Guidelines for preparedness and response for wild poliovirus importation and format for national plans

World Health Organization
Regional Office for Eastern Mediterranean
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Regional Office for Eastern Mediterranean
Cairo
2002
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1. **Introduction: importation of wild poliovirus into polio-free areas**

Detection of wild poliovirus in a polio-free country is a public health emergency. Countries should be prepared to respond appropriately to contain the situation in order to maintain polio-free status. Possible situations of poliovirus importation include the following.

1) Imported case of poliomyelitis; when wild poliovirus is isolated from stool specimen from an AFP case with history of recent travel to a polio endemic area.

2) Polio cases associated with imported virus.

3) Wild poliovirus isolated from the stools of an individual with no neurological symptoms or history of recent travel to a polio endemic area.

4) Wild poliovirus isolated from sewage or other environmental samples.

Importation of wild poliovirus cannot be prevented until global polio eradication is achieved, but its spread within the country can be controlled. The main lessons learned from recent importation into polio-free areas include:
High quality surveillance is key for early detection of virus. There is absolute necessity of maintaining high quality AFP surveillance even years after stopping transmission.

Mobile groups play a key role in virus importation.

Epidemiological blocks affected by cross-border movements or risk of distant importation must be identified, including areas away from national borders.

Special immunization and surveillance efforts in high-risk or minority cross-border populations are needed.

High general population immunity achieved by routine and supplementary immunization activities limits virus spread.

2. **National plans for effective response to importation**

A national plan for responding to poliovirus importation should be prepared and periodically updated by each country (Annex). The key elements of the plan should include:
mechanism for ongoing monitoring and early detection of importation

ability to rapidly investigate the importation

activities to enhance surveillance for AFP and wild poliovirus

ability to conduct an immediate and appropriate immunization response

activities to document interruption of transmission.

2.1 Monitoring and early detection of importation

A high quality AFP surveillance system forms the basis for monitoring and early detection of importation.

2.1.1 High quality AFP surveillance should satisfy the following criteria:

- Non-polio AFP rate of at least 1/100 000 children under 15 years of age per annum

- At least 80% of AFP cases have adequate stool specimens (2 specimens collected within 14 days of paralysis
onset, at least 24 hours apart and received in the laboratory in good condition)

- Appropriate geographical representation, i.e. AFP cases with adequate specimens are representative of the population distribution in general.

The quality of AFP surveillance should be monitored at the subnational level and should be ensured in border areas and in areas resided by minorities, refugees and high-risk populations.

2.1.2 Mobile and minority high-risk populations should be identified in border areas, as well as in other locations, where these groups may reside. Strategies to access these populations through routine and supplementary immunization activities should be planned. Special surveillance activities should cover such populations in order not to miss any AFP cases.

2.1.3 Countries should ensure prompt cross-border notification of any cross-border AFP case through the most efficient and direct route. Notification could be done through the respective WHO and
UNICEF country and regional offices.

2.1.4 All district level staff in border areas should be trained on proper epidemiological investigation of AFP cases, including history of travel and contacts.

2.1.5 Complete clinical and epidemiological investigation of all AFP cases should be done to identify high-risk AFP cases ("hot" cases). A case should be considered high-risk whenever AFP is discovered in any child under five years of age with incomplete immunization status, OR belonging to a high-risk group (minority group, displaced or refugee populations, etc.), OR have had contact with persons from polio-endemic countries, AND presents with symptoms typical for poliomyelitis (fever at onset, short progression period, asymmetric paralysis, etc.). When such an AFP case is discovered, two faecal specimens should be taken as soon as possible, arrangements made for the immediate transportation of specimens, and the laboratory alerted to test the specimens immediately upon arrival in order to shorten the time between onset
and test results.

2.1.6 Laboratories should immediately notify the programme when any poliovirus is isolated and refer it within 14 days for ITD and genomic sequencing.

