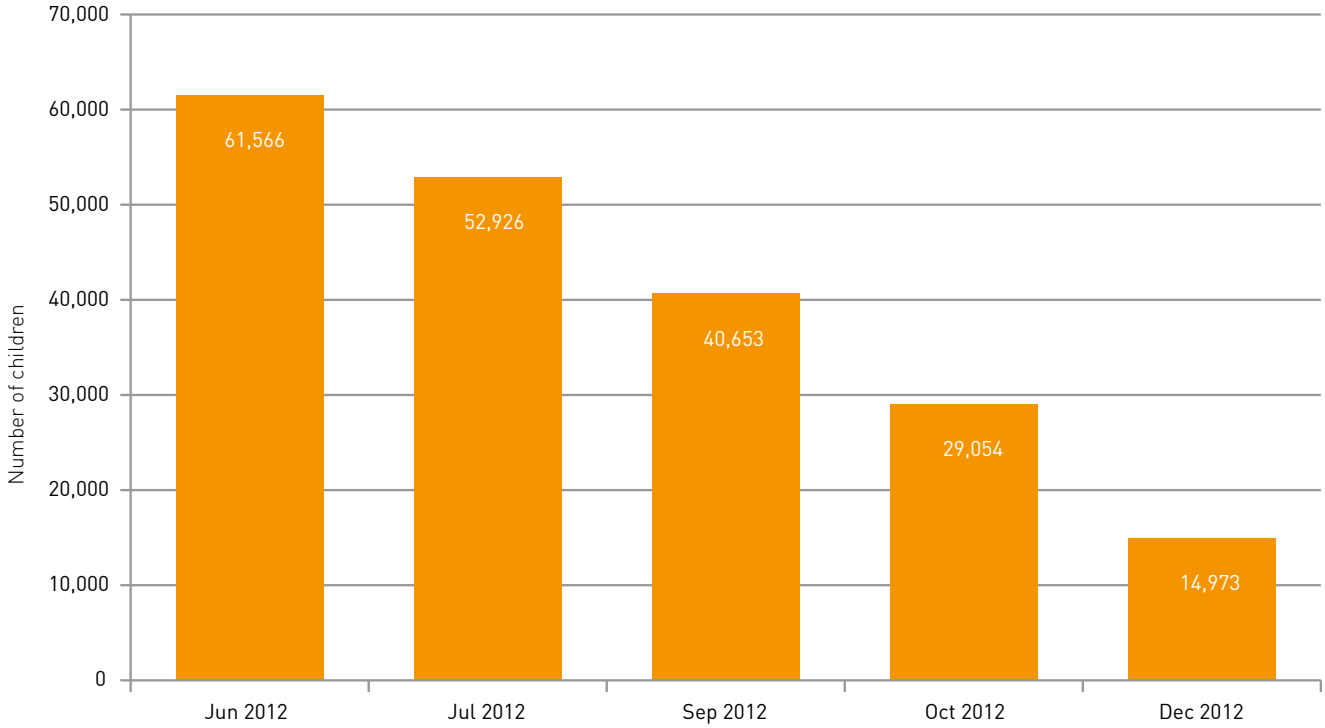
Impact at end-2012

As a result of these efforts, clear epidemiological impact was seen, with cases due to WPV reduced by more than 50% compared with 2011.

In the 13 highest-risk districts of Southern Region, the number of children inaccessible during SIAs declined from more than 80,000 at the end of 2011, to 15,000 by December 2012.

In non-transmission zones, vaccination coverage persistently achieved >90%, but regularly lagged in high-risk districts. At the start of the year, an estimated 39% of children had received more than three doses of OPV in high-risk districts. By the end of the year, this figure had increased to an estimated 67%.

Reduction in inaccessible children in high-risk districts in Southern Region[a], June 2012-December 2012



[a] *Government of Afghanistan data. Surveys not conducted every month.*

> *"Afghanistan will do all it can to fight polio."*
>
> *President Hamid Karzai, at the special high-level event on polio eradication in September 2012.*

Looking to 2013

Addressing the global community at the special high-level Summit on polio eradication at the UN General Assembly in New York in September 2012, President Karzai re-affirmed his country's commitment to the cause: "Afghanistan will do all it can to fight polio in Afghanistan."

Indeed, there is a clear sense in the country that everything is in place to rapidly complete polio eradication. The improvements of 2012 will be further built on, and strategic approaches further strengthened and sensitized.

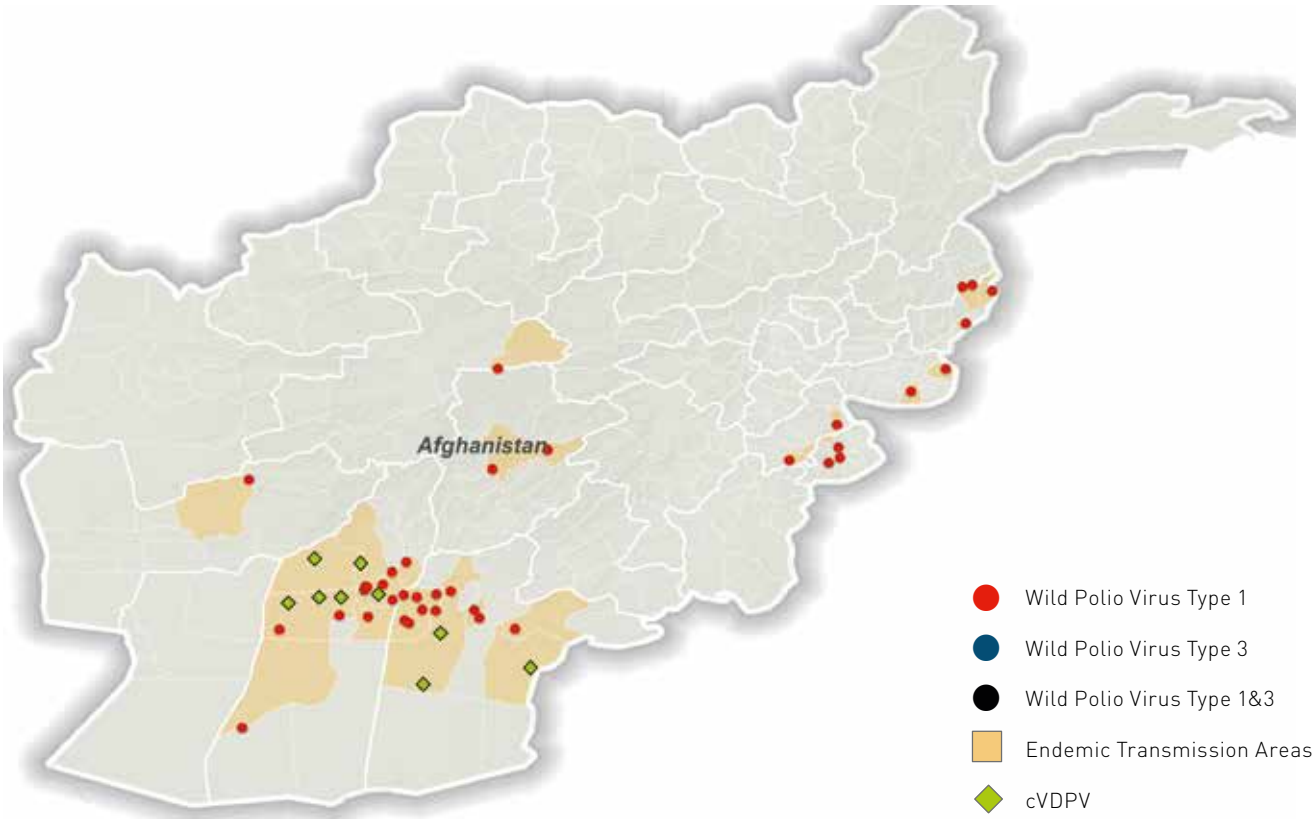
In 2013, the focus will be on implementing tailored approaches for Southern Region, and for Eastern Region which remains at particular risk, due in part to inaccessibility and its proximity to neighbouring Pakistan.

