

SEMI-ANNUAL STATUS REPORT

JULY TO DECEMBER
2018

PROGRESS AGAINST THE POLIO
ERADICATION & ENDGAME
STRATEGIC PLAN 2013–2018

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ACRONYMS

AFP	Acute flaccid paralysis
bOPV	Bivalent oral polio vaccine
cVDPV	Circulating vaccine-derived poliovirus
cVDPV1	Circulating vaccine-derived poliovirus type 1
cVDPV2	Circulating vaccine-derived poliovirus type 2
GCC	Global Commission for the Certification of the Eradication of Poliomyelitis
GPEI	Global Polio Eradication Initiative
IPV	Inactivated polio vaccine
NEAP	National Emergency Action Plan
OPV	Oral polio vaccine
PCS	Post-Certification Strategy
VDPV	Vaccine-derived poliovirus
VDPV2	Vaccine-derived poliovirus type 2
WHO	World Health Organization
WPV	Wild poliovirus

WHAT TO TAKE AWAY FROM THIS REPORT

Why does polio persist, anywhere in the world, in 2019? At its core, the answer is deceptively simple: because in those areas where it persists, not enough children have yet been vaccinated.

Polio eradication is also deceptively simple: vaccinate enough children in a given area, and the virus has nowhere to hide and disappears.

Where it becomes complicated, of course, is *why* children are not vaccinated. The reasons are many. They include the lack of infrastructure, hard-to-reach areas, population movement, inadequate planning and oversight, community resistance and insecurity, to name but a few.

Poliovirus does not care about any of those reasons. It does not care *why* a child is not vaccinated. It is just very, very good at finding that child.

But serious consideration and care must be given to the *why*. In fact, the *why* holds the key to finally reaching a polio-free world. It is only by clearly identifying *why* a child is missed, that operational plans can be tailored to reach that child – to reach that child before the poliovirus does.

This is the final instalment of the *Semi-Annual Status Report*, reporting against the Global Polio Eradication Initiative (GPEI) and its Endgame Strategic Plan 2013–2018 (Endgame Plan). The aim of the Endgame Plan was of course to eradicate polio by 2018. It did not succeed in this aim.

What it did achieve is to set the stage for a final assault on the virus. The Endgame Plan brought the world to the threshold of being polio-free. More importantly, it put in place all the necessary tools, strategies, tactics, approaches, policies and infrastructures to reach that last child.

The GPEI Polio Endgame Strategy 2019–2023 builds on the tools, lessons and tactics of the Endgame Plan. It optimizes the proven approaches that have been shown to work and strengthens the tactics in those areas where they need sensitizing, including by reaching out to new partners and reinforcing collaboration with other sectors. Its operating principle is clear: to identify clearly why a child is missed, and then to implement the proven approaches to overcome that reason.

In 2019, there is no technical or biological reason why polio should persist anywhere. There are no technical impediments standing in the way. All the knowledge needed is available, all the tools are in place. Success now depends on us.

Polio eradication is an effort that cannot be sustained indefinitely. It is resource intensive. It puts intensive pressure on the countries affected, on donors, on communities. Most of all, it puts intensive strain on those children who today are still needlessly paralysed by this disease, and on their families.

Each person involved in this effort – partner, government worker, Rotarian, donor, health minister, vaccinator, researcher, policy-maker, vaccine manufacturer, parent – must dedicate themselves to that one clear objective: to find that last child by optimizing what has proven to work.

At the start of 2019, as the Endgame Plan drew to a close and the Polio Endgame Strategy 2019–2023 began, the Chairs of this effort's major global advisory and oversight bodies – the International Health Regulations Emergency Committee, the Independent Monitoring Board, the Global Commission for the Certification of the Eradication of Poliomyelitis and the Strategic Advisory Group of Experts on immunization – issued a joint and impassioned plea to all

GPEI stakeholders. In this remarkable joint statement, the Chairs issued a simple but important call to action, to all of us: to dedicate ourselves fully to reaching that very last child with polio vaccine by excelling in our roles.

This year, with the new Endgame Strategy, let us rise to this call to action. The global push to immunize children against polio has been an incredible success, reducing polio cases by 99.9%. Let us reach that final 0.1%, by finding and vaccinating that very last child,

no matter what challenges lie in our way. *There is no reason why polio should persist anywhere today.*

In their joint statement, the Chairs recalled that the global community has stood at today's juncture once before, with smallpox. The eradication of smallpox was achieved. And the world is a much better place without smallpox.

Let us make the world again a much better place. Let us eradicate polio.

POLIO ERADICATION – SOME KEY FACTS AT THE START OF 2019...

- 210 countries, territories and areas are polio-free
- In 2018, the GPEI helped national governments vaccinate more than 470 million children multiple times in more than 40 countries, using more than 2.2 billion doses of oral polio vaccine. In total, more than 2.5 billion children have been vaccinated through the GPEI since 1988
- More than 18 million people are today walking, who would otherwise have been paralysed, and more than 900,000 polio-related deaths have been averted
- An additional more than 1.5 million childhood deaths have been averted, thanks to the systematic administration of Vitamin A during polio campaigns
- A global network of more than 20 million volunteers has been mobilized, who contribute also to other public health development efforts

AT A GLANCE...

Wild poliovirus eradication in Afghanistan, Pakistan and Nigeria – the three remaining endemic countries – remained the overriding priority.

Outbreak responses to confirmed circulating vaccine-derived polioviruses (cVDPVs) continued in the Democratic Republic of the Congo, the Horn of Africa, Nigeria, Niger, Mozambique, Papua New Guinea and Indonesia.

An explosive cVDPV outbreak from 2017 in the Syrian Arab Republic was successfully stopped.

Afghanistan and Pakistan – the final global wild poliovirus type 1 bastion

In 2018, wild poliovirus (WPV) cases were reported only from two countries: Pakistan and Afghanistan. In Nigeria, the third WPV-endemic country, no WPV has been detected anywhere in the country since 2016.

Both countries continued to be treated as a single epidemiological block, as the same virus strains are shared across their joint border. They coordinated both vaccination and surveillance activities, including at the provincial level and along border areas. While overall national immunization coverage was high, pockets of local under-immunized populations remained. National emergency action plans focused on identifying reasons for persistently missed children in specific areas and implementing operational action plans.

Virus transmission was primarily restricted to two cross-border corridors: the first linking eastern Afghanistan with Khyber Pakhtunkhwa and Federally Administered Tribal Areas in Pakistan, and the second linking southern Afghanistan (Kandahar and Helmand) with the Quetta block, Balochistan province in Pakistan, and Karachi (Pakistan). Environmental

surveillance in both countries continued to detect virus in other parts, but without re-establishing local transmission.

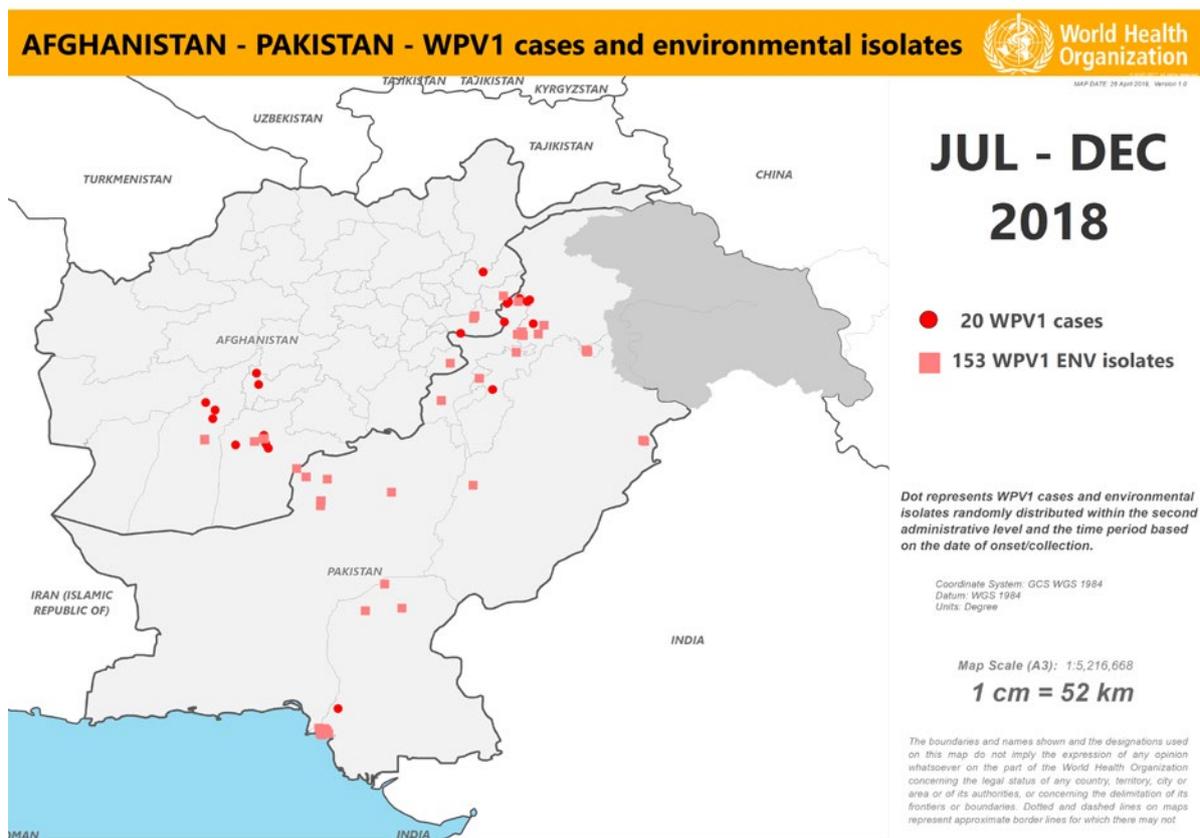


Frontline health workers in Pakistan going the last mile to reach every last child with oral polio vaccine.

While both countries were affected by various difficulties in different areas, including insecurity, challenging terrain, the lack of infrastructure or inadequate activity planning, the overriding issue affecting them was to reach populations on the move. The implementation of specific high-risk mobile population strategies aimed to fill the remaining vaccination coverage gaps among these groups. The two countries share a border that is more than 2400 km long, which more than 50,000 children cross every day, either at formal border crossings or at unofficial crossings. Populations travel

for a variety of reasons and include nomads, seasonal and economic migrants, agricultural or migrant labourer families, or refugee movements. Specific tactics to reach them included engaging with leaders of populations on the move, establishing vaccination points at key border areas and gathering sites, using mobile vaccination groups on roads and at bus and rail terminals, and organizing special vaccinations at destination and arrival sites.

Click [here](#) for more on the specific strategies implemented in Pakistan and Afghanistan.



PAKISTAN'S ERADICATION EFFORT IS ANALOGOUS TO THE WORLD'S ERADICATION EFFORT

Pakistan's polio eradication effort today is an excellent analogy to the world's eradication effort.

Twenty years ago, polio paralysed more than 30 000 children, all over Pakistan. In 2018, only 12 cases were reported, from just four districts.

This is an incredible achievement and a true measure of success... if this were a disease reduction programme. But it is not. This is a disease eradication effort, and it is an all-or-nothing game. One either eradicates a disease, or one does not. There is no in-between.

In that sense, Pakistan's effort today represents an effective analogy to the world's effort. Polio has been reduced by over 99%. It prevails in only a handful of areas in the world. But as long as a single child remains infected with poliovirus, children in all countries are at risk of contracting the disease.

Nevertheless, while the work towards getting to zero cases continues, it is important to pause to recall what has already been achieved. Over the past 20 years, more than 20 billion doses of oral polio vaccine (OPV) have been administered multiple times to more than 2.5 billion children worldwide. As a result, more than 17 million people today can walk who would otherwise have been paralysed, including 600 000 in Pakistan.

It is a tremendous achievement, one worth remembering, as efforts to achieve that last remaining 0.1% are intensified.

