

**RESPONDING TO
A SUSPECTED
POLIO OUTBREAK:**

**CASE INVESTIGATION,
SURVEILLANCE AND CONTROL**

A MANAGER'S CHECKLIST



Expanded Programme
on Immunization



World Health Organization
Geneva, 1991

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TABLE OF CONTENTS

Introduction	5
Planning	7
Resources	9
Phase 1: First Alert	11
Phase 2: Preliminary Case Investigation	15
Phase 3: Mobilization	19
Phase 4: Outbreak Response	23
Phase 5: Post-Outbreak Activities	27
Annex A: Investigation and Other Record-keeping Forms	29
<i>Poliomyelitis Case Investigation Forms</i>	30
<i>Line List of Suspected Polio Cases</i>	35
<i>Example of a Time Graph</i>	36
<i>Example of a Specimen Label</i>	36
<i>Case Laboratory Report Form</i>	37
<i>Polio Outbreak Control Summary Form</i>	38
Annex B: Supplies and Equipment	41
Annex C: Evaluation Outbreak Performance	45

INTRODUCTION

This checklist is intended for managers who are responsible for the investigation and control of suspected polio outbreaks in countries in advanced stages of polio eradication. It assumes that the policy of the government is to investigate all reported cases of polio and, if even one case of polio is suspected, to initiate control measures.

Outbreak managers using this manual may work at the national, regional, or district level, depending upon where the government has placed primary responsibility for outbreak investigation and control. At whichever level operational responsibility lies, the tasks outlined in this checklist are applicable.

The checklist is divided into the following sections:

- Planning: Building system capacity for outbreak response.
- Phase 1: First Alert – receipt of reports of suspected cases.
- Phase 2: Preliminary Case Investigation – examination of patients; determination whether cases meet official standard case definition.
- Phase 3: Mobilization – preparation for outbreak response.
- Phase 4: Outbreak Response – continued case investigation, immunization, and intensive surveillance.
- Phase 5: Post-Outbreak Activities – completion of field work, confirmation of diagnosis, evaluation, and reporting.

Review this document with your colleagues and supervisors as soon as possible. Compare it with your country's outbreak control policy. Cross off activities that do not apply, and add procedures that the policy requires.

During an outbreak, use the checklist as a management tool. Write notes of things to do, actions to follow up, or recommendations in the Notes sections. Check actions off as you complete them.

After an outbreak, the checklist can be used as a source of information for your final report.

PLANNING

A quick response to a possible outbreak of polio is possible only if preparations have been made in advance. These preparations should include the tasks described below.

1. Make sure that your *surveillance system* has the capacity to report possible polio cases as soon as they are identified.
2. *Appoint outbreak managers.* Outbreak managers must be able to identify, mobilize, and keep track of the human and other resources needed during an outbreak and to coordinate responses among health facilities and agencies. In different countries this could mean that an outbreak manager might serve at the district, regional, or central level.

Outbreak management should be considered a full-time responsibility during outbreaks involving more than a few cases. At other times, the manager should be planning for the next one and making sure that the response system is in a state of readiness, but this usually will not be a full-time job.

Outbreak managers must have the authority to make decisions and initiate action. They should be skilled in:

- Public health management
- Outbreak investigation
- Expanded Programme on Immunization activities
- Epidemiology

They can begin fulfilling their planning responsibilities by carrying out the tasks below.

3. *Establish an Expert Review Committee* that meets three or four times a year to make a final diagnosis on each case reported during the preceding period. The six to ten committee members should include epidemiologists, neurologists, pediatricians, laboratory scientists, and other appropriate specialists insofar as these are available and can commit the necessary time.

