

Acute Flaccid Paralysis (AFP) surveillance: the surveillance strategy for poliomyelitis eradication

To achieve poliomyelitis eradication, the World Health Organization recommends that countries conduct surveillance for cases of acute flaccid paralysis (AFP). Acute flaccid paralysis (AFP) is defined as a sudden onset of paralysis/weakness in any part of the body of a child less than 15 years of age. This syndromic reporting strategy, of investigating all AFP cases rather than just “suspected poliomyelitis”, serves many purposes. First, AFP surveillance substantially increases the sensitivity of the surveillance system and allows it to detect paralytic poliomyelitis due to wild poliovirus transmission in the population. Secondly, AFP surveillance provides objective data with which to monitor the quality of surveillance in an individual country or large population group. AFP Surveillance also helps to monitor progress in polio eradication when polio exists in a country as well as helps to define when polio is gone from the country or area.

There are many causes of AFP, so each AFP needs to be evaluated to find out if the paralysis is due to polio or not. Polio is only one out of the many causes of AFP.

The AFP Surveillance system has been in place in India since 1997. More than 50,000 AFP cases are investigated in India every year as a part of this system. This investigation includes testing stool specimens of all AFP cases for poliovirus detection in the stool specimens. When polio existed in India, some AFP cases, out of all the AFP cases that were investigated, showed the presence of poliovirus in their stool specimens and that is how we knew that polio is continuing in India. In 2009, 741 of these AFP cases tested positive for polio, in 2010 only 42 cases tested positive while in 2011 only a single AFP case tested positive for polio.

The surveillance system for polio is being maintained in India even after polio-free certification has happened to demonstrate that there is no polio in India and to pick up any importations of poliovirus, if they occurred.

A total of 59,436 AFP cases were investigated in India in 2012, another 53,421 in 2013 and 53,383 in 2014. Not a single AFP case has tested positive for polio in 2012, 2013 and 2014. All AFP cases during the last 3 years have been due to non-polio causes.

There are globally recommended indicators of quality for the AFP surveillance system. One of the indicators is the rate at which a country detects and investigates AFP cases. If a country detects AFP cases below this rate, the surveillance system in that country is considered not sensitive enough to detect polio. India has not only been achieving these indicators of surveillance quality but has been surpassing them over the past many years.