The increasing importance of eliminating cVDPVs – addressing a dual emergency

Circulating vaccine-derived poliovirus (cVDPV) outbreaks are not a new phenomenon, but as the world increasingly approaches being free of WPVs, such outbreaks take on a new importance. Case numbers caused by cVDPVs were in fact lower in 2018 than in previous years but were more “visible” in light of the extremely low levels of WPV transmission remaining in the world.

The emergence of cVDPVs in areas of low population immunity underscores the need to strengthen routine immunization levels. Ultimately, however, the only 100%-sure strategy to eliminate the long-term risk of

cVDPVs is to stop OPV use. That can only occur after WPVs have been successfully eradicated. Hence the dual emergency: to stop WPVs as rapidly as possible, not only to eradicate these strains in their own right and prevent their global resurgence, but also to stop them to enable the global cessation of OPV as quickly as possible (see the text box).

POLIO ERADICATION – A DUAL EMERGENCY

The World Health Organization declared the effort to eradicate polio a Public Health Emergency of International Concern, under the International Health Regulations. But in fact, the eradication of polio has now become a dual emergency.

The progress in eradicating WPV has been achieved through large-scale immunization campaigns using the OPV. As OPV is administered orally, it can be delivered to children easily no matter where they live. Most importantly, though, it does not just protect individual vaccinated children but also curbs poliovirus in their communities by preventing person-to-person spread. It is this public health benefit that has eradicated the disease from virtually every country in the world. It is the only vaccine through which global eradication can be achieved.

But a drawback is associated with OPV. The vaccine is made of live poliovirus that has been genetically weakened so it induces immunity in a vaccinated child and does not cause paralysis. When excreted by the vaccinated child, the vaccine provides immunity to other children in that community, protecting them. As long as the excreted vaccine-virus does not reach susceptible (unvaccinated) children for an extended period of time, it dies out completely.

The problem occurs in areas where vaccination rates are so low that the vaccine-virus continues to circulate. The longer it circulates, the more it genetically changes. On rare occasions, it changes to the extent that it becomes a “strong” virus, able to cause paralysis and even outbreaks – what is known as cVDPV. It takes a long time for cVDPVs to emerge – about a year of extended circulation. The child who received the original OPV dose 12 months earlier will remain protected, so these changes are not a side effect of the vaccine but a devastating consequence of low population immunity.

This risk has been recognized for decades and is included in the strategy. Once countries eradicate WPV, they intend to stop using OPV and protect their populations through inactivated polio vaccine (IPV). Since IPV cannot cause cVDPVs, it is the ideal tool for a post-polio world.

But IPV cannot be used to eradicate WPV. Protecting only the vaccinated child, it does not confer immunity to others and it cannot stop person-to-person spread of the virus. As the evidence has shown repeatedly, only OPV will eradicate polio.

That is precisely the dual emergency the world is now facing. WPV must be eradicated in the remaining few areas as quickly as possible. Every child must be vaccinated with OPV. Then its use must be stopped rapidly. This is the only way to get to zero and to keep all children safe from outbreaks of both WPV and vaccine-derived polioviruses (VDPVs).

Africa and polio eradication – an unfinished success story

Africa has not detected any WPV from any source from north-eastern Nigeria since September 2016. And although surveillance gaps in some parts of that area remain, surveillance (and immunity levels) is significantly stronger today than it was in 2016, when the surveillance system did manage to detect the virus.

Africa stands on the cusp of a historic public health success: the potential certification of WPV eradication, which could occur as early as 2020.

This success would be a tribute to the tremendous efforts achieved by political leaders across the continent and by traditional, religious and community leaders, public health systems, front-line health workers and, most importantly, parents. They all dedicated themselves to a single and common goal: to find and vaccinate every child against WPV, no matter where they live. All heeded the call issued by Nelson Mandela in 1996 – at a time when WPV paralysed more than 75 000 children every year across every country on the continent – to “kick polio out of Africa”.

The certification of Africa would also highlight what can be achieved when all levels of public and civil society are mobilized towards a common goal. Already, the polio effort on the continent has helped to address other urgent public health challenges.

But this success is only half the story. In fact, it is an unfinished success story. To finish it, the increasing threat of cVDPVs on the continent must also be addressed.

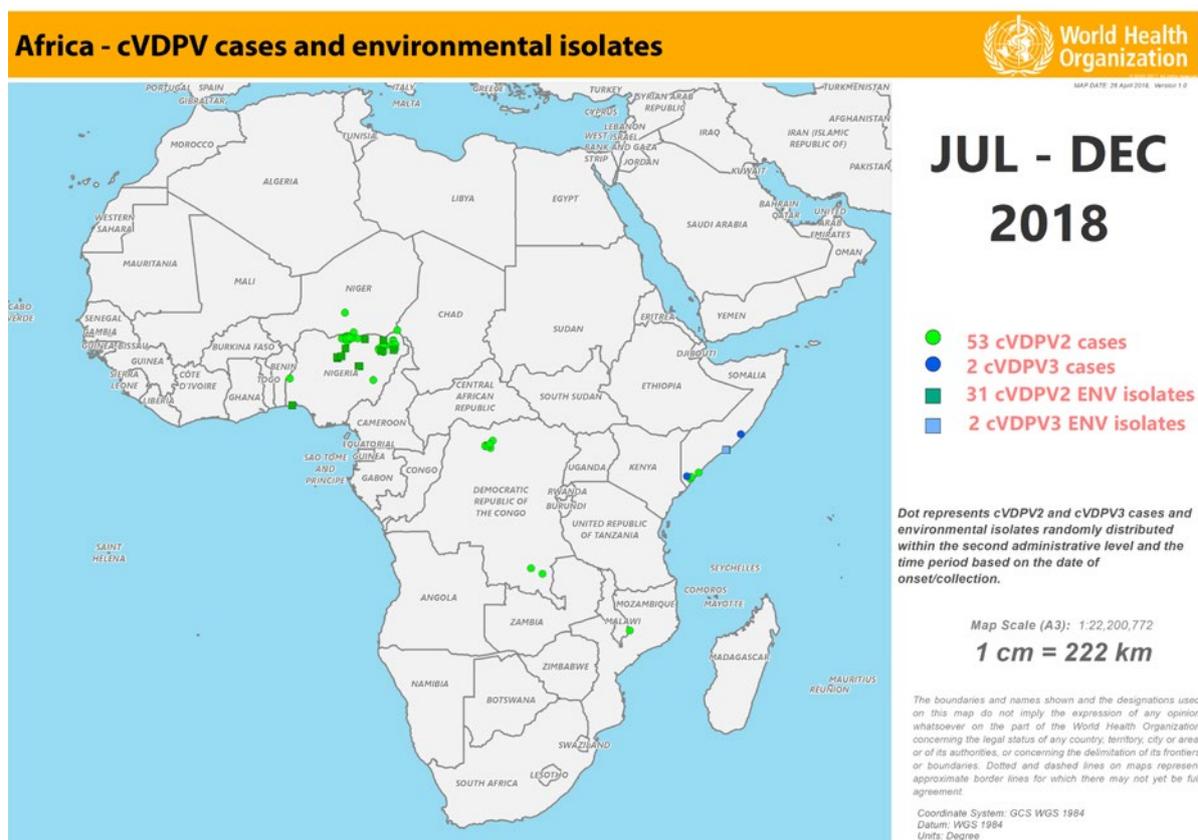
Ongoing emergency outbreak response to cVDPVs in Africa

In 2018, Nigeria was affected by two genetically distinct circulating vaccine-derived polioviruses type 2 (cVDPV2). In Sokoto state, four genetically related viruses were isolated from environmental samples, collected between April and May 2018. No associated cases of acute flaccid paralysis (AFP) were detected. Separately, the country was affected by a different outbreak originating in Jigawa state, with subsequent spread both nationally to other states and internationally to neighbouring Niger. Since detection of the original outbreak in Jigawa, 42 cases have now been reported, including 33 from six Nigerian states and nine from Niger. Of particular concern was the detection of a case associated with this outbreak in Kwara, Nigeria in the second half of 2018, a state immediately bordering Benin, magnifying the risk of further international spread.

In the Democratic Republic of the Congo, four different cVDPV2 outbreaks continued, in the provinces of Haut-Katanga, Mongala, Maniema and Haut-Lomami/Tanganyika/Haut-Katanga/Ituri. In total, 42 cases were confirmed in the country after detection of the first outbreak in June 2017, including 20 cases in 2018. Operational gaps in the response continued to hamper the full implementation of protocols, as high-risk populations remained under-immunized; the response did not control the outbreaks or prevent geographic spread. Polio outbreak response was conducted simultaneously to an ongoing Ebola outbreak affecting North Kivu province, in the east of the country (close to provinces affected by cVDPV2). As in the past, the polio teams coordinated efforts closely with the broader humanitarian emergency network to address both outbreaks in a coordinated manner (as was the case during the 2017 Ebola outbreak in Equateur province, which was successfully stopped).

The Horn of Africa was affected by outbreaks due to cVDPVs, types 2 and 3. The cVDPV2 was isolated from cases of AFP as well as environmental samples in Mogadishu (Somalia) and from environmental samples in Nairobi (Kenya). Genetic sequencing of this strain suggested it had been circulating without detection since 2016, underscoring the dangers of gaps in subnational surveillance. In addition to cVDPV2, circulating vaccine-derived poliovirus type 3 was isolated from AFP cases and environmental samples in Mogadishu. Regional outbreak response activities for both strains were implemented, in line with internationally agreed guidelines. Somalia, Kenya and Ethiopia all declared these outbreaks to be national public health emergencies.

In January 2019, a case of cVDPV2 in Madagascar was confirmed. Two genetically linked isolates were detected, from an AFP case (with onset of paralysis on 21 October 2018, in a 6-year-old girl with no history of vaccination, from Molumbo district, Zambézia province) and a community contact of the case. The health ministry and local public health authorities immediately launched a thorough field investigation to clearly assess the extent and original source of circulation of this virus, and planned an outbreak response in line with internationally agreed outbreak response protocols.



Cross-regional, cross-border emergency response to two unrelated cVDPVs on the border of Papua New Guinea and Indonesia

Both Papua New Guinea (in WHO's Western Pacific Region) and Indonesia (in WHO's South-East Asia Region) continued to implement a coordinated, cross-regional, cross-border outbreak response to two separate and genetically distinct circulating vaccine-derived poliovirus type 1 (cVDPV1) outbreaks that affected their respective border areas.

In Papua New Guinea, a cVDPV1 outbreak was confirmed in June 2018; the virus was initially isolated from an AFP case and two healthy community contacts. The government immediately declared the outbreak as a national public health emergency, and launched a

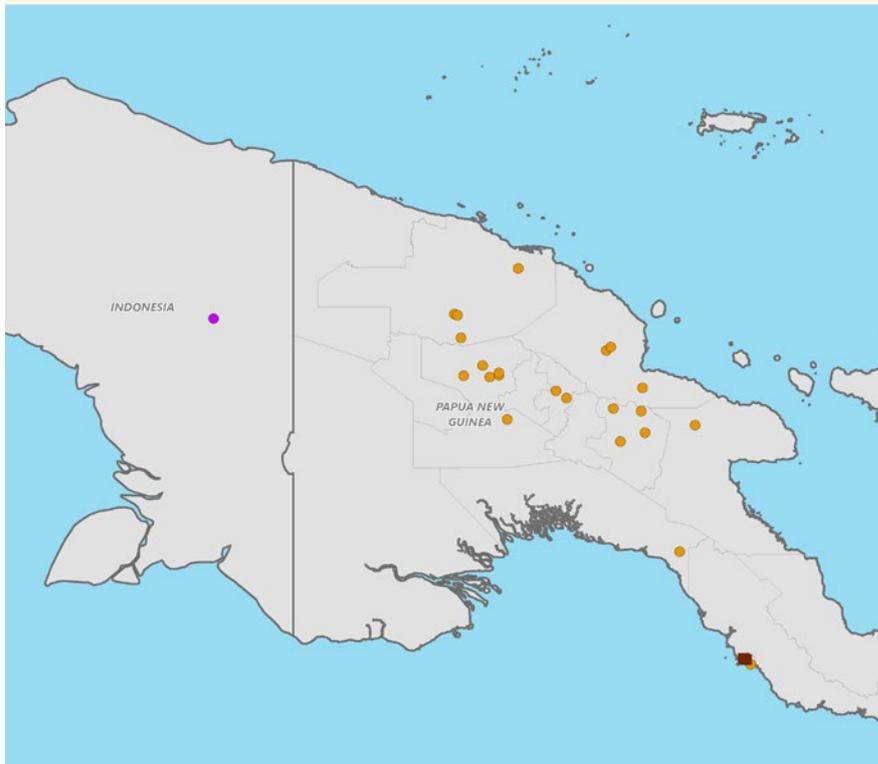
comprehensive emergency outbreak response. After the initial confirmation of the virus in June, additional cases were confirmed in other areas, prompting the government to extend the response to nationwide campaigns. Given the proximity of the cases to the border with Indonesia, both countries implemented cross-border vaccinations to minimize the risk of this strain's international spread.

