

## End of Year 2015 in Polio Endemic Pakistan: Yet Another Beginning Towards End

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Polio is a disease causing life-long paralysis, which can be prevented with simple vaccination. The Global Polio Eradication Initiative (GPEI) was initiated in 1988 with a goal to complete the eradication and containment of all wild, vaccine-related, and Sabin polioviruses, such that no child ever again suffers paralytic poliomyelitis (GPEI). Not being an easy task GPEI has missed deadlines one after other. But largely has been very successful in achieving its objectives as the global incidence of polio cases has decreased by 99 % since its inception. GPEI is confronting a chain of challenges to wipe out the remaining only 1 % of wild polio virus (WPV) and vaccine-derived polio virus (VDPV) transmission and has devised ‘The Polio Eradication and Endgame Strategic Plan 2013–2018,’ with the aim to deliver a polio-free world by 2018 (Global Polio Eradication Initiative). As we are entering year 2016, war against polio has reached the last borders and is now being fought in the real battle grounds of Pakistan and Afghanistan; the only two remaining epidemic countries on the list.

Already known for its struggle against polio, Pakistan became the center of attention for the global community and a serious threat for GPEI in the year 2014. Despite regulations by WHO and a ‘polio emergency’ being declared by the government, the number of cases continued to multiply. With this uncontrolled increase in the number of cases, the already developing threat of an outbreak from Pakistan became more serious (Manya and Qazi 2016).

Since 2010, Pakistan was reporting the highest number of paralytic polio cases among endemic countries. First serious indication of a possible outbreak came from China in 2011 where WPV strain identified was found to be genetically related to the strain endemic in Pakistan. The same strain was found in Egypt in 2012 and in the sewerage systems of Palestinian and Israel in 2013. Later, 17 polio cases detected in four major cities of the war-affected country of Syria were also linked to the WPV from Pakistan. Following the spread of the same strain to Afghanistan, Pakistan was at the brink of facing international travel ban. Although a travel ban was not imposed, Pakistanis were restricted from traveling abroad without a document certifying that they had received a dose of polio vaccine prior to travel. This practice continues till date (Kazi et al. 2014).

The number of WPV cases in Pakistan in 2014 reached a total of 306 as the year ended. This was a big blow for GPEI and the goals set by ‘The Polio Eradication and Endgame Strategic Plan 2013–2018.’ Inconsistency in the number of reported cases each year made the GPEI goals very difficult to achieve. Collapse of polio eradication campaign in Pakistan complicated the global scenario for a polio-free world. With all this background as the year 2015 started hopes were not high in Pakistan and globally for GPEI. To make the fears worse, New Year began with the first case of polio being reported from Pakistan on January 1st 2015. The international community was monitoring the situation in Pakistan carefully and anxiously in the year 2015. However, now when the year has ended it can be concluded safely that despite all odds 2015 seems to bring a new line of hope from Pakistan, with only 51 cases of WPV reported (End Polio Pakistan 2016). Not only it was a good year from Pakistan, but overall GPEI also achieved another milestone when the list of last three endemic

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countries was reduced to two countries excluding Nigeria (GPEI).

Although stats of year 2015 from Pakistan provide a new line of hope, this also reminds us of previous good years unfortunately followed by huge upsurge. An overview of the last 5 years in Pakistan reveals the fluctuating pattern of prevalence. In the year 2012, only 58 polio cases were reported and Pakistan was on the brink of joining the world in eradicating polio (End Polio Pakistan 2016). However unfortunately, the numbers began to rise in the following year, when 93 cases were reported in the year 2013. A year later in 2014, battle against polio in Pakistan was almost lost when the number of WPV reported cases reached 306 (End Polio Pakistan 2016). It is interesting to note that in 2011 the number of cases was 198 which was reduced to 58 cases in 2012 making it a year of hope. However, 58 in 2012 were still higher than 28 cases reported in 2005, which also was very close to finish line for polio (End Polio Pakistan 2016). These statistics provide a brief idea of inconsistency in the fight against polio in Pakistan leading to lack of reliable future predictions.

According to the geographic reality, majority of Pakistan is free from polio and in those areas children are being reliably vaccinated. The areas of persistent polio transmission in the country are geographically grouped into four areas which together serve as reservoirs for two-third of globally reported cases each year. In the north of Pakistan, one of these areas comprises a few districts of KP province most important being Peshawar. Agencies of FATA make the other geographic belt most important being Khyber agency. Towards south, the other two reservoir areas are located in the provinces of Sindh (specific localities in Karachi) and Baluchistan (Quetta, Pishin and Killa Abdullah). Although the greatest challenge remains in specific small areas, still seems an uphill task.

Main reasons behind the huge upsurge in 2014 are claimed to be militancy and ‘refusal families’ in the two northern areas of FATA and KP. However, this local context of problem influencing polio campaign in FATA and KP should not be confused with a larger threat of mismanagement throughout campaign structure, miscalculation in vaccination coverage estimates, and poor quality of vaccine administered across the country (Khan and Qazi 2013). Year 2014 not only threatened the world of a possible polio outbreak from Pakistan but also provided the catalyst for the government to once again start working for polio eradication in full gear. Intense preparations for the low-transmission season in September 2014 at national levels resulted in a substantial decrease in reported cases in the following year 2015. In the previously unreached areas of FATA, polio vaccine was administered with the help of Pakistan army already present there as a result of military operation in those areas. In Peshawar, concentrated efforts of the KP

government increased the range of vaccination to previously refused cases by involving law enforcement agencies and arresting those who refused. Moreover, frequent movement of local community between Khyber agency and Peshawar was used as an opportunity to vaccinate children on the move; transit vaccination. All these efforts together lead towards the control of a possible outbreak.

Other than strengthening its Oral Polio Vaccine (OPV) program, Pakistan has introduced injectable polio vaccine (IPV) in its routine Expanded Program on Immunization (EPI) starting from 20th August 2015 (End Polio Pakistan 2016). Incorporation of IPV is part of a comprehensive long-term strategy developed by GPEI that will benefit more than four million children in Pakistan every year. At the same time, government of Pakistan has realized that due to geographical reality the last two endemic countries: Pakistan and Afghanistan have to coordinate intensely in polio eradication drives. Frequent movement of Afghan refugees in the bordering areas of FATA and KP already serving as polio reservoirs further complicates the situation. In the start of 2016, both Pakistan and Afghanistan have decided to increase micro-synchronization of polio campaigns at the border, closer monitoring of nomadic movement across borders, strengthening of transit vaccination, and holding of synchronized polio campaigns in future (End Polio Pakistan 2016).

Polio eradication continues to be a national emergency with the renewed commitment of the government at all levels. Admitting that a positive difference in efforts and determination at government level is evident, one also has to consider that the idea of boosting the morale, engagement, and status of the front line workers cannot be materialized when they are not being paid or poorly paid. At the same time, close monitoring of anti-polio immunization campaigns is essential to ensure accountability and to overcome factors behind poor coverage. Overall, year 2015 brings us a new hope that these small pockets of polio reservoirs in Pakistan will be the last ones to deal with before the world is finally declared as “Polio free.”

#### Compliance with Ethical Standards

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