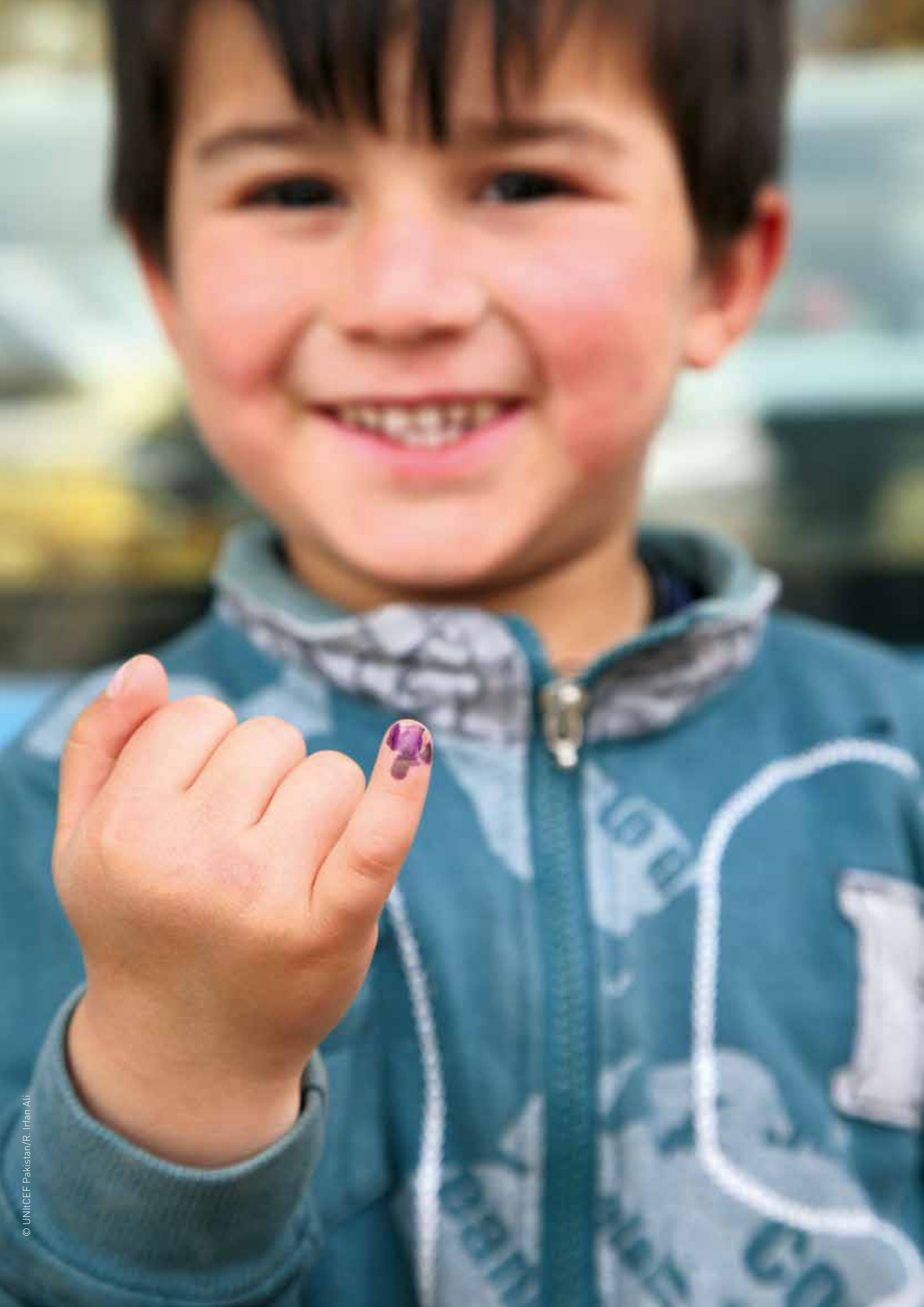
In Southern Region, access will continue to be improved by overcoming remaining management issues, reducing missed children in accessible areas, strengthening monitoring of SIAs, increasing community demand, and addressing the ongoing risk of cVDPV2.

In Eastern Region, a comprehensive response strategy and operational plan to vaccinate children in insecure and inaccessible areas will be developed and implemented.

With this targeted focus, a polio-free Afghanistan can rapidly become a reality.

WPV and cVDPV2 cases, Afghanistan – 2012





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PROTECTING THE GAINS

A key objective of the GPEI Strategic Plan 2010-2012 was to ensure that epidemiological gains were protected, by protecting polio-free areas. Critical to this was enhancing global poliovirus surveillance and outbreak response. GPEI partners conducted quarterly risk assessments based on evolving epidemiology, and put in place risk minimization mechanisms.

Throughout 2012, lessons from 2010 and 2011 were built on, and further measures implemented that focused on clearly identifying populations most at-risk of re-infection; allocating resources to boosting immunity levels in those areas; strengthening surveillance to enable a more rapid detection of an eventual outbreak situation; and, enhancing outbreak response capacity to ensure outbreaks are shorter in duration and associated cases.

As a result, fewer countries than ever before reported polio cases in 2012. In fact, outside of the endemic and re-established transmission countries, only one country reported one case of polio – Niger, reported in December, due to an importation from neighbouring Nigeria. Strong progress continued to be achieved in countries with re-established transmission. But an increasing number of circulating vaccine-derived poliovirus type 2 (cVDPV2) outbreaks underscores the need to stop the use of type 2-containing OPV.

Re-established transmission on verge of interruption

One of the great successes of the GPEI Strategic Plan 2010-2012 has been the stopping of re-established poliovirus transmission in the four countries classified as such as the start of the life of the plan, namely: South Sudan, Angola, DR Congo and Chad. At the start of the life of the Strategic Plan in 2010, all four countries had suffered transmission of poliovirus for a period of at least 12 months following importation, and hence required special focus and attention.

South Sudan had already been removed from the list of countries with re-established transmission in 2010, and since then, progress continued in the other three.

Following concerted efforts overseen in each case by the respective head of state, both Angola and the Democratic Republic of the Congo (DR Congo) successfully stopped their respective re-established transmission, with no new cases reported since July 2011 and December 2011, respectively.

Chad, the remaining country with re-established transmission, was by end-2012 also on track, not having reported a case since June 2012. However, Chad continues to be at risk of WPV re-importation, due to its proximity with Nigeria and frequent population movements with both countries. The country is also affected by a cVDPV2 outbreak, which must urgently be addressed.