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4. *Prepare an inventory of resources and keep it up to date.* The inventory should include:
 - a. *Personnel.* Prepare a directory of addresses, telephone numbers, and, if necessary, directions for locating key personnel, such as epidemiologists and clinicians (preferably neurologists and pediatricians) for case investigations.
Make, and periodically update, lists of health centre staff for finding team members for control and surveillance activities.
 - b. *Treatment and rehabilitation facilities* for case investigators and others to refer patients and for intensive surveillance activities.
 - c. *Laboratory facilities* and their requirements for collecting, storing, and shipping specimens. (See the *Manual for the Virological Investigation of Poliomyelitis*)
 - d. *Sources of emergency supplies of vaccines and equipment.*
 - e. *Sources of emergency transport and fuel.*
 - f. *Communication facilities* between health centres, between health centres and districts, between districts, and other entities in the government health system.
 - g. *Sources of emergency communication facilities.*
 5. *Reproduce and package forms* that are needed for reporting and other purposes during an outbreak. (See Annex A.)
Package supplies, such as office and shipping supplies, for immediate access during an outbreak.
 6. *Make arrangements for gaining quick access to funds* for travel allowances, fuel, and other needs of outbreak control staff.
 7. *Establish relationships with emergency preparedness, disaster relief, and other agencies* that may assist in an outbreak.
 8. *Train staff in how to respond to an outbreak.* Such training might include:
 - Identifying the signs and symptoms of polio; the official standard case definition.
 - Determining strategies for case investigation, outbreak control, and special surveillance.
 - Developing laboratory investigation skills.
 - Developing skills in interviewing patients and making differential diagnoses.
 9. *Establish an early warning system for reporting suspect polio cases.* See Phase 1.

RESOURCES

Immunization in Practice: A Guide for Health Workers who Give Vaccines, World Health Organization, Oxford University Press, 1989.

Manual for Immunization Programme Managers on Activities Related to Polio Eradication, Expanded Programme on Immunization, World Health Organization, Geneva, 1989.

Manual for the Virological Investigation of Poliomyelitis, Expanded Programme on Immunization and Division of Communicable Diseases, World Health Organization, Geneva, 1990.

PHASE 1: FIRST ALERT

While quick action is important in all cases of communicable and epidemic disease, it is particularly so in countries where the target disease, such as polio, is close to eradication. In such countries, health workers, private practitioners, community leaders, and others should watch for any unusual occurrence of disease and report it immediately to the authorities. Under these circumstances, even one suspect case of polio should trigger an outbreak investigation.

ACTION	TICK WHEN DONE
<hr/> The outbreak manager should: <hr/>	
1. As soon as a report of a polio case is received, contact the person who made the report, by telephone if possible or by sending local health personnel, to collect the information listed below.	<hr/>
2. Interview the person who made the report and record the following information, to the extent that it is available, on a Case Investigation Form. (See Annex A.)	
a. Source of Report. Name, job title, and location of the person who saw the patient and made the preliminary diagnosis.	<hr/>
b. Case Identification. Name, permanent address, age, and sex of the patient. Present location of the patient. (Obtain directions or a map to the place if it is difficult to find.).	<hr/>
c. Signs and Symptoms. Date of onset of symptoms.	<hr/> <hr/>
d. Immunization History.	<hr/>
e. Preliminary Clinical Classification.	<hr/>
f. Travel and Contact History. Patient's location at time of onset of paralysis and during the period 28 days prior to the onset.	<hr/>

-
3. If the diagnosis was made by a health care worker who is not a physician or if for any reason you doubt its accuracy, have the patient checked by the most experienced physician available. The official standard case definition of polio should be used for the diagnosis. _____

The case definition recommended by WHO is:

A case of poliomyelitis is defined as any patient with acute flaccid paralysis (including any child less than 5 years of age diagnosed to have Guillian Barre syndrome) for which no other cause can be identified.

4. Begin a Line List of suspect cases of polio if there is more than one case. (See Annex A.) _____

A line list is a single listing of all investigated cases that helps the outbreak manager calculate age and sex distribution, geographic distribution, and severity and outcome of cases.

5. Find out from health authorities and community representatives in neighboring areas whether suspect cases of polio are being seen. If so, include these cases in the investigation plan below. _____
6. Make a preliminary case investigation plan. The plan should:
 - a. Identify the cases that will be investigated, by patient name, parents' name, and location (including directions to the patient's home, if necessary). _____
 - b. Name the experienced clinician/s (and epidemiologist/s, if available) who will investigate reported cases. The number of clinician-epidemiologist teams will depend on the number and location of cases and the availability of skilled personnel. _____
 - c. Describe arrangements for transport and logistical support. _____
 - d. List the supplies and equipment needed for case investigation. (See Annex B.) _____
7. Consult by telephone with the local health centre/s in the affected area, and:
 - a. Discuss the investigation plan. _____
 - b. Arrange for local staff assistance. _____
 - c. Arrange for logistical support. _____

All of these actions should be taken in a matter of HOURS. An investigation team should be on site within 24 hours after receiving the first report of a case.