In January 2019, a genetically distinct cVDPV1 outbreak was confirmed in Indonesia, in Papua province bordering Papua New Guinea. The virus was isolated from a child with AFP, as well as from a healthy community contact. A district-level outbreak response was immediately launched following the outbreak's detection, with further outbreak response planned in high-risk provinces.

PROVIDING SUPPORT TO POLIO SURVIVORS IN PAPUA NEW GUINEA... A MODEL FOR THE REST OF THE WORLD?

Public health authorities in Papua New Guinea and key partners are exploring concrete ways to more comprehensively support children affected by the current outbreak and their families. Although polio paralysis is not curable, in some instances certain treatments can alleviate symptoms or provide increased comfort. The provision of prosthetics and wheelchairs as well as increased social, vocational or educational assistance can also greatly improve the quality of life of survivors.

Using the experiences of similar work in countries like Pakistan as a model, local health authorities are coordinating more closely with universal health care infrastructures and specialized agencies that provide support to persons requiring increased rehabilitation services. By critically evaluating the precise needs and treatment options of each patient, a targeted, patient-centred approach to their care can be provided. This approach can be made a part of the current outbreak response strategy and could well serve as an operating model moving forward, as the world nears polio eradication.



**JUL - DEC
2018**

- 1 cVDPV1 case
- 22 cVDPV1 cases
- 7 cVDPV1 ENV isolates

Dot represents cVDPV1 cases and ENV isolates randomly distributed within the second administrative level and the time period based on the date of onset/collection.

Coordinate System: GCS WGS 1984
Datum: WGS 1984
Units: Degree

Map Scale (A3): 1:3,122,708

1 cm = 31 km

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SYRIAN ARAB REPUBLIC – AN OUTBREAK RESPONSE SUCCESS STORY

In June 2017, reports emerged of an explosive cVDPV2 outbreak in the eastern part of the Syrian Arab Republic. Confirmation of the outbreak was soon received and an extraordinary outbreak response was launched, amidst extremely challenging and dangerous circumstances and within the context of a broader humanitarian aid response. The response was successfully implemented throughout the rest of 2017 and 2018, involving a broad range of partners and humanitarian actors, and the outbreak was successfully stopped as no new cases were detected in the country after September 2017.

For more information on this remarkable effort, which clearly shows that polio can be stopped even in the most challenging settings, click [here](#).

Polio eradication and gender

Gender equality and equity are core values for the GPEI, and the programme recognizes that gender-responsive approaches further strengthen polio eradication interventions. The GPEI is currently developing a gender

strategy to guide its work in gender-responsive programming and gender mainstreaming, and to increase women’s meaningful and equal participation in the polio programme’s different levels. The strategy will be finalized during the second quarter of 2019. A gender

perspective has also been integrated into the new GPEI Polio Endgame Strategy 2019–2023.

In the 2018 [Gender Technical Brief](#), the GPEI analysed the links between gender norms, roles and relations, and immunization outcomes, and explored specific gender-related barriers to immunization, with particular focus on gendered determinants of immunization in GPEI's priority countries.

To ensure equal access to vaccinations, surveillance and the engagement of women, the GPEI regularly monitors four gender-sensitive indicators:

1. Girls and boys reached in vaccination campaigns

The indicator compared the percentage of girls and boys vaccinated after an immunization campaign, recorded from lot quality assurance sampling and post-campaign monitoring data.

2. Total doses received

The total number of doses received was recorded for children aged 6–59 months in AFP case data. The dosage count is an additional measure to assess children's overall participation in vaccination campaigns or routine immunization. Gender comparisons were made for the median number of doses, the percentage of zero doses, and the percentage of three or more doses.

3. Timeliness of disease surveillance

The AFP case data included information on the date of onset of paralysis and the date of notification by the caregiver(s). The notification delay was calculated from the difference in days between onset and notification. This measure showed whether the child's gender biased how quickly his or her disease was notified within the surveillance system. Timeliness was assessed by comparing median values

and by the percentage of male and female cases notified within three days.

4. Women's participation in immunization activities

The indicator measured the percentage of women and men front-line workers, including all vaccinators and social mobilizers.

Annex X includes data on these four indicators for the endemic countries, while Annex Y contains data for outbreak and high-risk countries for indicators 2 and 3.

An analysis of the data from the reporting period does not show significant differences in terms of gender for the polio-endemic, outbreak and high-risk countries, either for children reached in vaccination campaigns or for surveillance data. For example in Pakistan, a post-campaign evaluation shows that 93.6% of all girls surveyed were vaccinated, compared with 93.5% of all boys. For girls in Pakistan, the percentage of 0 doses was 0.35% while it was 0.71% for boys, similar to the previous reporting period. Of all girls surveyed, 54% had received three or more doses, compared with 57% of boys. No gender discrepancy was noted in Afghanistan or Nigeria during the reporting period. In Afghanistan, 94.4% of all surveyed girls were vaccinated, compared with 94.5% of boys. In Nigeria, the figure for girls was 96% and for boys 95.9%. The data also show no major differences in doses received by girls and boys; for example, in Afghanistan, 97.96% of girls had received three or more doses, compared with 98.48% of boys. The timeliness of disease notification was also similar for boys and girls. In Nigeria, for instance, disease notification within three days was 31.17% for girls and 32.92% for boys.

During the period, polio-endemic countries continued to engage female front-line workers in immunization activities. In Pakistan, women

currently constitute 60.5% of front-line workers, including vaccinators and social mobilizers. In Nigeria, women constitute 93% of all front-line workers.

In Afghanistan, currently only 31% of front-line workers in urban areas are women, down from 34% in the last reporting period. Women comprise only 13% of all front-line workers in Afghanistan. The decline can largely be attributed to an increasingly volatile security situation, due to which fewer women participate in the health workforce overall. Afghanistan is making efforts to ensure the safety of all front-line workers and increase women's participation to reach the target of women comprising at least 50% of front-line workers in urban areas.

Based on Afghanistan's 2018 National Emergency Action Plan (NEAP), front-line worker selection committees in the high-risk provinces of Nangarhar, Kunar, Kandahar, Helmand and Farah were required to have at least one woman. Only Kunar and Farah, however, included a woman in their selection committees. Nimroz province, not categorized as a high-risk area, also included a woman in its selection committee. According to the newly adopted 2019 Afghanistan NEAP, selection committees will make transparent and active efforts to engage more women as front-line workers, including as vaccinators and supervisors.

AT A GLANCE...

Certification is the independent stamp of approval for polio eradication.

The importance of effective containment is crucial. Poliovirus material must be appropriately contained under strict biosafety and biosecurity handling and storage conditions.

OPVs continued to be phased out in preparation for global OPV cessation. Once all remaining foci of WPV transmission have been eradicated and the world is certified as WPV-free, all remaining OPV use will be stopped.

Transition planning includes ensuring the GPEI infrastructure will continue to benefit broader public health goals long after the disease is gone, while maintaining the functions to sustain a polio-free world.

What does planning for success in the context of ensuring a lasting polio-free world actually mean?

- *It means*, in the first instance, independently verifying that all poliovirus transmission has actually been successfully interrupted globally.
- *It means* minimizing the risk of poliovirus re-emergence or reintroduction in a post-polio world.
- *It means* maintaining the functions needed to sustain a polio-free world, such as disease surveillance, ongoing immunization and outbreak response capacity.
- *It means* ensuring that the GPEI infrastructure, which currently does much more than simply eradicate polio, will continue to contribute to broader public health and development goals, long after the disease is gone.

Certification – the independent stamp of approval for polio eradication

In 2018, the Global Commission for the Certification of the Eradication of Poliomyelitis (GCC) continued to intensify its work and review the criteria that will need to be met to achieve the global certification of WPV eradication. Within this context, the GCC recommended a process of sequential certification of WPV eradication (following the global certification of wild poliovirus type 2 eradication in 2015), and confirmation of the absence of VDPVs, which would occur after the global certification of WPVs and subsequent OPV withdrawal globally.

While the operational and programmatic aspects of achieving and sustaining a world free of all polioviruses – be they wild or vaccine-derived – are well established, the GCC focused its discussions on the necessary verification processes associated with this eventual achievement. Following the certification that WPV transmission has been stopped – and

after OPV has been withdrawn – the absence of VDPVs will also need to be validated. The assessment that all WPV transmission

has been interrupted globally is the critical step that will mark the launch of preparations for the cessation of all OPV use.



27 February 2019, WHO, Geneva, Switzerland – WHO Director-General Dr Tedros Adhanom Ghebreyesus (centre) with members of the GCC (from left to right): Dr Nobuhiko Okabe (Chair of Western-Pacific RCC), Professor Yagoub Al-Mazrou (Chair of Eastern Mediterranean RCC), Professor Mahmudur Rahman (Chair of South-East Asian RCC), Professor David Salisbury (Chair of GCC and Chair of European RCC), Dr Arlene King (Chair of American RCC, and Chair of the GCC Containment Working Group); and, Professor Rose Leke (Chair of African RCC). © WHO/Z. Khan

The importance of effective containment

At the World Health Assembly in May 2018, a resolution was passed calling for strong Member State commitment to accelerate containment. The importance of effective poliovirus containment is perhaps best illustrated by recalling that the last infection due to smallpox virus – the only human pathogen to have been eradicated globally thus far – occurred as a result of an accidental laboratory containment failure.

In a limited number of facilities, poliovirus will continue to be retained to serve critical national and international functions, such as the production of polio vaccine or research. It is crucial that this poliovirus material be appropriately contained under strict biosafety and biosecurity handling and storage conditions to ensure that virus is not released into the environment, either accidentally or intentionally, to again cause outbreaks of the disease in susceptible populations. That is why the resolution on the containment of polioviruses adopted by the World Health Assembly is so important.

As the day draws near when WPV transmission is interrupted, planning for the future and securing this success are essential. Too much has been invested globally to risk jeopardizing a polio-free world by not fully containing polioviruses.

Preparing for global OPV cessation

To eliminate the long-term risks of VDPVs and vaccine-associated paralytic polio, OPVs continued to be phased out. The first removal phase took place with the switch from trivalent OPV to bivalent OPV (bOPV) between 17 April and 1 May 2016. Once all remaining foci of WPV transmission have been eradicated and the world is certified as WPV-free, all remaining OPV use will be stopped. Until OPV cessation has been completed, Member States are encouraged to minimize the risks and consequences of potential VDPVs by ensuring high routine immunization coverage, conducting surveillance for any emergence of cVDPV and maintaining strong outbreak response capacity.