Concerted efforts are focusing on continuing to fully implement outbreak response activities; ensure adequate preparedness plans; targeted strategies for hard-to-reach and nomadic populations; and, close coordination with neighbouring countries, notably Nigeria, Cameroon and Sudan. The vaccine mix continues to be optimized, to both respond to the cVDPV2 outbreak, and maintain immunity levels to type 1 polio to minimize the risk and consequences of potential renewed re-infection from Nigeria.

Outbreaks in polio-free countries stopped – but risk of renewed international spread remains high

In 2011, 16 countries reported cases due to WPV. In 2012, that number fell to just five – the three endemic countries, and Chad and Niger.

Of note, a multi-country outbreak in West and Central Africa was successfully stopped, as was an outbreak in western China.

West Africa continues to be at particularly high risk of re-infection, due to its geographic proximity to Nigeria. Historically, virus from northern Nigeria has repeatedly re-infected the area, leading to multi-country outbreaks in the region. This risk was further magnified in 2012, due to intense transmission of the virus in northern Nigeria, and large-scale population movements due to insecurity in Mali and the Sahel crisis.

Key measures were implemented to minimize the risk of renewed spread. A series of synchronized, multi-country immunization campaigns were implemented throughout 2012, in efforts to boost immunity levels in a concerted manner. At the same time, OPV was

integrated into broader humanitarian response activities in the region. UNICEF in particular led the strategic body of work to provide OPV as part of an integrated response package across the Sahel and Mali crises region. Working with the UN Refugee Agency UNHCR, the World Food Programme, other UN organizations and non-governmental organizations (NGOs), activities focused on nutrition, health and behaviour change communication (ie promoting hygiene and sanitation, infant and young child feeding). Immunization campaigns continued to occur in refugee camps in countries bordering Mali. Population movements were actively tracked and mapped, and health posts set up at key border crossings, gathering sites and hard-to-reach areas.

These measures succeeded in keeping the region largely polio-free in 2012. However, in December 2012, a new reminder underscored the risk of renewed international spread, when a new polio case (the only in the region in 2012) was confirmed in Niger (related to virus circulating in northern Nigeria). Ultimately, this region will continue to remain at high-risk until endemic polio has been successfully eradicated in Nigeria. International spread of WPV also affected Egypt in December 2012, when WPV1 was isolated from environmental samples from sewage systems in greater Cairo. No cases of paralytic polio were associated with this importation, which genetic sequencing confirmed was from Pakistan. Comprehensive outbreak response in both Niger and Egypt were implemented in the early part of 2013.

The growing importance of addressing circulating VDPVs

While WPV transmission has been more restricted than ever before, 2012 underscored the growing importance of addressing circulating vaccine-derived poliovirus (cVDPVs) outbreaks, in particular those caused by type 2. Globally, 68 cases due to cVDPV were reported, 66 of which due to type 2 from seven countries (Afghanistan, Chad, DR Congo, Kenya, Nigeria, Pakistan and Somalia). In 2012, more countries reported cVDPVs than WPVs, although the relative disease burden is still much lower.

Of particular concern is an ongoing cVDPV2 outbreak in south-central Somalia, which has persisted since 2009, and which in 2012 spread across the border to cause three cases in Dadaab, Kenya. Outbreak response continued to be complicated in south-central Somalia by a ban on mass vaccination campaigns in areas controlled by Al-Shabaab militants. At the same time, in Chad an outbreak from September 2012 was continuing in the early part of 2013.

Elsewhere, cVDPV2 outbreaks were being rapidly stopped through full implementation of international outbreak response guidelines (cVDPV outbreaks are subject to the same international response guidelines as WPV outbreaks). In DR Congo, an outbreak which began in November 2011 has not seen any associated cases since April 2012. Of note, as a result of operational improvements in Nigeria, the cVDPV2 outbreak affecting the country since 2005 significantly declined, with only eight cases reported in 2012 (compared to 34 in 2011) and none since November 2012. Importantly, new outbreak response measures were widely applied in 2012, including targeting expanded age groups during response activities to more rapidly boost overall population immunity levels and minimize the risk of onward spread of virus potentially associated with older aged infected children.

Despite this progress, the detection of cVDPV2 cases in seven countries in 2012 (two more countries than reported WPV cases) underscores the urgent need to rapidly withdraw the type 2 component in trivalent OPV, by switching from trivalent to bivalent OPV in routine immunization programmes. Boosting routine immunization levels will be a particularly important component of this. This strategy is an integral objective of the new Polio Eradication and Endgame Strategic Plan 2013-2018 (see section 'Securing a lasting polio-free world: the polio endgame').

Polio surveillance: chasing down the virus

Surveillance indicators 2012 vs 2011

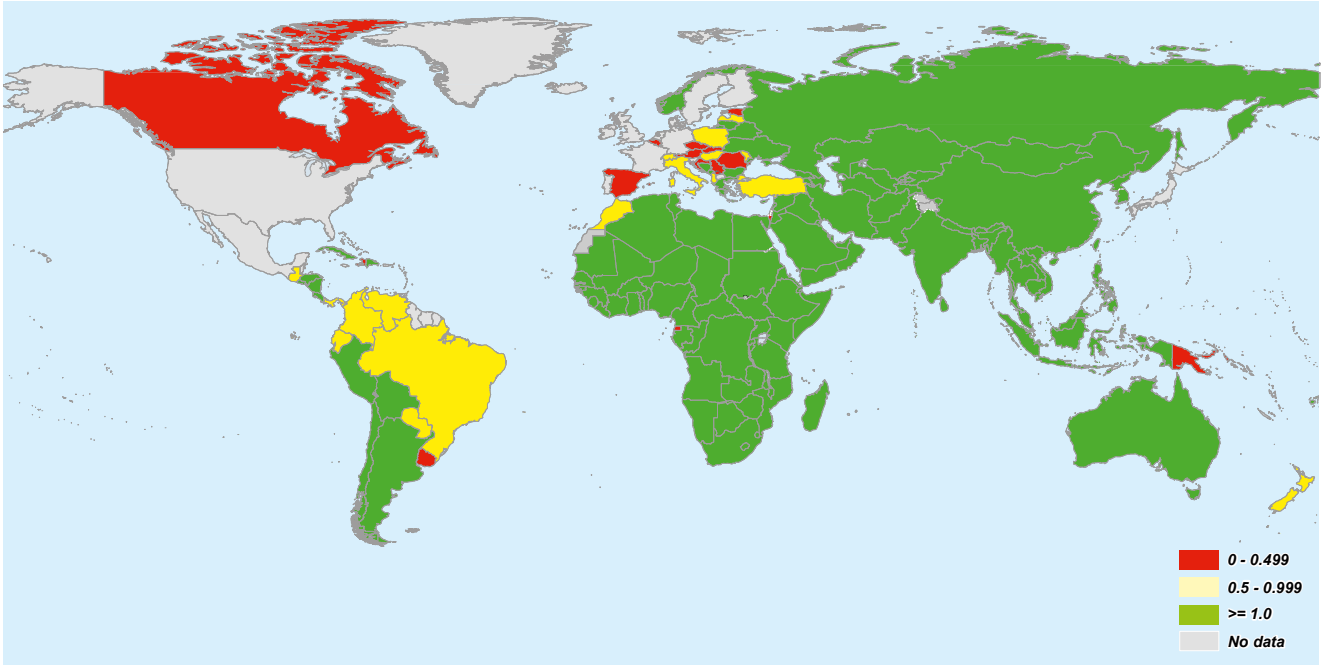
REGION	AFP CASES REPORTED		NON-POLIO AFP RATE		AFP CASES WITH ADEQUATE SPECIMENS (%)	
	2012	**2011**	**2012**	**2011**	**2012**	**2011**
AFR	18,115	16,650	4.8	4.4	90%	88%
AMR	1,411	1,748	1.0	1.3	77%	80%
EMR	11,040	11,675	5.2	5.7	91%	90%
EUR	1,527	1,540	1.3	1.3	89%	87%
SEAR	66,152	65,550	12.2	12.1	87%	85%
WPR	7,617	7,302	2.2	2.1	90%	90%
Global total	**105,862**	**104,465**	**6.1**	**6.0**	**88%**	**86%**

In 2012, surveillance sensitivity continued to improve globally (see surveillance indicators table for summary of regional performance). Efforts in particular focused on further strengthening surveillance sensitivity in infected and high-risk areas, including at the subnational level.

