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Control Measures for a Poliomyelitis Outbreak Due to Wild and Vaccine Derived Poliovirus Strains in Nepal

I. Purpose

This paper delineates the plan of the Child Health Division, Department of Health Services for controlling an outbreak of wild type and vaccine derived poliomyelitis in Nepal. The objective of the plan is to reduce the polio susceptible population in and around an index or cluster of poliomyelitis cases. The plan is limited to poliomyelitis cases associated with wild poliovirus strains and cases arising from vaccine derived strains (VDPV).

In this paper, current surveillance activities for poliomyelitis cases and the relevant epidemiological features of poliomyelitis in Nepal are described. Subsequently, the definition of a poliomyelitis outbreak is given and the steps taken in response to the outbreak as well as the responsibilities of staff are described.

II. Surveillance of Poliomyelitis in Nepal

The detection of a poliomyelitis outbreak requires effective surveillance methods. Detection of poliomyelitis cases is conducted throughout the 75 districts of Nepal using active and non-active case detection. For active case detection, 10 Surveillance Medical Officers (SMOs) cover 82 health facilities and hospitals distributed throughout Nepal. Visits are conducted weekly to each active surveillance site for the purpose of detecting cases of acute flaccid paralysis (AFP). During the visit, the SMO reviews outpatient and inpatient hospital registers and interviews medical staff about incident AFP cases. For passive surveillance, 410 (as of 2006) weekly zero reporting sites are enrolled. A report is made from each reporting site every week even if no cases of AFP are detected (Zero reporting) to an SMO via email, fax, post, or hand carried. Each case of AFP reported from both active or passive surveillance is clinically evaluated by a SMO and two stool specimens are obtained for isolation of wild poliovirus. .

III. Outbreak Definitions

The identification of an outbreak will trigger control measures. For this plan, an outbreak of poliomyelitis due to wild type strains or vaccine–derived poliovirus (VDPV) will be classified as confirmed [1]. A confirmed outbreak is defined as:

- One or more cases of acute flaccid paralysis with isolation of wild poliovirus or vaccine-derived poliovirus (VDPV).

A suspected outbreak of poliomyelitis is defined as:

- A cluster (i.e., two or more) of AFP cases, classified as polio-compatible or vaccine derived poliovirus by the National Expert Review Committee, which occurred within a two-month period in the same or adjacent districts.
- A cluster of AFP cases strongly suggestive of clinical polio with onset in the same or adjacent districts within a two-month period. A "strongly suggestive case" is likely to be less than five years old, fever at onset, asymmetrical paralysis and incomplete vaccinated children. [2].

In case of suspected outbreak, a full and rapid investigation of the situation will be carried out within 48 hours of identification of suspected outbreak.

IV. Responsive Control Measures

Control measures include increased immunization activities with oral polio vaccine (OPV) and enhanced surveillance.

1. Preparation for Outbreak Response

- A National Task Force has been formed by the Ministry of Health (MoH) and has the responsible for all decisions regarding outbreak control measures including monitoring surveillance activities. Each member of the task force will be notified of his or her membership and responsibilities in the event of a wild-type poliomyelitis outbreak.
- Child Health Division and Logistics Management Division of the Department of Health Service, MoH with assistance from United Nations Children's Fund (UNICEF) and the World Health Organization (WHO) will insure that sufficient quantities of oral polio vaccine will be available for a poliomyelitis outbreak.
- The MoH/DHS with its development partners will insure that sufficient funds are available for the implementation of control measures and enhanced surveillance activities.

2. Outbreak Surveillance

- It will be the responsibility of the SMO/IPD to make a confidential report of a poliomyelitis outbreak to the Technical Officer for the Expanded Program on Immunization (TO-EPI) of the WHO Nepal. The TO-EPI will report the outbreak to the Director, Child Health Division, Department of Health Services, MoH and to the WHO Representative in Nepal. An outbreak report should include the name, age, gender, OPV immunization status, findings of clinical examinations, and other relevant information that lead the SMO to make the outbreak report.

- The National task Force will be convened and review the report of an outbreak and classify the outbreak as confirmed or suspected. The committee will then recommend the immunization response and enhanced surveillance activities.

3. Immunization Response

- Within fourteen days of identifying an outbreak, a mop-up (i.e., house-to-house and child-to-child) targeting all children less than five years of age will begin in the affected districts, reaching a minimum of 2-5 million children.
- If the outbreak occurs in a single district, it is advised that the children in the district in which the outbreak occurred and all surrounding districts will receive oral polio vaccine (OPV). Three rounds of immunization response will be conducted with a type specific OPV to the outbreak strain of the poliovirus. Second and third immunization round will be conducted four to six weeks apart from each round. If the outbreak occurs in a large, sparsely populated region (i.e., Mustang), then half the district closest to the outbreak may be immunized. The decision to immunize less than a whole district will be taken by the National Task Force taking into consideration OPV coverage in the district at the time of the outbreak.
- If a poliomyelitis case was found to have traveled or resided in more than one district during the 30 days before until the 30 days after disease onset (i.e., period of communicability), then it is advised that mop-up will occur in all districts in which the case traveled and all districts surrounding them. The final decision on the total number of districts to be covered by OPV will be made by the National Task Force. Second and third immunization round will be conducted four to six weeks apart from each round.
- The campaign will be the responsibility of the CHD, DHS, RHD and the District Health/Public Health Offices (DHO/DPHO) in coordination with IPD, UNICEF team and directed by the National Task Force. Mop-up may not take place if Supplementary Immunization Activities occurred in the area of the outbreak 14 days before the outbreak. If a national or supplementary immunization day is planned within 14 days of the outbreak then mop-up will replace that immunization activity in the area of the outbreak.
- If the outbreak is in a village adjacent to communities in India, IPD-WHO, Nepal, through SEARO, will notify National Polio Surveillance Project- WHO India of the event. MoH will arrange cross-border coordination with Indian counterparts with assistance from WHO Nepal and Southeast Asian Region Office (SEARO) of WHO.
- Responsive mop-up immunizations will be carried out after micro planning and with intense supervision and monitoring at each Village Development Committee by CHD, RHD, DHOs and IPD.
- To insure successful implementation of mop-up, community leaders at the regional and district level will be notified of the outbreak by the Regional Health Directorate and District Health Officers of the concerned districts.

4. Enhanced Surveillance

- During the outbreak, the National Task Force will review surveillance data for assessing response impact.
- Notification of all district health personnel by MoH/DHS/CHD and WHO of the detected outbreak and alert them of the potential of new case.
- SMO along with health staff will visit all active and non-active surveillance sites for the identification of new AFP cases and to inform site personnel of the outbreak, outbreak response, and importance of surveillance for putative polio cases.

Membership of National Task Force for responding to importation of wild poliovirus or VDPV in Nepal:

Chairperson

1. Director General, Department of Health Services

Member Secretary:

2. EPI Chief, Child Health Division

Members

3. Director, Child Health Division
4. WHO Representative, Nepal
5. Chief Health Section, UNICEF, Nepal
6. Chairman, Rotary International, Nepal
7. Advisor, Health Section, USAID, Nepal
8. Assistant Resident Representative, JICA, Nepal
9. TO, WHO-IPD

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