To prepare for the switch to bOPV, all countries had committed to introducing at least one dose of IPV into their routine immunization programmes. Global supply constraints emerged owing to technical difficulties manufacturers had encountered to scale up production, which had resulted in some countries experiencing delays in supply. The supply situation was largely resolved, thanks also to Member States increasingly adopting dose-sparing strategies, such as administering intradermal fractional-dose IPV as recommended by the Strategic Advisory Group of Experts on immunization. The GPEI and its partners continued to explore new IPV approaches to ensure an affordable and sustainable supply following certification, including through the use of vaccine manufactured from Sabin strains or non-infectious materials such as virus-like particles.

Transition – ensuring the GPEI infrastructure will continue to benefit broader public health goals long after the disease is gone, while maintaining the functions to sustain a polio-free world

Smallpox is the only human pathogen ever to have been eradicated from the world. The global eradication effort was a huge success, but the infrastructure built at that time to put an end to smallpox was allowed to disintegrate instead of being repurposed to serve other health goals. The lesson learned from that experience is that GPEI infrastructure must not be allowed to collapse so that it continues to benefit broader public health and development objectives.

The primary and overriding objective of the GPEI remains the completion of polio eradication. In addition to this aim, the world must plan to repurpose the infrastructure to serve other public health goals, even after polio is eradicated.

This planning entails two aspects:

1. ensuring that the functions needed to sustain a polio-free world are maintained, including high-quality surveillance to detect any polio event or outbreak, the capability to respond to any possible polio outbreak and the continued vaccination of children against polio – namely, to ensure that once polio is eradicated, it will *remain* eradicated; and
2. ensuring that the relevant components of the GPEI infrastructure are maintained or repurposed to continue to benefit broader public health and development goals.

1. Post-Certification Strategy – sustaining a lasting polio-free world

In a broad consultative process, the GPEI developed the [Post-Certification Strategy \(PCS\)](#) to ensure the functions needed to sustain a polio-free world in the long term. These

functions encompass the ongoing ability to conduct:

- surveillance
- outbreak responses
- poliovirus containment
- immunization against the poliovirus.

2. Transition – ensuring the relevant components of the GPEI infrastructure continue to benefit broader public health goals

Countries are at the centre of transition planning. In the last six months of 2018, special focus remained on 16 priority countries in sub-Saharan Africa, the Middle East and South-East Asia, where the bulk of the polio eradication infrastructure is based.

The solutions will be country-specific and will depend on how the countries will match the GPEI infrastructure to their national health priorities. In some countries, national governments will integrate this infrastructure fully into their public health systems; in others, national governments will take over some aspects with continued international development community support until the government

is ready to fully take over. In others still, particularly in some of the lowest-resource settings, the infrastructure will need to be integrated into the international development agenda. In certain conflict-affected countries, it will be part of the humanitarian and emergency response agenda. In addition, some elements will gradually be phased out, as they will be no longer be needed after eradication.

In May 2018, the World Health Assembly endorsed the GPEI's [five-year strategic action plan on polio transition](#). The integration of essential polio functions into national health systems will be critical to a successful transition. The strategic plan is a “living document”, updated as epidemiology, programme developments and budget finalizations evolve. The plan fully supports WHO Member States in implementing their own costed national polio transition plans. A successful transition will require countries to release domestic resources, according to the financing strategy in the national plan. The plan is fully aligned with the countries' own priorities, outlined in their respective national plans.

AT A GLANCE...

Continued generous support by the international development community is critical to realizing a lasting polio-free world. Donors are urged to rapidly operationalize their pledges and ensure all necessary financial resources are mobilized to achieve success.

Thanks to the generous continuing support of the international development community, including Member States (both those where poliovirus remains endemic and those that are donors to the GPEI) as well as multilateral and bilateral organizations, development banks, foundations and Rotary International, the budget for planned activities for 2018 was fully financed. Moreover, public- and private-sector partners continued to fulfil pledges made at the Rotary International convention in June 2017 that ensured the programme will be financed through 2019. The Polio Oversight Board adopted new financial scenarios at its meeting in September 2018. The global

budget to implement the activities of the Polio Endgame Strategy 2019–2023 was projected to be US\$ 4.2 billion, of which US\$ 3.27 billion must still be mobilized. Therefore, continued support will be needed from polio eradication's long-standing partners, along with ministers and leaders of the G7, the Commonwealth and G20 countries to ensure the uninterrupted programme operations necessary to achieve eradication by 2023. The GPEI continued to demonstrate value for money and its sound financial management practices were confirmed in positive programme reviews and audits.

AT A GLANCE...

The Polio Endgame Strategy 2019–2023 provides the road map to end polio for good. It builds on the lessons learned, continuous quality improvement over time and feedback from all the stakeholders in eradication.

The new GPEI Polio Endgame Strategy 2019–2023, developed in broad consultation for presentation to the World Health Assembly in May 2019, builds on the tools, lessons and tactics of the Polio Eradication & Endgame Strategic Plan 2013–2018. It optimizes the proven approaches that have been shown to work and strengthens the tactics in those areas where they need sensitizing, including by reaching out to new partners and reinforcing collaboration with other sectors. Its operating principle is clear: to identify clearly why a child is missed, and then to implement the proven approaches to overcome that reason. Critical to

its success is to ensure that it is fully financed and implemented at all levels.

The regularly published *Semi-Annual Status Report* had as its aim to report out against the Polio Eradication & Endgame Strategic Plan 2013–2018. The GPEI will continue to publish status reports throughout the life of the Polio Endgame Strategy 2019–2023. More regular reporting will of course continue through the ongoing publication of the [weekly global polio update](#), featuring an overview of the latest reported viruses and narratives of country-level activities.

Annex 1 – Endemic and recently endemic country monitoring
AFGHANISTAN

Endemic Country	State/Area	Outcome	Indicator	Target	Jan-Jun 2018	Jul-Dec 2018
Afghanistan	Southern (Kandahar, Helmand)	Interrupt transmission	Number of cases	0 case	6	7
		High population immunity	% 0-dose	< 10%	0.69%	3.33%
			LQAS (% lots with "High Pass")	>= 90%		
			% inaccessible	< 5%		
			Number and type of activity	per plan	2 NIDs, 6 SNIDs	1 NIDs, 5 SNIDs
		% children missed due to no visit/child absent (in 11 LPDs)				
		% children missed due to refusal (in 11 LPDs)				
		AFP rate	> 2 per 100 000	15.4	19.0	
		Stool adequacy	> 80%	88.68	87.74	
		Lab receipt to virus isolation result (median)	< 14 days	11	11	
	RI improvement: % reduction in unimmunized children	> 10%				
	Rest of country	Interrupt transmission	Number of cases	0 case	4	2
		High population immunity	% 0-dose	< 10%	0.60%	0.13%
			LQAS (% lots with "High Pass")	>= 90%		
			% inaccessible	< 5%		
			Number and type of activity	per plan	2 NIDs, 4 SNIDs	1 NIDs, 5 SNIDs
AFP rate		> 2 per 100 000	16.9	16.0		
Stool adequacy	> 80%	95.32	94.72			
Lab receipt to virus isolation result (median)	< 14 days	12	12			
RI improvement: % reduction in unimmunized children	> 10%					
All of country	Number of polio cases from families refusing OPV	0 case				
	IPV introduction	intro by 2015				

Endemic Country	State/Area	Outcome	Indicator	Target	Jan-Jun 2018		Jul-Dec 2018	
					Female	Male	Female	Male
Afghanistan	Gender Equality and Women's Engagement	Equal reach in immunization campaigns	% F/M vaccinated	ns*	93.74%	93.27%	94.4%	94.5%
			Median # doses F/M	ns	13	14	14	14
	Equal doses received	% F/M 0-dose	ns	1.24%	0.97%	1.13%	0.84%	
		% F/M 3+ doses	ns	98.34%	97.91%	97.96%	98.48%	
	Equal timeliness of disease notification	Median # days disease notification	ns	3	3	3	3	
		% F/M <= 3 days	ns	56.61%	59.75%	51.46%	53.21%	
Women's participation in immunization campaigns	% F/M frontline workers in urban areas	> 50%	33.7%	66.3%	31.4%	68.6%		

*Target of ns refers to achieving a non-significant result in terms of gender differences.

PAKISTAN

Endemic Country	State/Area	Outcome	Indicator	Target	Jan-Jun 2018	Jul-Dec 2018
Pakistan	KP (Peshawar, Nowshera, Swabi, Charsaddah, Mardan, Bannu, Tank, Lakki Marwat)	Interrupt transmission	Number of cases (WPV1 only)	0	2	
		High population immunity	% 0-dose	1.02%	1.28%	
			LQAS (% UCs w/ 0-3 missed children; i.e. "Pass")			
			% inaccessible	N/a		
			Number and type of activity	3 NIDs, 3 SNIDs	3 NIDs, 3 SNIDs	
			% children missed due to no visit/child absent	TBC		
			% children missed due to refusal	TBC		
		AFP rate	17.49	20.78		
		Stool adequacy	84.91	84.81		
		Lab receipt to virus isolation result (median)	11	11		
	RI improvement: % reduction in unimmunized children	N/a				
	Interrupt transmission	Number of cases (WPV1 and cVDPV2)	0	6		
	FATA	High population immunity	% 0-dose	0.90%	0.50%	
			LQAS (% UCs w/ 0-3 missed children; i.e. "Pass")	N/a		
			% inaccessible	N/a		
			Number and type of activity	3 NIDs, 3 SNIDs	2 NIDs, 3 SNIDs	
			% children missed due to no visit/child absent	TBC		
% children missed due to refusal			TBC			
AFP rate			28.23	28.87		
High virus detection	Stool adequacy	93.71	90.31			
Low risk of reintroduction	Lab receipt to virus isolation result (median)	11	11			
	RI improvement: % reduction in unimmunized children	N/a				

Endemic Country	State/Area	Outcome	Indicator	Target	Jan-Jun 2018	Jul-Dec 2018	
Pakistan	Karachi (SINDH)	Interrupt transmission	Number of cases (WPV1 and cVDPV2)		0	1	
			% 0-dose		0.13%	0.22%	
		High population immunity	LQAS (% UCs w/ 0-3 missed children; i.e. "Pass")		N/a		
			% inaccessible		N/a		
			Number and type of activity		3 NIDs, 2 SNIDs		2 NIDs, 3 SNIDs
			% children missed due to no visit/child absent		TBC		
			% children missed due to refusal		TBC		
			AFP rate		12.12		13.17
		High virus detection	Stool adequacy		87.92		88.76
			Lab receipt to virus isolation result (median)		11		11
	Low risk of reintroduction	RI improvement: % reduction in unimmunized children		N/a			
	Rest of country	Interrupt transmission	Number of cases (WPV1 only)		3	0	
			% 0-dose		0.68%	0.24%	
		High population immunity	LQAS (% UCs w/ 0-3 missed children; i.e. "Pass")		N/a		
			% inaccessible		N/a		
			Number and type of activity		3 NIDs, 3 SNIDs		2 NIDs, 3 SNIDs
		high virus detection	AFP rate		12.04		12.93
			Stool adequacy		87.75		87.58
		Low risk of reintroduction	Lab receipt to virus isolation result (median)		11		11
			RI improvement: % reduction in unimmunized children		0% reduction (2015 vs 2014)		
All of country		IPV introduction	Number of polio cases from families refusing OPV		N/a		

Endemic Country	State/Area	Outcome	Indicator	Target	Jan-Jun 2018		Jul-Dec 2018	
					Female	Male	Female	Male
Pakistan	Gender Equality and Women's Engagement	Equal reach in immunization campaigns	% F/M vaccinated	ns	91.04%	90.9%	93.6%	93.5%
			Median # doses F/M	ns	10	10	10	
		Equal doses received	% F/M 0-dose	ns	1.16%	1%	0.35%	0.71%
			% F/M 3+ doses	ns	98.54%	98.77%	98.96%	98.92%
		Equal timeliness of disease notification	Median # days disease notification	ns	3	3	3	3
			% F/M <= 3 days	ns	54.37%	55.98%	53.46%	56.93%
Women's participation in immunization campaigns	% F/M frontline workers	> 80%	67.8%	32.2%	60.5%	39.5%		

*Target of ns refers to achieving a non-significant result in terms of gender differences.