In addition to high levels of population immunity, strong surveillance minimizes the risk and consequences associated with poliovirus transmission. The more rapidly polio is detected, the faster it can be responded to. A rapid response translates into shorter outbreaks, and fewer associated cases.

Surveillance for acute flaccid paralysis (AFP) continues to be the core strategy to detect both wild- and vaccine-derived poliovirus in a timely manner. In 2012, reviews of the AFP surveillance system were conducted in 33 countries of the African, Eastern Mediterranean, the European and the South-East Asian Regions. Activities included rapid assessments, first piloted in 2010 and focused outbreak assessments, first piloted in the Central African Republic (CAR) in early 2012. Outbreak assessments are conducted 3 months after notification of the index case to monitor outbreak response and six months after the onset of last case to determine how reliably it can be assumed that virus transmission has been interrupted. Such activities further help identify specific subnational deficits, which can then be rapidly addressed with corrective action plans.

Global acute flaccid paralysis disease surveillance performance, 2012



To further help validate the performance of surveillance programmes, environmental sampling continued to be expanded in 2012. This additional surveillance tool is providing critical supplemental data on transmission dynamics and sensitivity of overall surveillance, resulting in a clearer epidemiological picture. Particular focus continues to be on using this approach in known reservoir areas and densely-populated key urban areas. In 2012, environmental surveillance was expanded to include eight new sampling sites in Nigeria (four additional sites in both Lagos and Sokoto), and Pakistan (five additional sites in three urban areas of Sindh and Punjab provinces).

In 2012, CDC's support to surveillance was greatly expanded. CDC supported surveillance and data managers in Afghanistan, Chad, Angola and Somalia, to improve the flow of data, and worked with WHO to support external surveillance reviews in high-risk countries, including CAR and DR Congo. CDC focused on providing resources and technical expertise to build national capacity in high-risk areas of Nigeria and Pakistan, by establishing National Stop Transmission of Polio (N-STOP) programme. The first N-STOP programme deployed 40 professionals to improve surveillance in high-risk LGAs of northern Nigeria. 16 public health professionals were deployed as part of Pakistan's N-STOP programme. The joint CDC/WHO STOP programme continues to help support the eradication effort, including to strengthen surveillance, through training and deployment of more than 380 public health professionals to polio priority countries.

Global lab network working overtime

Global surveillance activities are underpinned by a global network of 145 laboratories, all accredited by WHO, collectively known as the Global Polio Laboratory Network (GPLN). In 2012, the GPLN continued to work overtime in support of the global eradication effort and its active disease surveillance.

The GPLN's primary responsibilities continue to be the analysis and characterization of polioviruses from AFP cases, although there is increasing interest in testing of specimens from non-AFP sources (e.g. sewage waters, faecal specimens from healthy children or contacts of AFP cases, and blood samples) particularly in the remaining polio endemic countries. At the same time, the GPLN is playing an increasingly critical part in helping attain a clearer understanding of poliovirus transmission dynamics, in turn enabling a more targeted immunization response. In preparation of the trivalent OPV withdrawal and use of bivalent OPV in routine immunization, the GPLN is continuing to support changes of testing procedures to help strengthen surveillance for Sabin type 2 viruses.

In 2012, the GPLN undertook virological testing and analysis of samples from more than 105,000 detected AFP cases worldwide. Quite simply, this massive workload is enabling the targeted interventions of eradication activities.

Protecting the gains – the future

True protection of polio-free areas cannot be achieved, until polio has been eradicated from the remaining endemic areas and OPV eventually stopped. Until that time, countries must continue to maintain high levels of population immunity and strong disease surveillance, to minimize both the risk and consequences of any potential virus introduction. Should a virus be detected, comprehensive and full implementation of international outbreak response guidelines must be implemented, supplemented by innovative approaches as appropriate (such as targeting of older age groups). New activities are being implemented to further strengthen surveillance sensitivity, again with strong focus on known high-risk areas for re-infection.

To facilitate this risk management approach, the GPEI is forging closer ties with routine immunization programmes, particularly in known high-risk areas for re-infection. The vast GPEI infrastructure, staff, technical expertise and local knowledge is already supporting the planning and implementing of routine immunization services. Based on lessons learned from India's programme, the polio infrastructure in remaining endemic and high-risk countries is more comprehensively being used, in particular to: help identify gaps in routine immunization systems; use social mobilization networks to promote routine immunization; collect social data to help inform Expanded Programme on Immunization (EPI) communications strategies; use polio microplans to harmonise routine immunisation plans; and, help track and evaluate routine immunization sessions.

To address the long-term poliovirus risks, preparations are ongoing to prepare for the phased removal of all OPV. In order to enhance the affordability and availability of IPV – a prerequisite for the phased withdrawal of OPV, as recommended by SAGE at its November 2012 meeting – the GPEI is continuing its work on affordable IPV strategies.

All these activities are integral to the new Polio Eradication and Endgame Strategic Plan 2013-2018.

WHO/T. Moran

SECURING A LASTING POLIO-FREE WORLD: THE POLIO ENDGAME

A new Plan – what is it all about?

The Polio Eradication and Endgame Strategic Plan 2013-2018 brings together for the first time a comprehensive approach to completing polio eradication. Five major elements are new in this plan and distinguish it from previous plans:

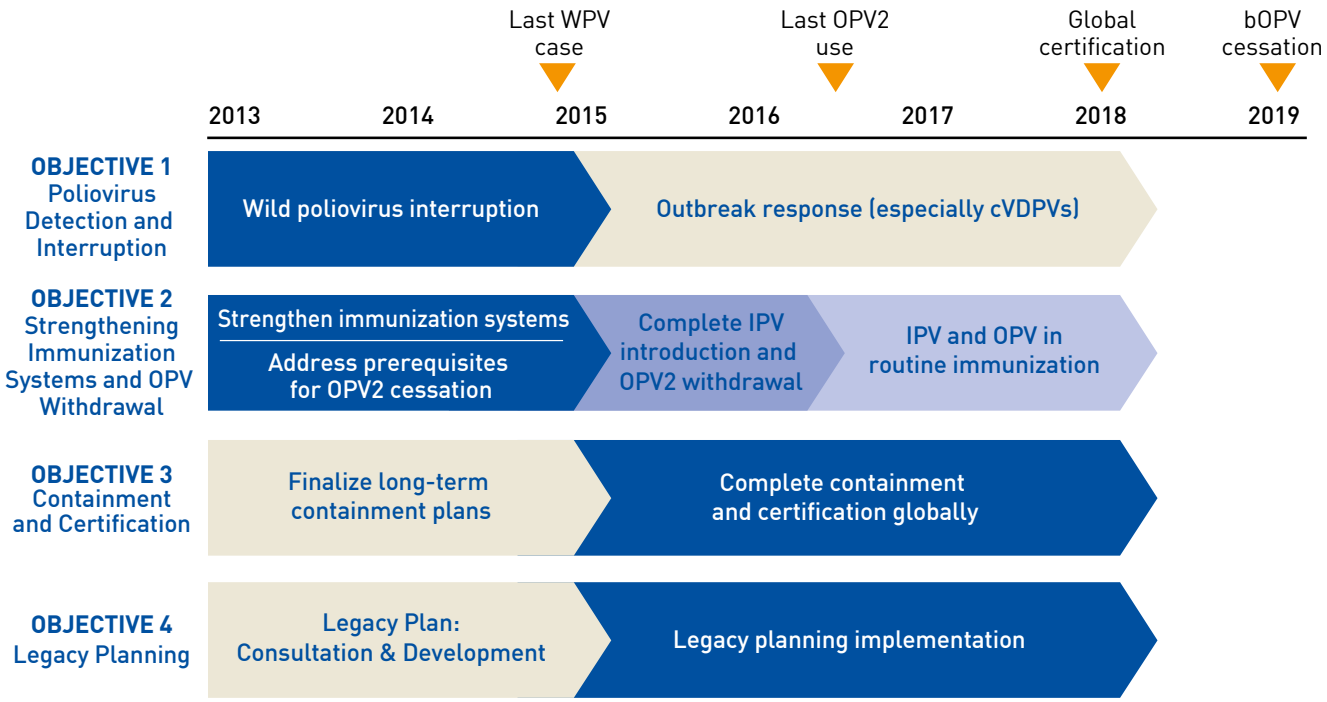
- strategic approaches to all polio disease (be it due to wild poliovirus or VDPVs);
- an urgent emphasis on improving routine immunization systems in key geographies;
- the introduction of new IPV options for managing long-term poliovirus risks and potentially accelerating wild poliovirus eradication;
- risk mitigation strategies to address the emerging importance of new risks, particularly insecurity, in some endemic areas, and contingency plans should there be a delay in interrupting transmission in such reservoirs; and,
- a concrete timeline to complete the GPEI.

There are four major objectives and areas of work in the Polio Eradication and Endgame Strategic Plan 2013-2018:

1. **Poliovirus Detection and Interruption:** This objective is to stop all poliovirus transmission by the end of 2014 (working target) by enhancing global poliovirus surveillance, effectively implementing national emergency plans to improve OPV campaign quality in the remaining endemic countries, and ensuring rapid outbreak response.
2. **Immunization systems strengthening and OPV Withdrawal:** This objective will help hasten the interruption of wild poliovirus transmission, reduce the risk of wild poliovirus and VDPV importation and spread, and help build a strong system for the delivery of other lifesaving vaccines. Work under this objective entails strengthening routine immunization systems, introducing at least one dose of IPV into routine immunization programmes globally, and replacing the trivalent OPV with bivalent OPV in all OPV-using countries.
3. **Containment and Certification:** This objective encompasses the certification of the eradication and containment of all wild polioviruses in all WHO Regions by end-2018, recognizing that a small number of facilities will need to retain poliovirus stocks in the post-eradication era for the purposes of vaccine production, diagnostics and research.
4. **Legacy Planning:** As the polio programme approaches key eradication milestones, successful legacy planning will include the mainstreaming of essential polio functions into on-going public health programmes at national and international levels, ensuring the transfer of learnings to other relevant programmes and/or initiatives, and the transition of assets and infrastructure to benefit other development goals and global health priorities.

Polio Eradication and Endgame Strategic Plan[a]

This figure shows that with full funding, the objectives can be pursued in parallel, with working target dates established for the completion of each.



[a] *Essential activities (e.g. surveillance, laboratory network and IPV in routine immunization) will be mainstreamed beyond 2019.*

The financial requirements for activities funded as part of the 6-year Eradication and Endgame Strategic Plan 2013-2018 is projected to be US$ 5.5 billion. The financial requirements for the period will be presented in an accompanying Financial Resource Requirements (FRR) document with corresponding costs and underlying assumptions per major budget category. The FRR information will be reviewed and updated every four months, available at www.polioeradication.org.

FINANCING THE EMERGENCY

Building on the unprecedented political and financial support in 2011, the GPEI received contributions totaling US$ 1.16 billion in 2012, fulfilling all funding requirements and allowing for a healthy financial start in 2013. However, in the first half of 2012, the US$ 405 million funding gap posed a significant challenge and forced the reduction or postponement of supplemental immunization activities (SIAs) in 24 high-risk polio-free countries in west, central and the Horn of Africa as well as central Asia. By October, the international donor community and polio-affected countries rallied together under the auspices of the "emergency" and secured the resources needed to effectively implement the 2012 Global Polio Emergency Action Plan.

On 17 January 2012, Rotary International announced that Rotary clubs worldwide succeeded in meeting the Bill & Melinda Gates Foundation US$ 200 million match in funding for polio eradication – reaching the fundraising milestone six months early! This announcement came the same week the Executive Board of the World Health Organization declared the completion of polio eradication a programmatic emergency for global public health. Rotary International's incredible achievement set the stage for continued unprecedented support from donors.

However, by April there was serious and growing concern at the looming funding situation. On 11-12 April, during the G8 Ministers of Foreign Affairs meeting in Washington DC, USA, G8 nations reaffirmed their support to the GPEI and called for the political and financial support to implement the Global Polio Emergency Action Plan 2012-2013.

In May, the World Health Assembly urged all Member States to "make available urgently the financial resources required for the full and continued implementation of the necessary strategic approaches to interrupt wild poliovirus transmission globally". This was followed by the Independent Monitoring Board's (IMB) June 2012 report, underscoring the potential consequences associated with the lack of financing, which it called "not compatible with the ambitious goal of stopping transmission globally" and described as the "primary risk" to eradication.

On 27 September, the United Nations Secretary-General Ban Ki-moon hosted a high level event at the United Nations General Assembly called "Our Commitment to the Next Generation: The Legacy of a Polio-free World", where leaders, including the Prime Minister of Australia and Heads of State from Afghanistan, Nigeria and Pakistan stood alongside donor government officials and new donors from the private sector to outline what is needed to stamp out polio forever: long-term commitment of resources, applying innovative best practices, and leadership and accountability at all levels of government in endemic countries.

The Polio Partners Group (PPG), co-chaired by the Canadian Ambassador and Permanent Representative to the United Nations in Geneva and the BMGF, also played a critical role in engaging development partners and in making strong appeals for financing for the Global Emergency Action Plan 2012-2013. A great example is the collaboration between the Governments of Japan and Pakistan and the implementing agencies to provide urgently needed funds to carry-out the emergency activities in Pakistan. Complementing the 2011-2012 innovative financing package from Japan in partnership with BMGF (the JICA Loan Conversion), the Governments of Pakistan and Japan released over US$ 8 million from the Counter Value Fund, a form of Japanese non-project grant aid (NPGA)[1] .