NOTES

PHASE 2: PRELIMINARY CASE INVESTIGATION

The purpose of the preliminary case investigation is to have an experienced clinician determine whether a suspect case of polio exists by examining the patient with acute flaccid paralysis. Case investigation by an experienced clinician assures you that your commitment of resources for control is being based on a reliable diagnosis.

Case investigations should be carried out by clinicians with experience in diagnosing polio and also, when possible, by epidemiologists. Names and locations of specialists who are willing to participate should be listed in a directory maintained for the outbreak manager.

The manager's task is to make sure that case investigation teams follow the steps below.

ACTION

**TICK
WHEN DONE**

Upon arrival in the area, the case investigation team should:

1. Meet with local health centre staff to describe the preliminary case investigation plan _____
2. Make sure that community leaders and local authorities have been notified about the investigation. _____
3. Find out whether other cases of suspected polio have been identified. _____
4. Examine each patient and confirm and complete the clinical information on the patient's Case Investigation Form. _____
5. Using the official standard case definition, decide whether the initial diagnosis of polio is still valid. For example, polio can be ruled out immediately if the patient's paralysis is due to trauma. _____

(Final confirmation of a suspect case as polio may not be possible until the completion of laboratory tests.)
6. Report at least daily to the outbreak manager.

If the initial diagnosis of polio has not been ruled out at this point, the outbreak manager must now authorize the continuation of case investigations and the implementation of control measures.

If the outbreak manager makes a decision to continue, the case investigation team should:

7. Collect and ship stool specimens for laboratory analysis. _____
The team should:
- a. Collect a stool specimen in a clean container, and seal it tightly.
 - b. Label specimen with patient's name, EPI number, and date of collection. (See Annex A.)
 - c. Prepare a Case Laboratory Report Form. (See Annex A.)
 - d. If necessary before shipping, store specimen in refrigerator at 0°C to +8°C.
 - e. Ship in insulated box with cold packs, accompanied by Case Laboratory Report Form.

Your country's policies will tell you whether you must collect specimens from every patient or from a representative sample only.

8. Arrange for treatment and/or rehabilitation of patients, as needed. _____
9. Arrange for the collection of a second stool specimen (approximately 48 hours after the first). _____
10. Arrange for follow-up physical examinations after 60 days for patients still classified as suspected polio cases. _____
11. Review immunization coverage in communities where suspected cases are located by examining health facility Immunization Registers. The purposes of this review are: 1) to determine whether a third round of OPV vaccinations is advisable, and 2) to investigate the possible cause of the disease. This may also be done by immunization teams after the first round of immunizations. _____
12. Carry out a rapid assessment of the cold chain by reviewing temperature monitoring records in local health centres. _____
13. Report daily, if possible, to the outbreak manager who will use the information to plan immunization, surveillance, and continued investigation. _____

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14. Submit Case Investigation Forms to the outbreak manager for completion when laboratory and case follow-up data become available. _____
 15. Assist outbreak manager in:
 - a. Beginning a Time Graph (Annex A), showing cases by day or week of onset of paralysis. _____
 - b. Marking the location of cases on a district, regional, or national map to show their geographic distribution. _____
 - c. Maintaining a Line List of all cases. _____

Ideally, each case will be investigated within 48 hours after it is reported. This means examining the patient, deciding whether the case is still one of suspected polio, collecting and shipping at least one stool specimen if necessary, and recording data on the appropriate forms.

NOTES

PHASE 3: MOBILIZATION

As soon as the investigation team validates that the case that they have seen is a suspected polio case, outbreak control measures should be initiated. (Do not wait for laboratory confirmation, as this may take some time.) The outbreak manager must now act quickly to mobilize resources for immunizing the target population, intensifying surveillance, and continuing case investigations.

ACTION

TICK
WHEN DONE

The outbreak manager should:

1. Decide:

- a. What age range will be targeted for OPV immunization during the control effort, and what the approximate size of this target population is. _____

Usually, all children from 0 to 5 years within a given geographical area should be given OPV in two rounds, 30 days apart, *regardless* of the number of doses of OPV they may have received before the outbreak.

Older children may be included if cases are occurring in their age group and resources are adequate.

- b. What geographical area will be covered by intensive immunization activities. _____

At the least, this area will be the village or ward in which the case or cases occurred and a ring of contiguous geographical areas around these places. However, it could also include places that patients visited in the 28-day period before the onset of paralysis or where cases have occurred in the recent past. Outbreak control immunization can even be nation-wide.

- c. The area to be actively searched for additional cases. _____

This area will be approximately the same as that selected for intensive immunization activities. The search might even extend beyond national borders.