NIGERIA

Endemic Country	State/Area	Outcome	Indicator	Target	Jan-Jun 2018	Jul-Dec 2018
Nigeria	North Central (Kano, Katsina, Jigawa, Kaduna)	Interrupt transmission	Number of cases (WPV1 and cVDPV2)	0 case	3	18
			% 0-dose	< 10%	0.00%	0.16%
		High population immunity	LQAS	>= 90%	N/a	
			% inaccessible	< 5%	N/a	
			Number and type of activity	per plan	6 SNIDs	6 SNIDs
			% children missed due to no visit/child absent		TBC	
			% children missed due to refusal		TBC	
			AFP rate	> 2 per 100 000	10.93	8.95
		High virus detection	Stool adequacy	> 80%	97.1	95.4
			Lab receipt to virus isolation result (median)	< 14 days	9	9
	Low risk of reintroduction	RI improvement: % reduction in unimmunized children	> 10%	N/a		
	Northeast (Borno, Yobe)	Interrupt transmission	Number of cases (WPV1 and cVDPV2)	0 case	1	10
			% 0-dose	< 10%	3.57%	6.35%
		High population immunity	LQAS	>= 90%	N/a	
			% inaccessible	< 5%	N/a	
			Number and type of activity	per plan	3 SNIDs	6 SNIDs
			% children missed due to no visit/child absent		TBC	
			% children missed due to refusal		TBC	
			AFP rate	> 2 per 100 000	21.6	19.13
		High virus detection	Stool adequacy	> 80%	89.62	85.87
Lab receipt to virus isolation result (median)			< 14 days	9	9	
Low risk of reintroduction	RI improvement: % reduction in unimmunized children	> 10%	N/a			

Endemic Country	State/Area	Outcome	Indicator	Target	Jan-Jun 2018	Jul-Dec 2018
Nigeria	Rest of North (Sokoto, Kebbi, Zamfara)	Interrupt transmission	Number of cases	0 case	0	0
		High population immunity	% 0-dose	< 10%	0.26%	0.00%
			LQAS	>= 90%	N/a	
			% inaccessible	< 5%	N/a	
			Number and type of activity	per plan	5 SNIDs	8 SNIDs
		High virus detection	% children missed due to no visit/child absent		TBC	
			% children missed due to refusal		TBC	
		High virus detection	AFP rate	> 2 per 100 000	13.46	13.58
			Stool adequacy	> 80%	97.24	96.21
			Lab receipt to virus isolation result (median)	< 14 days	10	10
	RI improvement: % reduction in unimmunized children		> 10%	N/a		
	Rest of country	Interrupt transmission	Number of cases (cVDPV2 only)	0 case	0	2
		High population immunity	% 0-dose	< 10%	0.00%	0.09%
			LQAS	>= 90%	N/a	
			% inaccessible	< 5%	N/a	
			Number and type of activity	per plan	5 SNIDs	3 SNIDs
		High virus detection	AFP rate	> 2 per 100 000	7.97	8.85
			Stool adequacy	> 80%	96.72	95.76
		Low risk of reintroduction	Lab receipt to virus isolation result (median)	< 14 days	10	10
			RI improvement: % reduction in unimmunized children	> 10%	14% reduction (2015 vs 2014)	
Number of polio cases from families refusing OPV			0 case	N/a		
IPV introduction	intro by 2015		Yes (Feb-15)			

Endemic Country	State/Area	Outcome	Indicator	Target	Jan-Jun 2018		Jul-Dec 2018	
					Female	Male	Female	Male
Nigeria	Gender Equality and Women's Engagement	Equal reach in immunization campaigns	% F/M vaccinated	ns	95.1%	94.7%	96%	95.9%
			Median # doses F/M	ns	11	10	10	11
	Equal doses received	% F/M 0-dose	ns	0.56%	0.37%	0.68%	0.93%	
		% F/M 3+ doses	ns	97.9%	97.86%	97.53%	97.35%	
	Equal timeliness of disease notification	Median # days disease notification	ns	5	5	5	5	
		% F/M <= 3 days	ns	33.32%	35.99%	31.17%	32.92%	
Women's participation in immunization campaigns	% F/M frontline workers	> 80%	98.9%	1.1%	93%	7%		

*Target of ns refers to achieving a non-significant result in terms of gender differences.

Annex 2 – Outbreak country monitoring

Outbreak	Country	Outcome	Indicator	Target	Jan-Jun 2018	Jul-Dec 2018
HOA	Somalia (Most recent case 11 August 2014)	High population immunity	% 0-dose	< 10%	7 cVDPVs	6 cVDPVs
			LQAS or IM out-of-house result	>= 90% or < 5%	11.21%	10.08%
			% inaccessible	< 5%	N/a	N/a
		High virus detection	Number and type of activity	per plan	1 NID, 3 NIDs	2 NIDs, 6 NIDs
			AFP rate (national)	> 2	4.79	4.94
			AFP rate (sub-national)	> 2 (% of states/provinces meeting indicator)	100%	100%
			Stool adequacy (national)	>=80%	98.28	97.22
			Stool adequacy (sub-national)	>=80% (% of states/provinces meeting indicator)	100%	95%
		Low risk of reintroduction	Lab receipt to virus isolation result (median)	< 14 days	7	7
			Environmental surveillance	Yes or No	No	Yes
			RI improvement: % reduction in unimmunized children	> 10%		
		Equal doses received	IPV introduction	intro by 2015	Yes (Nov-15)	
			Median # doses F/M	ns	Female: 7 Male: 7	Female: 7 Male: 7
% F/M 0-dose	ns		13.64	9.09		
% F/M 3+ doses	ns		84.85	78.18		
Median # days disease notification	ns		3	2		
% F/M <= 3 days	ns		70	59.76		
Equal timeliness of disease notification				Female: 74.7 Male: 63.92		

Outbreak	Country	Outcome	Indicator	Target	Jan-Jun 2018	Jul-Dec 2018
		High population immunity	% 0-dose	< 10%	7.66%	5.71%
			LQAS or IM out-of-house result	>= 90% or < 5%	N/a	N/a
			% inaccessible	< 5%	N/a	N/a
			Number and type of activity	per plan	5 SNIDs	1 NID, 7 SNIDs
			AFP rate (national)	> 2	6.54	6.76
			AFP rate (sub-national)	> 2 [% of states/provinces meeting indicator]	92%	85%
			Stool adequacy (national)	>=80%	85.98	82.46
			Stool adequacy (sub-national)	>=80% [% of states/provinces meeting indicator]	64%	73%
			Lab receipt to virus isolation result (median)	< 14 days	9	8
			Environmental surveillance	Yes or No	No	Yes
			RI improvement: % reduction in unimmunized children	> 10%	3% decrease (2015 vs 2014)	
			IPV introduction	intro by 2015	Yes (Apr-15)	
					Female	Male
			Median # doses F/M	ns	4	4
		Equal doses received	% F/M 0-dose	ns	8.46	6.22
			% F/M 3+ doses	ns	75.13	72.81
		Equal timeliness of disease notification	Median # days disease notification	ns	6	6
			% F/M <= 3 days	ns	30.14	29.07
					27.59	27.66

Democratic Republic of the Congo

Outbreak	Country	Outcome	Indicator	Target	Jan-Jun 2018	Jul-Dec 2018
HOA	Kenya	High population immunity	% 0-dose	< 10%	5.56%	4.08%
			LQAS or IM out-of-house result	>= 90% or < 5%	N/a	N/a
		High virus detection	% inaccessible	< 5%	N/a	N/a
			Number and type of activity	per plan		4 SNIDs
			AFP rate	> 2 (national)	3.41	2.83
			AFP rate	> 2 [% of states/provinces meeting indicator]	89%	N/a
			stool adequacy	>=80% (national)	88%	86%
			stool adequacy	>=80% [% of states/provinces meeting indicator]	81%	N/a
			lab receipt to virus isolation result (median)	< 14 days	8	8
			Environmental surveillance	Yes or no	Yes	Yes
	Niger	Low risk of reintroduction	RI improvement: % reduction in unimmunized children	> 10%		
			IPV introduction	intro by 2015		
		High population immunity	% 0-dose	< 10%	0.24%	1.00%
			LQAS or IM out-of-house result	>= 90% or < 5%	N/a	N/a
			% inaccessible	< 5%	N/a	N/a
			Number and type of activity	per plan	1 NID, 1 SNID	5 SNIDs
			AFP rate (national)	> 2	8.51	8.39
			AFP rate (sub-national)	> 2 [% of states/provinces meeting indicator]	85%	100%
			Stool adequacy (national)	>=80%	90.3	87.8
			Stool adequacy (sub-national)	>=80% [% of states/provinces meeting indicator]	71%	100%
High virus detection	Lab receipt to virus isolation result (median)	< 14 days	9	9		
	Environmental surveillance	Yes or No	Yes	Yes		
	RI improvement: % reduction in unimmunized children	> 10%	11% increase (2015 vs 2014)			
	IPV introduction	intro by 2015	Yes (Jul-15)			

Outbreak	Country	Outcome	Indicator	Target	Jan-Jun 2018		Jul-Dec 2018	
					Female	Male	Female	Male
		Equal doses received	Median # doses F/M	ns	9	10	9	10
			% F/M 0-dose	ns	0	0.46	1.04	1.3
			% F/M 3+ doses	ns	93.5	96.3	95.31	93.94
		Equal timeliness of disease notification	Median # days disease notification	ns	7	6	7	7
			% F/M <= 3 days	ns	24.42	25	23.42	25.54
			% 0-dose	< 10%	0.00%		0.00%	
		High population immunity	LQAS or IM out-of-house result	>= 90% or < 5%	N/a		N/a	
			% inaccessible	< 5%	N/a		N/a	
			Number and type of activity	per plan			2 NIDs 3 SINDS	
			AFP rate	> 2 (national)	2.78		13.56	
			AFP rate	> 2 [% of states/provinces meeting indicator]	45%		82%	
			stool adequacy	>=80% (national)	46.6		69.6	
		High virus detection	stool adequacy	>=80% [% of states/provinces meeting indicator]	28%		28%	
			lab receipt to virus isolation result (median)	< 14 days	10		10	
			Environmental surveillance	Yes or no	Yes		Yes	
		Low risk of reintroduction	RI improvement: % reduction in unimmunized children	> 10%				
			IPV introduction	intro by 2015				
			Median # doses F/M	ns			Female	Male
			% F/M 0-dose	ns			3	3
			% F/M 3+ doses	ns			0	0
		Equal doses received	Median # days disease notification	ns			53.33	58.82
			% F/M <= 3 days	ns			4	8
		Equal timeliness of disease notification		ns			35.63	23.4

Papua New Guinea

Outbreak	Country	Outcome	Indicator	Target	Jan-Jun 2018	Jul-Dec 2018
		High population immunity	% 0-dose	< 10%	6.34%	23.70%
			LQAS or IM out-of-house result	>= 90% or < 5%	N/a	N/a
			% inaccessible	< 5%	N/a	N/a
			Number and type of activity	per plan	N/a	N/a
			AFP rate	> 2 (national)	3.52	2.98
			AFP rate	> 2 [% of states/provinces meeting indicator]		80%
	Mozambique	High virus detection	stool adequacy	>=80% (national)	81.09	87.8
			stool adequacy	>=80% [% of states/provinces meeting indicator]		90%
			lab receipt to virus isolation result (median)	< 14 days		10
			Environmental surveillance	Yes or no	Yes	Yes
		Low risk of reintroduction	RI improvement: % reduction in unimmunized children	> 10%		
			IPV introduction	intro by 2015		
			% 0-dose	< 10%	6.34%	8.76%
			LQAS or IM out-of-house result	>= 90% or < 5%	N/a	N/a
			% inaccessible	< 5%	N/a	N/a
			Number and type of activity	per plan	N/a	N/a
			AFP rate	> 2 (national)	2.21	2.44
			AFP rate	> 2 [% of states/provinces meeting indicator]		80%
	Indonesia	High virus detection	stool adequacy	>=80% (national)	81.09	82.66
			stool adequacy	>=80% [% of states/provinces meeting indicator]		47%
			lab receipt to virus isolation result (median)	< 14 days	10	10
			Environmental surveillance	Yes or no	Yes	Yes
		Low risk of reintroduction	RI improvement: % reduction in unimmunized children	> 10%		
			IPV introduction	intro by 2015		