The "calls to action" to finance the emergency were heard. The international donor community provided more than US$ 848 million, which - combined with domestic funding - fully met the requirements by the end of 2012. In addition to significant contributions by G8 nations, Rotary International, BMGF and UNICEF, new commitments were received from Austria, Central Emergency Relief Fund (CERF), Chevron (Angola), Common Humanitarian Fund (South Sudan), Estonia, Liechtenstein, Norway, Poland, Turkey, Total E&P (Angola) and World Bank (DR Congo). In all, 33 donors contributed external funding to the GPEI in 2012.

As financial support from development partners reached unprecedented levels by year-end, domestic funding from polio-affected and high-risk countries remained strong. Domestic funding accounted for 24% of the total GPEI contributions for 2012. Of note is India's strong commitment to self-finance, providing an estimated US$ 240 million to protect its new polio-free status. Until the South-East Region is certified polio-free,

1 The NPGA is used for importing commodities and machineries such as oil, medicine, fertilizer, and tractors etc. Pakistan then deposits all the proceeds from sales or lease of imported commodities and machineries in local currency as the Counter Value Fund (CVF). The CVF is expected to be utilized for economic and social development in Pakistan, such as construction of schools, scholarship for university students and distribution of medication for low-income people.

countries have committed to conduct and co-finance polio immunization activities, e.g. Bangladesh provided US$ 10.6 million and Nepal provided US$ 700,000. Nigeria provided approximately US$ 24 million further to President Goodluck Jonathan's 2011 pledge at the Commonwealth Heads of Government Meeting in Perth to provide up to US$ 30 million annually in 2012 and 2013. Angola provided US$ 5.6 million to fund its operations costs and to sustain its achievement of becoming once again polio-free. Additionally, Yemen co-financed the cVDPV outbreak response activities, contributing US$ 880,000.

Austria continued its long-standing support and provided US$ 70,000 to UNICEF for social mobilization activities in Ethiopia. Austria has contributed US$ 3.22 million since 2001.

Australia released AUD 15 million of its four-year commitment of AUD 50 million (approximately US$ 49 million). Australia also continued supporting Uruzgan province in Afghanistan, bringing its total funding commitment until 2014 to US$ 67.35 million.

The **Bill & Melinda Gates Foundation** provided an additional US$ 158 million in 2012 funding through supplemental grants to WHO and UNICEF as well as third party funding for the World Bank buy-down for Nigeria and Pakistan, bringing the Foundation's total 2012 commitment to more than US$ 297 million. These grants bring the Foundation's total contribution to the GPEI through 2015, including matching grants to Rotary International, to US$ 1.7 billion.

Brunei Darussalam provided US$ 50,000 as part of its second multiyear commitment of US$ 150 000 for the period 2011–2013. The Sultanate's total contribution for the period 2008–2013 is US$ 300,000.

Canada disbursed US$ 27.43 million for Afghanistan and sub-Saharan Africa as part of a multi-year commitment announced in November 2010 following the Muskoka Initiative for maternal and child health. A further C$ 18 million was committed for Nigeria for the period 2012-2015, with C$ 13 million released in January 2013. Canada, the fifth-largest public sector donor to the GPEI, will have provided more than US$ 361.71 million by 2014.

The **Central Emergency Response Fund (CERF)** responded quickly to funding appeals for OPV for South Sudan, providing US$ 430,000 to UNICEF. CERF has provided US$ 5.56 million to date.

To complement Angola's co-financing, **Chevron** and **Total E&P** provided US$ 1.38 million to support social mobilization activities in the country.

In addition to its role as a spearheading partner, the **US Centers for Disease Control & Prevention (CDC)** provided funding for OPV, operational costs and programme support to UNICEF and WHO. In December 2011, CDC activated its Emergency Operations Center (EOC) to scale-up CDC polio eradication activities in an emergency response mode for increased technical and management assistance in polio eradication priority countries. CDC continued to dispatch its epidemiologists, virologists and technical officers to assist polio-affected countries in implementing polio eradication activities. US Congressional appropriations to CDC for polio eradication in its fiscal year 2012 totaled US$ 111.29 million, bringing CDC's total contributions to more than US$ 1.7 billion.

Estonia made its first-ever contribution to the GPEI, totaling US$ 25,000, through its partnership with the United Nations Foundation.

The **European Commission** released funding as part of its € 20 million support for activities in Nigeria in 2011 and 2012. The European Commission is the sixth largest public-sector donor to the GPEI, with contributions totaling US$ 224 million.

Finland provided US$ 462,000, the second installment of a three-year 10:1 matching grant with Rotary International for activities in Afghanistan, bringing its total support to US$ 2.1 million.

Germany released € 15 million/US$ 20 million for Nigeria as part of its multi-year commitment to the GPEI. Although not direct support for the GPEI, Germany also provided € 5 million for Tajikistan for rehabilitation of polio victims further to the large polio 2010 outbreak. Germany's total support to the GPEI has reached US$ 417.55 million, making it the fourth largest public sector donor.

In late 2006, the **Global Alliance for Vaccines and Immunization (GAVI Alliance)** approved the "Polio Stockpile" investment case for US$ 181 million (2007-2010 for campaign operations and 2012/2014 for OPV stockpile). The investment came from the Innovative Finance Facility for Immunization (IFFIm) and was initially intended to provide the up-front financing needed to partially establish a monovalent OPV stockpile for countries to access (as needed) after they stop using trivalent OPV and as soon as possible after confirmation of the interruption of all wild poliovirus transmission globally. The scope of the project was later expanded to provide support for intensified eradication activities. Both WHO and UNICEF were recipients of the funds. In 2012, US$ 12.92 million was available for the stockpile.

The **Google Foundation**, as part of its 2011 US$ 4 million match-grant, provided US$ 370,000 towards OPV.

Japan continued to demonstrate its strong commitment for polio eradication. In 2012, Japan provided more than US$ 24.72 million via UNICEF for polio eradication efforts in nine countries, namely Afghanistan, Chad, Côte d'lvoire, DR Congo, Guinea, India, Liberia, Niger and Nigeria. The assistance covered procurement of OPV, reinforcement of cold chain, dissemination of key messages, capacity building, and operations costs. Japan also provided US$ 8.03 million to WHO for campaign operations through the Counter Value Fund mechanism with the Government of Pakistan. WHO also received US$ 60,000 for research activities related to new polio vaccines, bringing Japan's total contributions for 2012 to US$ 33.35 million. Japan is the third largest public sector donor to the GPEI, with contributions totaling more than US$ 460 million. At the high-level side meeting on polio eradication of the 67th General Assembly in September, Japan's Foreign Minister emphasized the importance of full-cast diplomacy to optimize all available resources and expertise to eradicate polio. In this context, the Government of Japan, together with JICA and the Bill & Melinda Gates Foundation, is exploring the feasibility of replicating the "JICA loan conversion" scheme for Nigeria, following the successful introduction of the scheme for Pakistan in 2011.

For the second year in a row, the **Principality of Liechtenstein** provided CHF 15,000, bringing its total support to US$ 60,000.

Luxembourg contributed US$ 700,000 as part of a multi-year commitment covering the period 2009–2013. Luxembourg is the second largest per capita contributor with a total of US$ 15.06 million.