-
- d. After the first round of OPV, whether other antigens should be administered in subsequent rounds and, if so, which antigens and to which age groups. _____
National policy may address this issue. If not, the decision should be based on the availability of human and material resources and past immunization coverage in the area.
 - e. Whether vaccine/s should be administered house-to-house or at collection points or both. _____
2. Determine strategies for immunizing and intensifying surveillance. These strategies may include, but not be limited to: _____
- a. Meeting with community leaders and requesting their assistance in searching for additional cases and mobilizing the target population for immunizations.
 - b. Identifying specific locations where populations might be susceptible, such as previous low coverage areas and socio-economically deprived urban areas, to be searched and targeted for immunizations.
 - c. Visiting health facilities that are likely to see cases of acute flaccid paralysis to review records and examine patients.
 - d. In schools, on radio and television, at community meetings, etc., asking people whose children have had a recent onset of lameness to bring them for examination.
3. Estimate needs for: _____
- a. Supplies and materials, including forms, vaccines, cold chain equipment, and specimen collection materials. (See Annex B). _____
(If other antigens are being administered in the second round, you will need even more equipment.)
 - b. Transport, including vehicles, fuel, and drivers. _____
 - c. Staff for immunizing, searching for cases, and investigating cases. _____
4. Contact local health centres and confirm the availability of vaccines, supplies, transport, and staff for outbreak response. _____
5. Initiate action needed to procure, ship, and distribute supplies and equipment. _____
6. Designate team members for immunization, case investigation and special surveillance teams and designate their geographic areas of responsibility. _____

-
7. Designate individual responsibilities, including, but not limited to:
 - a. Coordinating communication among teams and team members.
 - b. Managing supplies, vaccine storage and distribution.
 - c. Record-keeping – monitoring the collection and recording of data, compiling reports.
 - d. Relating with the press and other media.
(This may be handled by a different department in the government.)
 8. Outline a concise plan describing strategies, activities, staffing, and target dates. _____
 9. Distribute the outline to outbreak team members and appropriate authorities. _____

NOTES

PHASE 4: OUTBREAK RESPONSE

Whenever suspect polio cases are identified, the response must be prompt. In countries where the incidence of polio is low, the response must be extensive as well. This means that all children in epidemiologically, geographically, and age-appropriate groups should receive oral polio vaccine as quickly as possible and that an active search should be made for additional cases.

The outbreak manager's role during this phase is to coordinate, communicate, and monitor, and to remedy problems.

ACTION	TICK WHEN DONE
First, the outbreak manager should:	
1. Request the advise and assistance of community leaders in the affected area, and complete the outbreak control plan.	_____
2. Ask the appropriate person in the government to inform leaders in neighboring areas about the outbreak and the actions being taken.	_____
3. Brief the teams. Explain the plan. Describe the lines of communication.	_____

The outbreak manager should carry out the actions below continuously through the duration of the outbreak.

4. Monitor implementation by means of:
 - a. Telephone calls (or telex) with team leaders, preferably daily, but at least weekly.
 - b. On-site visits.
 - c. Review of records, e.g., Case Investigation Forms.

5. Make sure that **Outbreak Response Teams** are:

5.1 **For general activities:**

- a. Coordinating with health and other authorities in the areas in which control activities are taking place.
- b. Reporting to the outbreak manager and other authorities as appropriate.
- c. Maintaining an adequate amount of supplies.

5.2 **For immunization activities :**

- a. Maintaining and preparing vaccines properly.
- b. Giving the vaccine correctly.
- c. Recording immunizations on children's immunization cards and in the health facility's immunization register, if possible.
- d. Keeping a tally sheet for use in compiling the Polio Outbreak Control Summary Form (Annex A).
- e. Telling parents what the immunization is for; and asking whether they know of any children who have had a recent onset of lameness. Also, advising parents that their child or children must have a second dose of OPV in 30 days.
- f. Arranging to return for the second OPV round.

5.3 **For case investigation activities :**

- a. Determining whether cases conform to the official standard case definition.
- b. Correctly recording information on the Case Investigation Forms.
- c. Collecting two stool specimens approximately 48 hours apart and sending them for laboratory analysis.
- d. As appropriate, arranging for treatment and/or rehabilitation of patients.
- e. Arranging to conduct a second clinical examination of each patient still suspected of having polio, 60 days after onset.