**Target of ns refers to achieving a non-significant result in terms of gender differences.

Annex 3 – High-risk country monitoring

Country	Outcome	Indicator	Target	Jan-Jun 2018		Jul-Dec 2018	
				Female	Male	Female	Male
Cameroon	High population immunity	% 0-dose	< 10%	2.38%		2.14%	
		LQAS or IM out-of-house result	>= 90% or < 5%	N/a		N/a	
	% inaccessible	< 5%	N/a		N/a		
	Number and type of activity	per plan	1 NID 1 SNID		1 SNID		
	AFP rate (national)	> 2	8.81		5.71		
	AFP rate (sub-national)	> 2 [% of states/provinces meeting indicator]	100%		80%		
	Stool adequacy (national)	>=80%	89.3		86.75		
	Stool adequacy (sub-national)	>=80% [% of states/provinces meeting indicator]	100%		80%		
	Lab receipt to virus isolation result (median)	< 14 days	10		10		
	Environmental surveillance	Yes or No	Yes		Yes		
	RI improvement: % reduction in unimmunized children	> 10%					
	IPV introduction	intro by 2015					
	Equatorial Guinea	Equal doses received	Median # doses F/M	ns	8	8	7
% F/M 0-dose			ns	6.11	1.25	4.88	0
Equal timeliness of disease notification		% F/M 3+ doses	ns	87.79	94.38	92.68	94.23
		Median # days disease notification	ns	4	4	5	4
High population immunity		% F/M <= 3 days	ns	44.34	45.85	34.06	39.29
		% 0-dose	< 10%	0%		0%	
High virus detection		LQAS or IM out-of-house result	>= 90% or < 5%	N/a		N/a	
		% inaccessible	< 5%	N/a		N/a	
Environmental surveillance		Number and type of activity	per plan	2 NIDs		N/a	
		AFP rate (national)	> 2	3.32		8.97	
		AFP rate (sub-national)	> 2 [% of states/provinces meeting indicator]	14%		100%	
		Stool adequacy (national)	>=80%	100		90.91	
		Stool adequacy (sub-national)	>=80% [% of states/provinces meeting indicator]	14%		86%	
Lab receipt to virus isolation result (median)	< 14 days	8		8			
Environmental surveillance	Yes or No	No		Yes			

Country	Outcome	Indicator	Target	Jan-Jun 2018	Jul-Dec 2018
Ethiopia	Low risk of reintroduction	RI improvement: % reduction in unimmunized children	> 10%		
		IPV introduction	intro by 2015		
	Equal doses received	Median # doses F/M	ns	Female: 4, Male: 7	Female: 3, Male: 4
		% F/M 0-dose	ns	0	0
		% F/M 3+ doses	ns	100	50, 62.5
	Equal timeliness of disease notification	Median # days disease notification	ns	3	2, 3
		% F/M <= 3 days	ns	75	45.45, 45.45
	High population immunity	% 0-dose	< 10%	4.52%	1.08%
		LQAS or IM out-of-house result	>= 90% or < 5%	N/a	N/a
		% inaccessible	< 5%	N/a	N/a
		Number and type of activity	per plan	1 SNID	3 SNIDs
	High virus detection	AFP rate (national)	> 2	2.37	2.65
		AFP rate (sub-national)	> 2 [% of states/provinces meeting indicator]	82%	82%
		Stool adequacy (national)	>=80%	92.69	91.13
		Stool adequacy (sub-national)	>=80% [% of states/provinces meeting indicator]	100%	100%
		Lab receipt to virus isolation result (median)	< 14 days	9	8
	Low risk of reintroduction	Environmental surveillance	Yes or No	No	Yes
RI improvement: % reduction in unimmunized children		> 10%	62% decrease (2015 vs 2014)		
IPV introduction		intro by 2015	Yes (Dec-15)		
Equal doses received	Median # doses F/M	ns	Female: 3, Male: 3	Female: 3, Male: 3	
	% F/M 0-dose	ns	5.94	4.07, 0.86	
	% F/M 3+ doses	ns	81.19	82.11, 91.38, 88.12	
Equal timeliness of disease notification	Median # days disease notification	ns	4	4, 4	
	% F/M <= 3 days	ns	41.44	47.35, 47.48, 40.6	

Country	Outcome	Indicator	Target	Jan-Jun 2018	Jul-Dec 2018
Syria	High population immunity	% 0-dose	< 10%	4.35%	2.02%
		LQAS or IM out-of-house result	>= 90% or < 5%	N/a	N/a
		% inaccessible	< 5%	N/a	N/a
	High virus detection	Number and type of activity	per plan	1 NID, 3 SNIDs	2 NIDs
		AFP rate (national)	> 2	5.80	5.25
		AFP rate (sub-national)	> 2 [% of states/provinces meeting indicator]	93%	100%
		Stool adequacy (national)	>=80%	84.66	90.17
		Stool adequacy (sub-national)	>=80% [% of states/provinces meeting indicator]	71%	100%
		Lab receipt to virus isolation result (median)	< 7 days	12	11
	Low risk of reintroduction	Environmental surveillance	Yes or No	No	Yes
		RI improvement: % reduction in unimmunized children	> 10%	1% increase (2015 vs 2014)	
		IPV introduction	intro by 2015	Yes (< 2015)	
Iraq	Equal doses received	Median # doses F/M	ns	Female: 9, Male: 10	Female: 10, Male: 11
		% F/M 0-dose	ns	6.06	3.39
		% F/M 3+ doses	ns	84.85	88.14
	Equal timeliness of disease notification	Median # days disease notification	ns	3	3
		% F/M <= 3 days	ns	53.62	53.33
		% 0-dose	< 10%	0.66%	2.01%
	High population immunity	LQAS or IM out-of-house result	>= 90% or < 5%	N/a	N/a
		% inaccessible	< 5%	N/a	N/a
		Number and type of activity	per plan	2 SNIDs	1 NID, 1 SNID
	High virus detection	AFP rate (national)	> 2	6.39	6.53
		AFP rate (sub-national)	> 2 [% of states/provinces meeting indicator]	100%	100%
		Stool adequacy (national)	>=80%	88.84	90.98
		Stool adequacy (sub-national)	>=80% [% of states/provinces meeting indicator]	79%	100%
	Lab receipt to virus isolation result (median)	< 14 days	11	11	
	Environmental surveillance	Yes or No	No	No	

Country	Outcome	Indicator	Target	Jan-Jun 2018	Jul-Dec 2018
Iraq	Low risk of reintroduction	RI improvement: % reduction in unimmunized children	> 10%	16% increase (2015 vs 2014)	
		IPV introduction	intro by 2015	Yes (Jan-16)	
	Equal doses received	Median # doses F/M	ns	Female 7 Male 7	Female 7 Male 7
		% F/M 0-dose	ns	0.76	2.34
		% F/M 3+ doses	ns	95.45	93.75
	Equal timeliness of disease notification	Median # days disease notification	ns	3	2
		% F/M <= 3 days	ns	58.82	62.67
		% 0-dose	< 10%	1.97%	0.56%
	High population immunity	LQAS or IM out-of-house result	>= 90% or < 5%	N/a	N/a
		% inaccessible	< 5%	N/a	N/a
		Number and type of activity	per plan	1 NID, 1SNID	1 SNID
	High virus detection	AFP rate (national)	> 2	6.33	5.37
AFP rate (sub-national)		> 2 [% of states/provinces meeting indicator]	100%	87%	
Stool adequacy (national)		>=80%	94.93	95.16	
Stool adequacy (sub-national)		>=80% [% of states/provinces meeting indicator]	86%	100%	
Lab receipt to virus isolation result (median)		< 14 days	9	9	
Environmental surveillance		Yes or No	Yes	Yes	
Low risk of reintroduction	RI improvement: % reduction in unimmunized children	> 10%	15% increase (2015 vs 2014)		
	IPV introduction	intro by 2015	Yes (May-15)		
Madagascar	Equal doses received	Median # doses F/M	ns	Female 6 Male 6	Female 6 Male 6
		% F/M 0-dose	ns	1.2	1.8
		% F/M 3+ doses	ns	97.59	90.99
	Equal timeliness of disease notification	Median # days disease notification	ns	3	3
		% F/M <= 3 days	ns	63	51.22

Country	Outcome	Indicator	Target	Jan-Jun 2018		Jul-Dec 2018	
				Female	Male	Female	Male
Ukraine	High population immunity	% 0-dose	< 10%	N/a			
		LQAS or IM out-of-house result	>= 90% or < 5%	N/a			
	% inaccessible	< 5%	N/a				
	Number and type of activity	per plan	N/a				
	AFP rate	> 2 (national)	N/a				
	AFP rate	> 2 [% of states/provinces meeting indicator]	N/a				
	stool adequacy	>=80% (national)	N/a				
	stool adequacy	>=80% [% of states/provinces meeting indicator]	N/a				
	lab receipt to virus isolation result (median)	< 14 days	N/a				
	Environmental surveillance	Yes or no	Yes				
	RI improvement: % reduction in unimmunized children	> 10%	0.6% decrease (2015 vs 2014)				
	IPV introduction	intro by 2015	Yes				
				Female	Male	Female	Male
	Equal doses received	Median # doses F/M	ns	5	4	4	5
	% F/M 0-dose	ns	8.33	13.04	5.56	8.33	
	% F/M 3+ doses	ns	66.67	65.22	77.78	66.67	
Equal timeliness of disease notification	Median # days disease notification	ns	2	1	2	2	
	% F/M <= 3 days	ns	70.59	78.43	63.64	66.67	
	% 0-dose	< 10%	N/a				
High population immunity	LQAS or IM out-of-house result	>= 90% or < 5%	N/a				
	% inaccessible	< 5%	N/a				
	Number and type of activity	per plan	N/a				
	AFP rate	> 2 (national)	N/a				
	AFP rate	> 2 [% of states/provinces meeting indicator]	N/a				
High virus detection	stool adequacy	>=80% (national)	N/a				
	stool adequacy	>=80% [% of states/provinces meeting indicator]	N/a				
	lab receipt to virus isolation result (median)	< 14 days	N/a				
	Environmental surveillance	Yes or no	No				

Country	Outcome	Indicator	Target	Jan-Jun 2018	Jul-Dec 2018
Lao People's Democratic Republic	Low risk of reintroduction	RI improvement: % reduction in unimmunized children	> 10%	8% decrease (2015 vs 2014)	
		IPV introduction	intro by 2015	Yes (Oct-15)	
	Equal doses received	Median # doses F/M	ns	Female 3 Male 3	Female 3 Male 3
		% F/M 0-dose	ns	50	75
		% F/M 3+ doses	ns	50	25
	Equal timeliness of disease notification	Median # days disease notification	ns	4	5
		% F/M <= 3 days	ns	33.33	40
	High population immunity	% 0-dose	< 10%	0.00%	7.25%
		LQAS or IM out-of-house result	>= 90% or < 5%	N/a	N/a
		% inaccessible	< 5%	N/a	N/a
Number and type of activity		per plan	1 SNIDs	N/a	
High virus detection	AFP rate	> 2 (national)	1.80	2.93	
	AFP rate	> 2 [% of states/provinces meeting indicator]	35%	88%	
	stool adequacy	>=80% (national)	94%	95%	
	stool adequacy	>=80% [% of states/provinces meeting indicator]	82%	100%	
	lab receipt to virus isolation result (median)	< 14 days	N/a	N/a	
Low risk of reintroduction	Environmental surveillance	Yes or no	Yes	Yes	
	RI improvement: % reduction in unimmunized children	> 10%	0.6% decrease (2015 vs 2014)		
	IPV introduction	intro by 2015	Yes (Dec-15)		
Myanmar	Equal doses received	Median # doses F/M	ns	Female 3 Male 3	Female 3 Male 3
		% F/M 0-dose	ns	0	7.14
		% F/M 3+ doses	ns	95	88
	Equal timeliness of disease notification	Median # days disease notification	ns	3	3
		% F/M <= 3 days	ns	21	32