2.2 Rapid investigation of importation

Any wild poliovirus isolation should lead to an immediate investigation. A full clinical, epidemiological and virological investigation should be initiated immediately to determine the source of the virus. Case investigation should include the collection of all relevant travel and contact/exposure history and other relevant information and epidemiological data needed to establish whether the individual came in contact with the virus in a polio-endemic country. Specimens should also be collected from contacts and all wild polioviruses should be submitted to a WHO-accredited specialized laboratory to assist with determination of the geographical origin of the virus through genetic sequencing. Surveillance quality and vaccination coverage in the area should be assessed.

After thorough investigation cases must be classified as imported or indigenous. If the genomic sequence data show that the virus is closely related to that of another country, and
this finding is consistent with epidemiological data, the virus can be considered an importation. If sequence data shows that the virus was not detected before or is related to viruses circulating both previously in the country and in other countries, the virus should be considered indigenous unless there is convincing epidemiological evidence to the contrary and good surveillance exists in the local area.

### 2.3 Enhanced surveillance

Detection of a confirmed polio case in a polio-free country should be followed immediately by enhanced surveillance for AFP and polioviruses to:

- Ensure that it is not a reflection of missed ongoing indigenous transmission through checking the quality of surveillance, including active retrospective searching for cases and re-testing of specimens.

- Exclude re-establishment of virus circulation due to importation through active searching for cases and widening surveillance activities to include contacts.

- Determine the extent of virus circulation and the impact of control measures.
The following actions should be conducted.

2.3.1 Immediate notification of WHO, other international partners and neighbouring countries.

2.3.2 Immediate call on the group of experts established for preparedness and response to importation to advise and coordinate activities nationwide.

2.3.3 Immediate notification by telephone, to all provincial surveillance units and major hospitals nationally to inform staff that an imported wild poliovirus has been detected, and to alert staff of the possibility of further cases. Provinces must remind all districts/second administrative unit that 100% timely and complete active surveillance reports, including zero reports, are required from every district without exception. Full information should be provided on names, addresses, telephone, fax and e-mail numbers of the responsible persons in the Ministry of Health. The details of proper case investigation and stool collection should be emphasized.

2.3.4 Provincial and national staffs begin immediate enhanced active surveillance
by visiting all districts surrounding the case and the AFP sites within that province to conduct active searches for unreported AFP cases.

2.3.5 Collection of stool specimens from household and school contacts of the case before giving OPV.

2.3.6 Typing all enteroviruses isolated in virological laboratories and submitting all poliovirus isolates for intratypic differentiation

2.3.7 Monitoring of reports at national/provincial level:

- daily reports to provinces from districts surrounding case

- weekly reports from all provinces by telephone—provincial reports must include all districts

- weekly review of situation by experts using mapping and other means of documenting the functioning of surveillance.

2.4 Immunization response

Any importation of wild poliovirus should be followed by an immediate *large-scale* supple-
mentary immunization response. This would require availability of stockpile of OPV vaccine. The target population and magnitude of immunization response should be determined by:

- evidence of ongoing transmission
- extent of circulation
- local versus distant importation
- general population versus under-vaccinated minority group
- potential for widespread transmission: in areas with poor sanitation, urban overcrowding and areas with low immunization coverage the potential for rapid spread of poliovirus is high.

Immunization activities need to be widespread in order to stop transmission. Limited response could result in a national disaster. In general the following steps will be required:

2.4.1 An emergency meeting of national and international experts should be convened to decide on the response according to the local situation.

2.4.2 Immediate large scale two rounds of supplementary immunization for all
children under 5 years of age in an area equivalent to at least one province/first administrative unit (i.e. several districts surrounding the case) should be conducted. Immunization of the contacts of the case should be done after collection of stool specimen if necessary.

2.4.3 Detailed planning, including targeting of high-risk groups and house-to-house approaches should be used.

2.4.4 If secondary spread has occurred, the magnitude of the immunization response should be increased to several provinces or countrywide in small countries.