5.4 **For surveillance activities :**

- a. Searching areas near those with known cases or as epidemiologically indicated.
- b. Searching health facilities where polio cases are likely to be seen.
- c. Teaching community members how to recognize and report cases of illness that might be polio.

-
- d. Keeping careful notes on what areas were searched and what the findings (including zero cases) were.
 - e. Reporting *at least weekly* on the areas searched and the findings.
6. Monitor progress toward targets in terms of the number of children immunized and number of possible cases investigated.
 7. Summarize information received from the teams on the Line List, Time Graph, and Case Map.
 8. Meet, at least once a week, with teams, community leaders.
 9. Report, as required, to headquarters.

NOTES

PHASE 5: POST-OUTBREAK ACTIVITIES

After an outbreak, actions must be taken to complete the field work, to evaluate and report on performance, and to plan strategies for reducing the possibility of future outbreaks.

ACTION	TICK WHEN DONE
1. Set up a system to continue intensive surveillance in the area for at least 60 days after the last known case was reported.	_____
2. Have an experienced clinician conduct a second examination of each patient classified as a suspected case of polio, 60 days after the onset of paralysis. Record the data on the patient's Case Investigation Form.	_____
3. After clinical and laboratory data are complete, provide them to the Expert Review Committee for final diagnosis of the cases and their classification as vaccine-associated or wild virus.	_____
As countries reach zero levels of polio incidence, it will become increasingly important for them to distinguish between vaccine-associated and wild, and between indigenous and imported viruses.	
4. Determine whether the cause of the outbreak might be low coverage, low vaccine efficacy, or a problem in the operation of the cold chain.	_____
5. Evaluate the outbreak response. (Some indicators are suggested in Annex C.)	_____
6. Complete the Polio Outbreak Control Summary Form. (Annex A)	_____

-
7. Prepare reports for central, regional, district, and local health officials, community leaders, and others required by the government. The report should include:
 - a. Description of the outbreak (how, when, by whom it was discovered and reported)
 - b. Cause of the outbreak
 - c. Surveillance measures taken
 - d. Control measures taken
 - e. Problems encountered; solutions tried
 - f. Conclusions and recommendations
 8. Plan to improve outbreak response and to reduce the possibility of future outbreaks.
-

NOTES

ANNEX A: INVESTIGATION AND OTHER RECORD-KEEPING FORMS

Poliomyelitis Case Investigation Form

Line List of Suspected Polio Cases

Example of a Time Graph

Example of a Specimen Label

Case Laboratory Report Form

Polio Outbreak Control Summary Form

Poliomyelitis Case Investigation Form

Country: _____ Year: _____

SOURCE OF REPORT:

Date reported: _____ Person reporting case: _____

Name and address of institution: _____

Telephone number: _____

CASE IDENTIFICATION:

Name: _____ Sex: _____

Date of birth: _____ Age at onset of symptoms: _____

Present address: _____

Village/city: _____ District/county: _____ State/Province: _____

Permanent address: _____

Village/city: _____ District/county: _____ State/Province: _____

Mother's name: _____ Father's name: _____

HOSPITALIZATION:

Hospitalized? yes__ no__ Name of hospital: _____ Medical record no: _____

Date Hospitalized: ___/___/___ Address: _____

SIGNS AND SYMPTOMS:

Date of onset of symptoms: ___/___/___

	yes	no	unk		yes	no	unk		yes	no	unk
fever	___	___	___	headache	___	___	___	sore throat	___	___	___
constipation	___	___	___	nausea	___	___	___	irritability	___	___	___
coryza	___	___	___	stiff neck	___	___	___	vomiting	___	___	___
muscle pains	___	___	___	weakness	___	___	___	rigidness	___	___	___
diarrhea	___	___	___								

Date of onset of paralysis/paresthesias: ___/___/___

Fever present at onset of paralysis? yes__ no__ If yes _____ degrees

	yes	no	unk
paralysis	___	___	___
flaccid	___	___	___
asymmetrical	___	___	___
sudden onset	___	___	___
sensation loss	___	___	___

SITE OF PARALYSIS:

left leg	___	respiratory muscles	___
left arm	___	face	___
right leg	___	other cranial nerves	___
right arm	___		

SITE OF PARESTHESIA:

left leg	___	right leg	___
left arm	___	right arm	___

Kernig or Brudzinski sign? yes__ no__ unk__

Babinski? yes__ no__ unk__

IMMUNIZATION HISTORY

Usual Immunization Clinic: _____

	yes no unk			imm. card		date of immunization		
	yes	no	unk	yes	no	day	/month	/year
OPV zero	—	—	—	—	—	—	—	—
OPV 1	—	—	—	—	—	—	—	—
OPV 2	—	—	—	—	—	—	—	—
OPV 3	—	—	—	—	—	—	—	—
OPV 4	—	—	—	—	—	—	—	—

PRELIMINARY CLINICAL CLASSIFICATION:

Discarded Case: _____ Probable Case: _____ If not polio, give final diagnosis and comments below.