Country	Outcome	Indicator	Target	Jan-Jun 2018	Jul-Dec 2018	
Guinea	High population immunity	% 0-dose	< 10%	2.41%	1.43%	
		LQAS or IM out-of-house result	>= 90% or < 5%	N/a	N/a	
		% inaccessible	< 5%	N/a	N/a	
	High virus detection	Number and type of activity	per plan	1 NIDs	1 SNID	
		AFP rate	> 2 (national)	5.07	3.36	
		AFP rate	> 2 [% of states/provinces meeting indicator]	100%	88%	
		stool adequacy	>=80% (national)	97.10	94.62	
		stool adequacy	>=80% [% of states/provinces meeting indicator]	100%	88%	
		lab receipt to virus isolation result (median)	< 14 days	9	9	
	Low risk of reintroduction	Environmental surveillance	Yes or no	Yes	Yes	
		RI improvement: % reduction in unimmunized children	> 10%	1.6% (2015 vs 2014)		
		IPV introduction	intro by 2015	Yes (Nov-15)		
	Angola	Equal doses received	Median # doses F/M	ns	Female: 3, Male: 4	Female: 4, Male: 4
% F/M 0-dose			ns	0	4.35	3.7
% F/M 3+ doses			ns	78.38	69.57	74.07
Equal timeliness of disease notification		Median # days disease notification	ns	4	4	4
		% F/M <= 3 days	ns	45.31	40.54	38.46
		% 0-dose	< 10%	8.04%	12.12%	
High population immunity		LQAS or IM out-of-house result	>= 90% or < 5%	N/a	N/a	
		% inaccessible	< 5%	N/a	N/a	
		Number and type of activity	per plan	1 NID		
High virus detection		AFP rate (national)	> 2	2.73	1.84	
		AFP rate (sub-national)	> 2 [% of states/provinces meeting indicator]	94%	56%	
		Stool adequacy (national)	>=80%	94.85	91.73	
		Stool adequacy (sub-national)	>=80% [% of states/provinces meeting indicator]	100%	89%	
Environmental surveillance	Lab receipt to virus isolation result (median)	< 14 days	10	10		
	Environmental surveillance	Yes or No	Yes	Yes		

Country	Outcome	Indicator	Target	Jan-Jun 2018		Jul-Dec 2018	
				Female	Male	Female	Male
Benin	Low risk of reintroduction	RI improvement: % reduction in unimmunized children	> 10%	2% increase (2015 vs 2014)			
		IPV introduction	intro by 2015	N/a			
	Equal doses received	Median # doses F/M	ns	4	3	3	3
		% F/M 0-dose	ns	5.56	10.34	9.68	14.29
		% F/M 3+ doses	ns	64.81	72.41	77.42	65.71
	Equal timeliness of disease notification	Median # days disease notification	ns	4	4	5	6
		% F/M <= 3 days	ns	40.20	39.78	34.43	30.56
	High population immunity	% 0-dose	< 10%	1.69%		0.00%	
		LQAS or IM out-of-house result	>= 90% or < 5%	N/a			
		% inaccessible	< 5%	N/a			
		Number and type of activity	per plan	1 NID ,			
		AFP rate (national)	> 2	4.51		4.07	
	High virus detection	AFP rate (sub-national)	> 2 [% of states/provinces meeting indicator]	92%		84%	
		Stool adequacy (national)	>=80%	95.41		94	
		Stool adequacy (sub-national)	>=80% [% of states/provinces meeting indicator]	100%		91%	
Lab receipt to virus isolation result (median)		< 14days	8		8		
Environmental surveillance		Yes or No	No		No		
Low risk of reintroduction	RI improvement: % reduction in unimmunized children	> 10%	17% (2015 vs 2014)				
	IPV introduction	intro by 2015	Yes (Aug-15)				
Equal doses received	Median # doses F/M	ns	5	4	3	4	
	% F/M 0-dose	ns	3.7		0		
	% F/M 3+ doses	ns	92.59	96.88	89.47	88	
Equal timeliness of disease notification	Median # days disease notification	ns	6		7		
	% F/M <= 3 days	ns	32		28.81		
				35.71	32.76		

Country	Outcome	Indicator	Target	Jan-Jun 2018	Jul-Dec 2018	
Central African Republic	High population immunity	% 0-dose	< 10%	0.00%	0.00%	
		LQAS or IM out-of-house result	>= 90% or < 5%	N/a	N/a	
	High virus detection	% inaccessible	< 5%	N/a	N/a	
		Number and type of activity	per plan	2 SNID	1 SNID	
	Low risk of reintroduction	AFP rate (national)	> 2	7.55	5.77	
		AFP rate (sub-national)	> 2 [% of states/provinces meeting indicator]	86%	71%	
		Stool adequacy (national)	>=80%	80.26	84.75	
		Stool adequacy (sub-national)	>=80% [% of states/provinces meeting indicator]	71%	71%	
		Lab receipt to virus isolation result (median)	< 14 days	9	9	
		Environmental surveillance	Yes or No	No	Yes	
	High population immunity	RI improvement: % reduction in unimmunized children	> 10%	1% increase (2015 vs 2014)		
		IPV introduction	intro by 2015	Yes (Sep-15)		
	Chad	Equal doses received	Median # doses F/M	ns	Female 4 Male 4	Female 4 Male 4
			% F/M 0-dose	ns	0	0
Equal timeliness of disease notification		% F/M 3+ doses	ns	93.75	100	80
		Median # days disease notification	ns	6	4	5
High population immunity		% F/M <= 3 days	ns	40.54	33.33	34.38
		% 0-dose	< 10%	2.64%	3.41%	
High virus detection		LQAS or IM out-of-house result	>= 90% or < 5%	N/a		
		% inaccessible	< 5%	N/a		
High virus detection		Number and type of activity	per plan	1 NID, 2 SNID	1 SNID	
		AFP rate (national)	> 2	11.10	6.92	
		AFP rate (sub-national)	> 2 [% of states/provinces meeting indicator]	86%	78%	
		Stool adequacy (national)	>=80%	96.97	94.02	
High virus detection		Stool adequacy (sub-national)	>=80% [% of states/provinces meeting indicator]	86%	83%	
		Lab receipt to virus isolation result (median)	< 14 days	8	8	
Environmental surveillance	Yes or No	Yes	Yes	Yes		

Country	Outcome	Indicator	Target	Jan-Jun 2018		Jul-Dec 2018	
				Female	Male	Female	Male
Congo	Low risk of reintroduction	RI improvement: % reduction in unimmunized children	> 10%	17% decrease (2015 vs 2014)			
		IPV introduction	intro by 2015	Yes (Aug-15)			
	Equal doses received	Median # doses F/M	ns	6	6	5	7
		% F/M 0-dose	ns	2.38	3.52	4.21	2.5
		% F/M 3+ doses	ns	90.48	90.85	87.37	92.5
	Equal timeliness of disease notification	Median # days disease notification	ns	5	5	6	5
		% F/M <= 3 days	ns	30.94	29.86	24	40.31
	High population immunity	% 0-dose	< 10%	10.00%			
		LQAS or IM out-of-house result	>= 90% or < 5%	N/a			
		% inaccessible	< 5%	N/a			
		Number and type of activity	per plan	n/a			
	High virus detection	AFP rate (national)	> 2	7.80			
		AFP rate (sub-national)	> 2 [% of states/provinces meeting indicator]	100%			
		Stool adequacy (national)	>=80%	97.73			
		Stool adequacy (sub-national)	>=80% [% of states/provinces meeting indicator]	100%			
		Lab receipt to virus isolation result (median)	< 14 days	9			
Low risk of reintroduction	Environmental surveillance	Yes or No	No				
	RI improvement: % reduction in unimmunized children	> 10%	50% increase (2015 vs 2014)				
	IPV introduction	intro by 2015	N/a				
Equal doses received	Median # doses F/M	ns	3	3	3	3	
	% F/M 0-dose	ns	11.76	8.57	0	5.56	
	% F/M 3+ doses	ns	82.35	80	90.91	83.33	
Equal timeliness of disease notification	Median # days disease notification	ns	3	3	3	2	
	% F/M <= 3 days	ns	61.29	53.33	54.17	67.35	

Country	Outcome	Indicator	Target	Jan-Jun 2018	Jul-Dec 2018	
Côte d'Ivoire	High population immunity	% 0-dose	< 10%	2.25%	2.28%	
		LQAS or IM out-of-house result	>= 90% or < 5%	N/a	N/a	
	High virus detection	% inaccessible	< 5%	N/a	N/a	
		Number and type of activity	per plan	1 NID		
		AFP rate (national)	> 2	2.83	4.18	
		AFP rate (sub-national)	> 2 [% of states/provinces meeting indicator]	60%	94%	
		Stool adequacy (national)	>=80%	84.46	83.33	
		Stool adequacy (sub-national)	>=80% [% of states/provinces meeting indicator]	60%	58%	
	Low risk of reintroduction	Lab receipt to virus isolation result (median)	< 14 days	8	8	
		Environmental surveillance	Yes or No	No	Yes	
RI improvement: % reduction in unimmunized children		> 10%	38% decrease (2015 vs 2014)			
IPV introduction		intro by 2015	Yes (Jun-15)			
Gabon	Equal doses received	Median # doses F/M	ns	Female: 4, Male: 3	Female: 3, Male: 3	
		% F/M 0-dose	ns	2.5	2.04	4.62
	Equal timeliness of disease notification	% F/M 3+ doses	ns	95	77.55	78.48
		Median # days disease notification	ns	4	5	5
		% F/M <= 3 days	ns	52.24	36.05	40.19
		% 0-dose	< 10%	9.09%		0.00%
	High population immunity	LQAS or IM out-of-house result	>= 90% or < 5%	N/a	N/a	
		% inaccessible	< 5%	N/a	N/a	
	High virus detection	Number and type of activity	per plan	1 NID	1 NID	
		AFP rate (national)	> 2	5.16	9.62	
AFP rate (sub-national)		> 2 [% of states/provinces meeting indicator]	70%	100%		
Stool adequacy (national)		>=80%	100	94.44		
Environmental surveillance	Stool adequacy (sub-national)	>=80% [% of states/provinces meeting indicator]	70%	90%		
	Lab receipt to virus isolation result (median)	< 14 days	8	8		
	Environmental surveillance	Yes or No	No	Yes		