Monaco remained the GPEI's largest per capita contributor and released US$ 190,000 as part of its multi-year agreement for 2011–2013 for activities in Niger. By 2013, Monaco's total funding for polio eradication activities in Niger will be over US$ 1.06 million. Monaco also played a leadership role in the PPG and in discussions at the WHO Executive Board and World Health Assembly.

Norway continued to provide critical unspecified contributions to the GPEI. In 2012, it provided US$ 8 million as part of its multi-year commitment for 2012-2013, bringing its total contributions to US$ 101.80 million.

Poland made its first-ever contribution to the GPEI, totaling US$ 7,000, through its partnership with the United Nations Foundation.

Rotary International, in addition to being a spearheading partner in the GPEI, is also the second largest private sector donor. By January 2012, Rotary International announced that Rotary clubs worldwide had succeeded in meeting the Bill & Melinda Gates Foundation's US$ 200 million match in funding for polio eradication – reaching the fundraising milestone six months early. In 2012, Rotary International disbursed US$ 95.73 million to the GPEI. By 2014, Rotary International will have contributed more than US$ 1.23 billion.

The **Russian Federation** disbursed US$ 1 million as part of a US$ 5 million multi-year commitment (2010–2012) made in response to the 2010 G8 communiqué. Russia has provided US$ 33 million to the GPEI since 2003.

Turkey continued its support, providing a contribution of US$ 50,000, bringing its total support to US$ 830,000.

At the UN General Assembly Event, the **United Kingdom** announced £ 25 million as part of its five-year pledge to the GPEI. In 2012, the United Kingdom's Department for International Development (DFID) disbursed US$ 63.15 million, including its match grant pledged in 2011. The United Kingdom is the second largest public sector contributor with total contributions of US$ 1.002 billion.

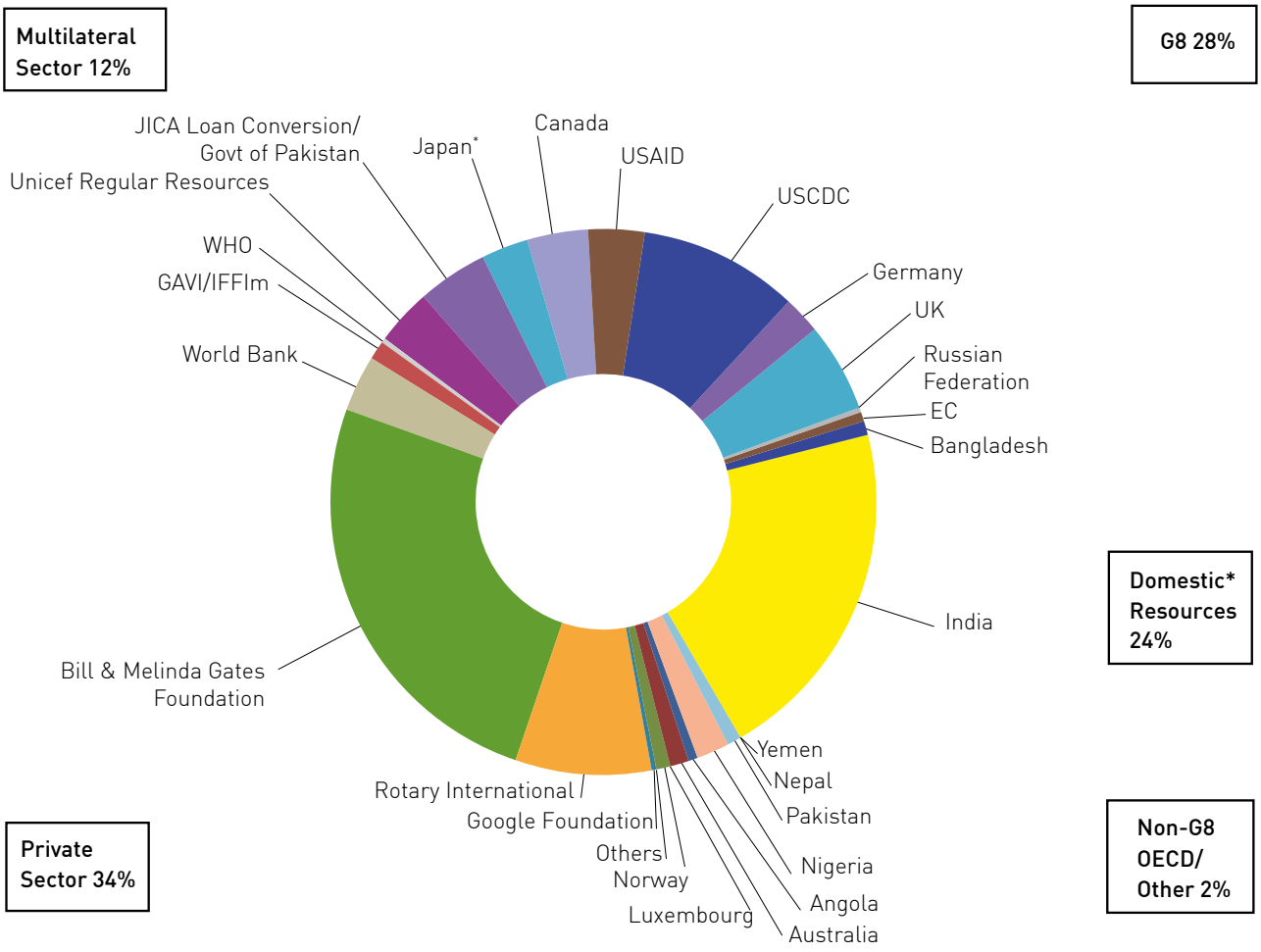
In 2012, spearheading partner **UNICEF** continued to see polio eradication as a priority and provided significant funding to its country offices. In total, UNICEF provided more than US$ 39.72 million for polio eradication activities through several channels: US$ 15 million for OPV from the discretionary core funding, US$ 17.92 million for OPV and staff costs from country offices core resources (Board approved budget) and US$ 6.8 million for polio eradication activities in priority countries fundraised by UNICEF National Committees.

The **United Nations Foundation (UN Foundation)** continued its support of the GPEI's resource mobilization efforts, playing a key role in facilitating support from non-traditional donors, such as Estonia, Liechtenstein and Poland. The UN Foundation's total support for the GPEI is US$ 43.54 million. The UN Foundation is also engaged in working with private sector organizations and diaspora organizations to mobilize resources and support.

The US Congress in its fiscal year 2012 allocated US$ 39.5 million to the **United States Agency for International Development (USAID)** for polio eradication activities. Funds were used to support social mobilization, surveillance and laboratory activities, outbreak response and monitoring in priority countries, bringing USAID's total support to US$ 483.5 million.

An innovative financing mechanism with the **World Bank**, commonly referred to as "IDA buy-downs", was developed to allow the use of credit issued by the International Development Association (IDA), the concessionary lending arm of the World Bank, for OPV procurement. Third-party donor funding (provided by the Bill & Melinda Gates Foundation, CDC, Rotary International and the UN Foundation) is used to "buy-down" IDA credits and turn them into grants. In 2012, US$ 36.25 million was disbursed under the buy-downs for Pakistan and Nigeria. The total amount of support committed under this mechanism, called "the World Bank Investment Partnership for Polio", is US$ 362.92 million. In addition, the World Bank provided a grant of US$ 3 million for DR Congo.

