

Technical sheets for polio eradication

X. Detailed case investigation of confirmed WPV

This document is part of a series of technical sheets to be used for the preparation and implementation of quality SIA, surveillance reviews or case investigations for polio. The series of sheets consists of the following:

I - SIA Coordination	IV - SIA House marking	VII - Cold chain, VVM	X - Social mobilization
II - SIA Micro planning	V - SIA Finger marking	VIII - SIA quality indicators	XI - Case investigation
III - SIA Supervision	VI - SIA Monitoring	IX - Mapping	XII - Surveillance review

Objective: An investigation of a laboratory confirmed case of wild poliovirus is done in order to obtain the fullest possible understanding on the history of the disease, movement, local conditions and social settings in addition to the information given in the AFP investigation form. The purpose is not to confirm or infirm the laboratory result.

Some topics in the interviews below reappear under different angles. This is done to get the most reliable information.

A case investigation consists of the following steps:

- Collection of background information at national, regional and district level:
 - Basic surveillance indicators;
 - Plot map with AFP cases;
 - Routine and SIA coverage data;
 - Data on population movements;
 - Major social events, like markets, feasts or other gatherings;
 - Economic, ethnic and religious characteristics;
 - Maps with as much detail as possible.
- Interview with the parents/care takers to collect information on (focus on the month before onset):
 - History of the disease, date of onset, evolution of the symptoms: what, where, when, etc.
 - Exact place of residence of the case at the time of onset and over the previous month;
 - Clarification of details from the AFP investigation form on vaccination status (number of doses, when, by who, evidence), family relationship, etc.;
 - Steps taken after occurrence of the first symptoms: medicine taken, doctors, traditional healers, hospitals visited;
 - Recent visits of the case, family members, close friends or neighbours to or from other districts, regions or countries: who, when, where, why, how frequent. For this and the following points emphasis should be on known endemic regions, or regions with recent importation;
 - Recent events like big markets, big feasts or other social events and the people participating in terms of origin, ethnic or religious grouping, etc.
 - Population movements within, to and from the area: who, from where and where to, why;
 - Main economic activities (work, shopping) of the family: who (with or without the children), where, when;
 - Main economic activities in the area as well as the movements related to them;
 - Any information on water supply, latrines, living conditions of the family
- Do a clinical exam and note the evolution of the symptoms since the initial AFP case investigation.
- Discussing the same topics, except for the first three, with a few direct neighbours helps deepen the understanding and clarify the likely misinterpretations that occurred during the interview with the parents.
- Collect additional useful information through observation, and discussion with traditional healers, health staff, police, customs and community or religious leaders on medical behaviour, socio economic aspects, population movements and density, water sources, excreta disposal habits, etc..
- Search records in nearest health centre and ask all persons mentioned above if they have recently noticed cases of paralysis.
- Investigate AFP cases found:
 - Check if they are in the AFP line list;
 - If not and paralyse is less than a month old, do a full investigation.
- Do a quick and dirty vaccination coverage survey in the neighbourhood of the case (30-50 children).
- Take some photos of the case and of anything that can help understand the situation: latrines, water pumps, living conditions, etc..

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XI. Surveillance review

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Objective: To assess the capacity of the AFP surveillance to detect transmission of wild polio virus in a timely way.

Surveillance reviews can be done in 2 ways, a desk review and a comprehensive review. The second includes the desk review plus field visits.

Practical preparations before the review:

- Agreement on the choice of reviewers and team leader for the review.
- All necessary clearances for the reviewers.
- Agenda for the review, including briefing and debriefing, other meetings, travel to the field, etc..
- Hotel reservations and flight bookings within the country.
- Car rental and means of communication.
- Ensure the review does not coincide with elections, feasts or other events implying the unavailability of focal points and MOH staff.

Before either review, the country should be requested to prepare or have readily available:

- General information on the country, including maps: demography, population density, population movements in particular with countries with ongoing transmission, ethnic and religious groups, conflict areas and any other factor that might have an influence on surveillance or transmission of polio.
- Information on the overall organization of the health system and in particular the surveillance system, including the MOH as well as WHO and other partners: organigram, actors and focal points, sentinel sites, reporting structure, involvement of traditional healers and private sector, reverse cold chain, laboratories, logistics (communication and car) etc.
- Any annual work plan and or most recent annual reports on surveillance, EPI, outbreak response plan, etc...
- Information on routine immunization and SIA coverage.
- Information on surveillance process monitoring: work plans, supervisory visits between different levels, active surveillance visits, number of staff, length of contracts, information flow
- AFP case line listing
- Maps, tables and graphs covering the previous 3 years and down to second administrative level or whatever appropriate in the specific setting:
 - AFP indicators: AFP rate, adequate stool collection (1 or 2 stools in 14 and 28 days), time between various phases (onset, detection, investigation, send to laboratory, etc.)
 - Plot maps with AFP cases specifying WPV, sabin, non polio enterovirus, compatibles, pendings, and negatives.
 - Maps and graphs with vaccination status of AFP cases (0, 1-2, >=3, >=7 doses)

For the desk review the team:

- Completes the materials above
- Makes a general description of the surveillance system: actors, system, indicators, performance, reporting and information sharing, evidence of supervision between various levels.
- Analyses the materials above with particular attention to weakness indicating the possibility of missing ongoing transmission or timely detection of importations.
- Availability, quality and consistency of materials, presence of updated graphs on walls, data quality and consistency, archive and filing system etc., are equally aspects for consideration.

For a full review the team does the above plus a field visit:

- Do a register review in some sentinel sites and check for missed AFP and signatures of the surveillance focal point

- Conduct a few spot check on AFP cases
- Check the general knowledge on AFP surveillance of health staff of sentinel as well as non sentinel sites.
- Check the level of involvement of traditional healers, private sector or any other sector where AFP cases might go
- Check how representative and appropriate the chosen sentinel sites are
- Check the reverse cold chain, in particular if a low enterovirus rate and/or detection of very few sabin isolates, indicates potential problems.
- Check the availability of up to date work plans, including plans for active surveillance, training, meetings and surveillance materials.
- Debrief at all levels and with all partners. Use debriefing to sensitize and ensure full understanding of the relevance of surveillance and the issues involved.

The final report should consist of:

- A summary of findings and recommendations of maximum 1-2 pages
- A simple description of the country, geographics, demography, conflict, ethnic and religious groupings.
- A simple description of the health system, including routine EPI.
- A short history of polio eradication in the country with WPV over the past years and the last case
- A descriptive chapter on AFP surveillance, prioritizing maps, tables and graphs to bulky text:
 - When did it start
 - How does it work: actors, sentinel sites, reporting, responsibilities, information flow, data management, feedback, laboratory, stool collection and transport, etc.
 - Performance indicators over time: AFP rate, non polio AFP rate, stool adequacy, sabin and enterovirus detection, vaccination status of NP AFP cases, timeliness of various steps, completeness and monitoring of active surveillance visits.
 - Additional information on: active surveillance, availability of materials and equipment, health service providers in- or excluded from the system, reporting and supervision, awareness at different levels, funding
- A description of weaknesses found, using the data presented in the previous chapter.
- An explanation of possible solutions for the identified weaknesses.
- A final conclusion stating clearly whether the current AFP surveillance system is capable of detecting any circulation of wild polio virus in a timely manner.
- Recommendations on how to handle the identified problems.
- A follow up on the status of the recommendations should be planned.

Feedback to partners, people involved during the review and health authorities at various levels is a critical step in the finalization of the review.