
Acute Flaccid Paralysis (AFP) Surveillance

What is it and why are we doing it?

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Background

The global effort to eradicate polio has become the largest public health initiative in history and is spearheaded by the World Health Organization (WHO). Polio is one of only a limited number of diseases that can be eradicated. This is because polio only affects humans, an effective, inexpensive vaccine is available and immunity is life-long. There are no long-term carriers of the disease, no animal or insect reservoir and the virus can only survive for a short time in the environment.

The maximum benefits of this global eradication of polio will only be realised when immunisation against poliovirus will no longer be required. Prior to stopping polio immunisation it will be necessary to certify the absence of wild poliovirus circulation from every country in the world. A strategic plan has been developed by the Global Polio Eradication Initiative (GPEI) in consultation with national health authorities, global health initiatives, scientific experts, donors and other stakeholders, in response to a directive of the World Health Assembly. The Polio Eradication and Endgame Strategic Plan 2013–2018 has four main objectives;

1. Detect and interrupt all poliovirus transmission
2. Strengthen immunization systems and withdraw oral polio vaccine
3. Contain poliovirus and certify interruption of transmission
4. Plan polio's legacy

Non-polio AFP Surveillance

Acute flaccid or floppy paralysis is defined as any case of new onset of hypotonic weakness in a child aged less than 15 years of age. This includes possible illness due to Guillian-Barré syndrome, transverse myelitis, traumatic neuritis, viral infections caused by other enteroviruses, toxins and tumours. Isolated facial paralysis is not included. In the early stages of the disease polio may be difficult to differentiate from other forms of AFP. Therefore, to insure that no case of polio goes undetected surveillance targets a symptom (AFP) rather than a specific disease (e.g. polio).

AFP surveillance is the intelligence network that underpins the entire eradication initiative. The objective of AFP surveillance is to detect poliovirus wherever it may still circulate. It is also the key to detecting re-importation of poliovirus into polio-free areas. The quality of AFP surveillance becomes crucial in countries approaching the final phase of polio eradication and forms the basis of the documentation needed for certification of polio-free status. Without high quality surveillance, it is impossible to prove the successful interruption of wild poliovirus transmission.

Ireland was certified polio free (together with the other countries in the European region) in 2002.

AFP surveillance in the Republic of Ireland - 2013

Since 2012 AFP surveillance in Ireland is voluntary. However, all clinicians are requested to report any child < 15 years of age who is investigated for AFP (regardless of cause) to the HSE Health Protection Surveillance Centre (HPSC). HPSC, together with the NVRL and clinicians seeks to maintain informal AFP surveillance at certification standard. Each year the National Polio Elimination Committee review AFP cases reported in the previous year.

What is needed for AFP surveillance?

1. Stool samples (two samples, 24 hours apart, within two weeks of paralysis onset) should be sent to the NVRL for virological testing.
2. An enhanced surveillance form (available on HPSC website) be completed and sent to HPSC immediately and also a follow-up form 60 days later (at follow-up). Information collected includes clinical, vaccination and virological information.

Note: Any patient of any age presenting with AFP who has a history of travel to areas where polio virus transmission has been reported, should be notified immediately to the local Medical Officer of Health and HPSC.

Summary

(1) Surveillance should be sensitive enough to detect at least one case of non-polio AFP for every 100,000 children under-15 years of age. This parameter is used as a measure of the sensitivity of the surveillance system in operation in each country.

(2) At least two stool samples, taken 24 hours apart and within 14 days of the onset of illness should be collected from at least 80% of these cases. These stool samples should be sent to the NVRL under reverse cold chain conditions for appropriate virological investigation (for further details contact NVRL at 01 269 7611).

(3) Detailed investigation of suspected polio cases should include clinical, epidemiological and virological examination as well as a follow-up examination for residual paralysis after 60 days.

(4) All information relating to AFP cases will be reviewed by the National Polio Elimination Committee.

Additional information on the polio eradication initiative and AFP surveillance is available at <http://www.who.int/topics/poliomyelitis/en/>

For additional queries on AFP reporting please contact either HPSC at 01 876 5300 or NVRL at 01 269 7611