Global Polio Eradication Initiative Financing in 2012 : US$ 1.16 billion contributions



*Includes funding released by the Government of Pakistan using funding from the Government of Japan through the Counter Value Fund mechanism, a type of non-project grant aid.
'Other' includes governments (Austria, Brunei Darussalam, Finland, Estonia, Liechtenstein, Monaco, Poland & Turkey) and other institutions (Chevron + Total E&P (Angola), Central Emergency Relief Fund (CERF) and Common Humanitarian Fund (South Sudan)).
As of 26 June 2013.

Annex | Status report of the global milestones and process indicators of the GPEI Strategic Plan 2010-2012

Global milestones for end-2012

MILESTONE	Cessation of all wild poliovirus transmission
STATUS	Not achieved
COMMENTS	• Endemic wild poliovirus transmission stopped in India; endemic wild poliovirus transmission persisting in parts of Afghanistan, Nigeria and Pakistan • Re-established wild poliovirus transmission stopped in Angola, DR Congo and South Sudan; on-track to be stopped in Chad (most recent case: onset of paralysis on 14 June 2012) • New wild poliovirus outbreaks stopped within six months of confirmation of index case: on track (one case in Niger, with onset of paralysis on 15 November 2012)

Process indicators for end-2012

INDIA	>95% population immunity to type 1 and type 3 polio maintained
STATUS	Partially achieved
COMMENTS	Bihar: 96.61% immunity to type 1; 85.97% immunity to type 3 Uttar Pradesh: 96.98% immunity to type 1; 87.94% immunity to type 3

PAKISTAN	1. <10% missed children during each SIA in all districts 2. >90% of children with >six doses of OPV sustained in all provinces
STATUS	Not achieved
COMMENTS	1. 125 out of 162 districts achieved 2. 3 of 8 provinces achieved

AFGHANISTAN	>90% of children with >3 doses of OPV in all provinces of the country
STATUS	Not achieved
COMMENTS	21 of 32 provinces achieved

NIGERIA	>90% of children with ≥3 doses of OPV in all states
STATUS	Not achieved
COMMENTS	21 of 37 states achieved

ANGOLA	<10% missed children in all districts of Luanda, Benguela and Kwanza Sul during each SIA
STATUS	Not achieved
COMMENTS	10 of 34 districts achieved

CHAD	<10% missed children in greater N'Djamena and in the southern and eastern WPV transmission zones during each SIA
STATUS	Not achieved
COMMENTS	0 of 3 zones achieved (6 of 11 provinces within these 3 zones achieved)

DR CONGO	1. <10% missed children in each SIA in Orientale, North & South Kivu (and all provincial capitals) 2. AFP rate >2 with 80% adequate specimens in all provinces
STATUS	Partially achieved
COMMENTS	1. 2 out of 3 provinces achieved (and 7 out of 9 provincial capitals achieved) 2. 10 of 11 provinces achieved

SOUTH SUDAN	1. <10% missed children in each state during each SIA 2. AFP rate >2 with 80% adequate specimens rates in all states
STATUS	Partially achieved
COMMENTS	1. Data not available 2. Achieved

WPV IMPORTATION BELT	<10% missed children in two SIAs in all 1st and 2nd level priority countries in the WPV importation belt (based on end-2011 prioritization)
STATUS	Not achieved
COMMENTS	10 out of 16 countries achieved

SURVEILLANCE	1. Non-polio AFP rate >2 and >80% adequate specimen rate achieved at the subnational level in all endemic, re-established transmission and WPV importation belt countries 2. Environmental sampling expanded to two additional reservoir areas
STATUS	Partially achieved
COMMENTS	1. - Endemic countries: achieved in 92% of provinces - Re-established transmission countries: achieved in 81% of provinces - WPV importation belt: achieved in 64% of provinces 2. Environmental sampling expanded to 5 additional sites in Pakistan and 8 additional sites in Nigeria

OUTBREAK RESPONSE	1. 100% of WPV importations and cVDPVs in previously polio-free areas responded to per updated outbreak response guidelines based on 2010 operational research and clinical trials 2. International assessment conducted in 90% of countries with importation events persisting for >six months
STATUS	Partially achieved
COMMENTS	100% of WPV importations and 75% of cVDPV emergence in previously polio-free areas responded to per updated outbreak response guidelines based on 2010 operational research and clinical trials; no 2011 or 2012 importation event persisted for >6 months during the period under consideration.

STRENGTHENING IMMUNIZATION SYSTEMS	1. RED implemented in at least 80% of districts at highest risk of importations in the WPV importation belt of sub-Saharan Africa and Asia 2. Tracking of 'immunization systems' indicators in at least 80% of countries in the WPV importation belt of sub-Saharan Africa and highest risk areas of Asia
STATUS	Partially achieved
COMMENTS	1. Not achieved - AFRO: 12 countries achieved; 3 countries not achieved (Benin, Côte d'Ivoire, Mauritania); 1 country data not available (Senegal) - EMRO: 5 of countries achieved; 1 country not achieved (Somalia, achieved in 75% of districts) - SEARO: 100% of countries achieved 2. Achieved

ACRONYMS AND ABBREVIATIONS

AFP	Acute flaccid paralysis
AFR	WHO African Region
AMR	WHO Region of the Americas
BMGF	Bill and Melinda Gates Foundation
bOPV	Bivalent oral polio vaccine
CDC	US Centers for Disease Control and Prevention
cVDPV	Circulating vaccine-derived poliovirus
EAP	Emergency Action Plan
EB	Executive Board
EMR	WHO Eastern Mediterranean Region
EPI	Expanded Programme on Immunization
EUR	WHO European Region
ERC	Expert Review Committee on Polio Eradication and Routine Immunization (Nigeria)
FATA	Federally Administered Tribal Areas (Pakistan)
FRR	Financial Resource Requirements
GCC	Global Commission for the Certification of the Eradication of Poliomyelitis
GIS	Geographic information systems
GPEI	Global Polio Eradication Initiative
GPLN	Global Polio Laboratory Network
GPS	Global positioning system
GVAP	Global Vaccine Action Plan
IHR (2005)	International Health Regulations (2005)
IMB	Independent Monitoring Board
IPV	Inactivated polio vaccine
KP	Khyber Pakhtunkhwa (Pakistan)
LGA	Local Government Area
LQAS	Lot Quality Assurance Sampling
mOPV	Monovalent oral polio vaccine
NCC	National Certification Committee
NID	National Immunization Day
OPV	Oral polio vaccine
PPG	Global Polio Partners Group
PRC	Polio Research Committee
RCC	Regional Certification Committee
RED	Reaching Every District
SAGE	Strategic Advisory Group of Experts on immunization
SEAR	WHO South-East Asia Region
SIA	Supplementary immunization activity
SIAD	Short Interval Additional Dose
SNID	Subnational Immunization Day
TAG	Technical Advisory Group
tOPV	Trivalent oral polio vaccine
UNICEF	United Nations Children's Fund
VAPP	Vaccine-associated paralytic polio
VDPV	Vaccine-derived poliovirus
VPD	Vaccine-preventable disease
WHA	World Health Assembly
WHO	World Health Organization
WPR	WHO Western-Pacific Region
WPV	Wild poliovirus
WPV1	Wild poliovirus type 1
WPV2	Wild poliovirus type 2
WPV3	Wild poliovirus type 3

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