Country	Outcome	Indicator	Target	Jan-Jun 2018		Jul-Dec 2018	
				Female	Male	Female	Male
Mali	Low risk of reintroduction	RI improvement: % reduction in unimmunized children	> 10%	48% decrease (2015 vs 2014)			
		IPV introduction	intro by 2015	Yes (Dec-15)			
	Equal doses received	Median # doses F/M	ns	4	3	4	3
		% F/M 0-dose	ns	0	11.1	0	0
		% F/M 3+ doses	ns	100	77.78	100	42.86
	Equal timeliness of disease notification	Median # days disease notification	ns	8	3	4	6
		% F/M <= 3 days	ns	41.44	47.35	39.13	37.5
	High population immunity	% 0-dose	< 10%	1.96%			
		LQAS or IM out-of-house result	>= 90% or < 5%	N/a			
		% inaccessible	< 5%	N/a			
		Number and type of activity	per plan	1 SNID			
		AFP rate (national)	> 2	2.95			
	High virus detection	AFP rate (sub-national)	> 2 [% of states/provinces meeting indicator]	100%			
		Stool adequacy (national)	>=80%	84.21			
		Stool adequacy (sub-national)	>=80% [% of states/provinces meeting indicator]	78%			
Lab receipt to virus isolation result (median)		< 14 days	8				
Environmental surveillance		Yes or No	No				
Low risk of reintroduction	RI improvement: % reduction in unimmunized children	> 10%	29% increase (2015 vs 2014)				
	IPV introduction	intro by 2015	N/a				
Equal doses received	Median # doses F/M	ns	3	4	4	4	
	% F/M 0-dose	ns	9.52	2.94	2.94	0	
	% F/M 3+ doses	ns	80.95	88.24	88.24	85.37	
	Median # days disease notification	ns	6	5	4	6	
Equal timeliness of disease notification	% F/M <= 3 days	ns	32.79	35.53	34.62	30	

Country	Outcome	Indicator	Target	Jan-Jun 2018		Jul-Dec 2018	
				Female	Male	Female	Male
Liberia	High population immunity	% 0-dose	< 10%	0.00%		0.00%	
		LQAS or IM out-of-house result	>= 90% or < 5%	N/a			
		% inaccessible	< 5%	N/a			
		Number and type of activity	per plan	1 NIDs		1 SNID	
	High virus detection	AFP rate (national)	> 2	3.71		3.45	
		AFP rate (sub-national)	> 2 [% of states/provinces meeting indicator]	100%		67%	
		Stool adequacy (national)	>=80%	89.19		91.43	
		Stool adequacy (sub-national)	>=80% [% of states/provinces meeting indicator]	80%		93%	
	Low risk of reintroduction	Lab receipt to virus isolation result (median)	< 14 days	8		8	
		Environmental surveillance	Yes or No	No		No	
		RI improvement: % reduction in unimmunized children	> 10%	N/a			
		IPV introduction	intro by 2015	N/a			
		Median # doses F/M	ns	3	3	3	3
		% F/M 0-dose	ns	0	0	0	0
Equal timeliness of disease notification	% F/M 3+ doses	ns	61.54	73.33	72.73	53.85	
	Median # days disease notification	ns	6	7	6	7	
	% F/M <= 3 days	ns	37.5	14.29	13.33	30	
	% 0-dose	< 10%	4.35%		0.00%		
High population immunity	LQAS or IM out-of-house result	>= 90% or < 5%	N/a				
	% inaccessible	< 5%	N/a				
	Number and type of activity	per plan	1 NIDs		1 SNID		
	AFP rate (national)	> 2	3.69		3.82		
High virus detection	AFP rate (sub-national)	> 2 [% of states/provinces meeting indicator]	100%		100%		
	Stool adequacy (national)	>=80%	83.05		83.87		
	Stool adequacy (sub-national)	>=80% [% of states/provinces meeting indicator]	75%		75%		
	Lab receipt to virus isolation result (median)	< 14 days	8		8		
Low risk of reintroduction	Environmental surveillance	Yes or No	No		No		
	RI improvement: % reduction in unimmunized children	> 10%	N/a				
Sierra Leone	IPV introduction	intro by 2015	N/a				

Country	Outcome	Indicator	Target	Jan-Jun 2018	Jul-Dec 2018	
Burkina Faso	High population immunity	% 0-dose	< 10%	1.90%	0.00%	
		LQAS or IM out-of-house result	>= 90% or < 5%	N/a		
	High virus detection	% inaccessible	< 5%	N/a		
		Number and type of activity	per plan	N/a		
		AFP rate (national)	> 2	3.82	4.29	
		AFP rate (sub-national)	> 2 [% of states/provinces meeting indicator]	92%	92%	
		Stool adequacy (national)	>=80%	94.05	83.85	
		Stool adequacy (sub-national)	>=80% [% of states/provinces meeting indicator]	100%	98%	
		Lab receipt to virus isolation result (median)	< 14 days	8	8	
	Low risk of reintroduction	Environmental surveillance	Yes or No	No	Yes	
		RI improvement: % reduction in unimmunized children	> 10%	N/a		
		IPV introduction	intro by 2015	N/a		
AFRO	Equal doses received	Median # doses F/M	ns	Female 5 Male 5	Female 4 Male 4	
		% F/M 0-dose	ns	1.79	2.04	0
	Equal timeliness of disease notification	% F/M 3+ doses	ns	91.07	95.92	96.72
		Median # days disease notification	ns	3	4	3
		% F/M <= 3 days	ns	63.41	43.02	54.32
	Equal doses received	Median # doses F/M	ns	Female 5 Male 5	Female 6 Male 6	
		% F/M 0-dose	ns	2.4	2.3	2.58
		% F/M 3+ doses	ns	91.06	90.48	90.89
		Median # days disease notification	ns	5	4	5
	Equal timeliness of disease notification	% F/M <= 3 days	ns	39.2	39.9	37
	AMRO	Equal doses received	Median # doses F/M	ns	Female 4 Male 4	Female 4 Male 4
% F/M 0-dose			ns	1.14	0	0
Equal timeliness of disease notification		% F/M 3+ doses	ns	81.82	85.25	73.53
		Median # days disease notification	ns	5	5	5
	% F/M <= 3 days	ns	24.37	22.85	26.43	

Country	Outcome	Indicator	Target	Jan-Jun 2018		Jul-Dec 2018	
				Female	Male	Female	Male
EMRO	Equal doses received	Median # doses F/M	ns	10	10	10	10
		% F/M 0-dose	ns	1.41	1.31	1.1	1.28
	Equal timeliness of disease notification	% F/M 3+ doses	ns	97.63	97.43	97.5	97.55
		Median # days disease notification	ns	3	3	3	3
EURO	Equal doses received	% F/M <= 3 days	ns	57.03	59.42	55.69	58.06
		Median # doses F/M	ns	4	5	5	5
	Equal timeliness of disease notification	% F/M 0-dose	ns	3.51	2.51	3.16	1.56
		% F/M 3+ doses	ns	85.96	87.44	89.24	90.62
SEARO	Equal doses received	Median # days disease notification	ns	5	5	4	4
		% F/M <= 3 days	ns	40.86	49.49	45.21	47.56
	Equal timeliness of disease notification	Median # doses F/M	ns	14	13	14	14
		% F/M 0-dose	ns	0.48	0.61	0.79	0.76
WPRO	Equal doses received	% F/M 3+ doses	ns	98.49	98.5	97.91	98.33
		Median # days disease notification	ns	3	3	3	3
	Equal timeliness of disease notification	% F/M <= 3 days	ns	51.77	52.39	51.14	54.8
		Median # doses F/M	ns	3	3	3	3
WPRO	Equal doses received	% F/M 0-dose	ns	2.09	1.66	0.13	0.56
		% F/M 3+ doses	ns	93.55	95.01	95.74	96.13
	Equal timeliness of disease notification	Median # days disease notification	ns	3	3	2	3
		% F/M <= 3 days	ns	55.58	56.79	59.5	57.36

**Target of ns refers to achieving a non-significant result in terms of gender differences.

Annex 5 – Analysis of cost per child by region, January-June 2018 vs July-December 2018

Operational cost (US\$) per child (excl OPV costs) (to reach and vaccinate 1 child with 1 dose)	Jan-June 2018	Jul-Dec 2018
Global	0.36	0.36
Regional Office for Africa	0.39	0.39
Regional Office for the Eastern Mediterranean	0.32	0.32
Regional Office for South-East Asia	0.10	0.10
Regional Office for Europe	0.30	0.30
Regional Office for the Western Pacific	0.27	0.27

Annex 6 – Global Monitoring

Outcome	Indicator	Target	Jul-Dec 2018
All	Financing: 12-month cash gap Financing: Strategy funding gap Staffing: Vacant approved posts		Fully financed. Fully financed. N/a
High population immunity	Vaccine supply: Planned SIAs cancelled due to vaccine shortage Number of OPV-only using countries	< 10%	No planned SIAs cancelled due to vaccine shortage All countries committed to IPV introduction ahead of the switch from trivalent OPV to bivalent OPV in April 2016. However, due to a global IPV supply constraint, 35 low risk-countries experienced delays in receiving IPV supply or were not re-supplied, if they had introduced earlier. Currently, all countries, except Mongolia and Zimbabwe, have introduced or re-introduced IPV. It is expected that by end-April 2019, all countries globally will be using IPV as recommended. As a result of the stock-outs resulting from the global shortage, a number of cohorts were missed and will have to be reached once supply becomes available in sufficient quantities. In 2019, it is planned that Angola, Liberia and Sudan will conduct catch-up immunization activities of missed cohorts. Additional countries could be targeted if more doses for catch-up activities become available in the second half of the year.
Low risk of virus reintroduction	Plan in place to support routine immunization strengthening in 10 priority countries		Strengthening routine immunization through PEI network is one of the important components of the National Emergency Action Plans (NEAPs) of the three endemic countries. PEI-EPI synergy teams established at EOCs of each endemic country. Main aim is to support supervision and monitoring of EPI fixed sites and outreach sessions in close collaboration with EPI programmes. Analysis of quarterly monitoring data for 2018 submitted by PEI staff shows that on average, 500 EPI fixed sites and outreach sessions are being monitored per month by Afghanistan PEI team. Similarly, 3000 outreach sessions and 5000 EPI facilities are monitored per month by Pakistan and Nigeria PEI teams. Additionally, India, Chad, Ethiopia and the Democratic Republic of Congo also have developed annual immunization plans that leverage polio assets to improve broader immunization goals.
Low risk of virus reintroduction	Reduction in the international spread of polio		Declared PHEIC remains in place <ul style="list-style-type: none"> Guidance to minimize risks for facilities collecting, handling or storing materials potentially infectious for polioviruses was published in April 2018, following endorsement by the Containment Advisory Group (CAG). Workshops are planned where necessary for facilitating its timely implementation. In May 2018, WHO Member States adopted WHA Resolution 71.16 on poliovirus containment which urges international commitment towards ensuring containment requirements are rapidly and fully implemented worldwide. The Resolution includes recommended actions for all Member States and WHO's Director-General, and actions specifically for Member States planning to retain poliovirus for critical functions, in poliovirus-essential facilities (PEFs). Formal deadlines for the appointment of national authorities for containment (NACs) and the processing of facility applications for participation in the GAPIII Containment Certification Scheme (GAPIII-CCS) have been established. In April 2018, SAGE issued recommendations for the alignment of GAPIII and SAGE immunization recommendations, for countries hosting PEFs. A Weekly Epidemiological Record (WER) on this topic was published in June 2018. The Global Commission for the Certification of Eradication of Poliomyelitis (GCC) remains the oversight body for containment certification. The Containment Advisory Group (CAG) continues to serve as the advisory body to WHO's Director-General on technical issues related to the implementation of GAPIII. The first GAPIII-CCS Certificate of Participation has been granted (Sweden). More submissions are expected shortly. The draft revision of 'WHO Guidelines for the safe production and quality control of poliomyelitis vaccine' is available at http://www.who.int/biologicals/en/. This third draft has been prepared based on the comments from the first round of public consultations and the outcomes of an working group meeting in May 2018.
Transition and post-certification strategy	Consultations inputs into plans		<ul style="list-style-type: none"> 16 priority countries in process of developing transition plans (draft national plans now in place in 12 of 16 countries) Progress monitored by Transition Independent Monitoring Board Post-certification strategy being developed in extensive stakeholder consultations Report on development of strategic action plan on transition and post-certification strategy being prepared, as per WHA Decision WHA70(19)

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