2.4.5 If a border area is involved, the neighbouring country must be notified immediately, through WHO, followed by cross-border coordination in supplementary immunization between the countries concerned.

2.5 Documentation of cessation of transmission

An equally important part of the response to imported wild poliovirus is the documentation of the interruption of transmission of wild poliovirus.
Enhanced surveillance must be maintained for a period of at least 12 months after the last wild poliovirus associated case is detected.

Countries must maintain enhanced surveillance through the existing AFP and virological systems. In addition, supplementary surveillance activities such as stool and/or environmental surveys may be needed to confirm cessation of transmission.

As the detection of any wild poliovirus is considered a national emergency, detailed and comprehensive documentation is required to describe the epidemiological background, findings of case investigation and surveys including laboratory results, description of immunization response and results of enhanced surveillance.

The report should be completed in close coordination of all national and international experts involved.

These reports should be included in the country documentation expected to be submitted by the National certification committee to the Regional Certification Commission.

In addition, a national plan indicating preparedness to detect and respond to importation is a prerequisite to be included in the national docu-
mentation for certification.

It is to be noted that if virus circulation continues in the country 6 months after its introduction, the country should be considered endemic.
Annex

ELEMENTS OF A NATIONAL PLAN

1. **Goal:**
To maintain polio-free status

2. **General objective:**
Preparedness for effective response to wild poliovirus importation

3. **Specific objectives:**
   - early detection
   - appropriate containment of wild polio virus importation.

4. **Identification of importation risk:**
Risks of both distant and cross border importation should be quantified.

5. **Identification of high-risk areas and populations:**
A list of areas and populations at high-risk of importation or its spread should be prepared. The list should include:
   - areas bordering endemic countries
areas with low population immunity due to low routine or supplementary immunization coverage or areas with high influx of susceptibles

minority groups

refugee camps/Internally displaced population (IDP).

6. **Strengthening surveillance activities and performance in border areas/high-risk areas/high-risk populations:**

- Performance Indicators should be monitored: non-polio AFP rate, percentage of cases with adequate stools, completeness and timeliness of reporting and zero reporting.

- Active surveillance should be established in these areas with monitoring of active surveillance visits.

- Training should be organized for the local officers responsible for surveillance.

- Supervision should be intensified with close monitoring from the central level.
The plan and schedule of supervisory visits should be included.

- The plan should include the definition used for a hot AFP case and action to betaken in response to these cases (circulars issued to surveillance and laboratory staff should be included).

7. **Measures taken to ensure high population immunity in border areas/high-risk areas/high-risk populations:**

- Table for routine immunization coverage in these areas with ongoing analysis

- Ongoing activities for strengthening routine immunization in these areas (e.g. social mobilization, outreach and mobile vaccine delivery strategies, acceleration campaigns)

- Plan for supplementary immunization activities

- Coverage data for supplementary immunization activities and analysis.
8. Nomination of a group of experts for preparedness for and response to importation:

A group of experts and high-level officials should be identified in advance. Should any incident of importation occur, this group would meet immediately to decide on the response and coordinate the planned activities. The list of experts with their titles and contact information should be included in the plan. The composition of this group of experts is similar to the national expert committee for classification of AFP cases, as it should include:

- expert epidemiologist
- virologist
- senior paediatric neurologist.

However, it should as well include a communication/social mobilization expert and be headed by a senior Ministry of Health decision-maker. It is possible to expand the composition of the National Expert Committee for this purpose.
9. **Response to wild virus isolation:**
In line with the guidelines, the plan should include:

- protocol for case and area investigation
- plan for enhancement of surveillance
- scope and intensity of immunization response
- communication pathways for sharing information within and outside the country.

10. **Required documentation:**
The list of information and documents needed to document the event and to prove containment of wild virus spread should be specified and listed. This should include:

- detailed epidemiological, clinical and virological data
- data on surveillance analysis and quality
- surveillance response
- immunization response.