Date ____/____/____

Comments:

TRAVEL AND CONTACT HISTORY:

Indicate all places outside present village/city (including other countries) visited by the patient 28 days prior to onset of paralysis/paresthesia.

Location	Person(s) visited	Date visited
_____	_____	____/____/____ to ____/____/____
_____	_____	____/____/____ to ____/____/____
_____	_____	____/____/____ to ____/____/____
_____	_____	____/____/____ to ____/____/____
_____	_____	____/____/____ to ____/____/____
_____	_____	____/____/____ to ____/____/____
_____	_____	____/____/____ to ____/____/____
_____	_____	____/____/____ to ____/____/____

Did the case come in direct contact with another household or close contact who was immunized within 75 days before paralysis/paresthesia? yes__ no__ unk__

Name	Address	Date immunized
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LABORATORY DATA:

Name of laboratory: _____

Address: _____ Country: _____

Virus isolation studies:

	date collected from patient	date sent to lab	date of lab result	polio virus isolated			other (specify)
				type 1	type 2	type 3	
Faeces/Swab 1	___/___/___	___/___/___	___/___/___	___	___	___	_____
Faeces/Swab 2	___/___/___	___/___/___	___/___/___	___	___	___	_____
Other _____	___/___/___	___/___/___	___/___/___	___	___	___	_____

Serologic studies:

	date collected from patient	date sent to lab	date of lab result	neutralization titer			other (specify)
				type 1	type 2	type 3	
Blood Sample:							
S1	___/___/___	___/___/___	___/___/___	___	___	___	_____
S2	___/___/___	___/___/___	___/___/___	___	___	___	_____
S3	___/___/___	___/___/___	___/___/___	___	___	___	_____

Interpretation: _____

CSF (Cerebrospinal Fluid):

date	red cells	white cells	% lymphocytes	glucose	protein
___/___/___	_____	_____	_____	_____	_____
___/___/___	_____	_____	_____	_____	_____
___/___/___	_____	_____	_____	_____	_____

Poliovirus strain characterization results:

Poliovirus type	Strain characterization method	Results
_____	_____	_____
_____	_____	_____
_____	_____	_____

Other results and/or comments: _____

Autopsy? yes ___ no ___ **Pathology laboratory:** _____

material	date collected	date sent	date of result	histopathology result (attach report)
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

CASE FOLLOW-UP

Was case seen 60 days after onset of paralysis? yes__ date ___/___/___ no__

If no, why not? _____

Paralysis:

Paralysis present at 60 days or later? yes__ no__

If yes, check site of paralysis:

left leg ___ respiratory muscles ___

left arm ___ face ___

right leg ___ other cranial nerves ___

right arm ___

Disability:

cannot walk ___ walks with assistance ___

limbs ___ walks normally ___ other _____

Did case die? yes__ date _____ no__ If yes, give details: _____

Report of neurologist:

(attach if available, including electrodiagnostic results)

Summary of neurologist's report, including final diagnosis: _____

Date ___/___/___ Name of reporting physician _____ Neurologist? yes__ no__

CONTROL MEASURES

(Include the date started, number of households searched, number of OPV doses given in children less than 5 years of age, date completed)

FINAL DIAGNOSIS

Discarded: _____ Specify diagnosis _____

Confirmed: _____

Check all which apply:

- | | |
|--|---|
| <input type="checkbox"/> Laboratory confirmed – virus | <input type="checkbox"/> Death after compatible illness |
| <input type="checkbox"/> Laboratory confirmed – serology | <input type="checkbox"/> Epidemiologic linkage |
| <input type="checkbox"/> Laboratory confirmed – virus and serology | <input type="checkbox"/> No follow-up |
| <input type="checkbox"/> Residual paralysis after 60 days | <input type="checkbox"/> Vaccine associated |
| <input type="checkbox"/> | Wild virus indigenous <input type="checkbox"/> Imported |

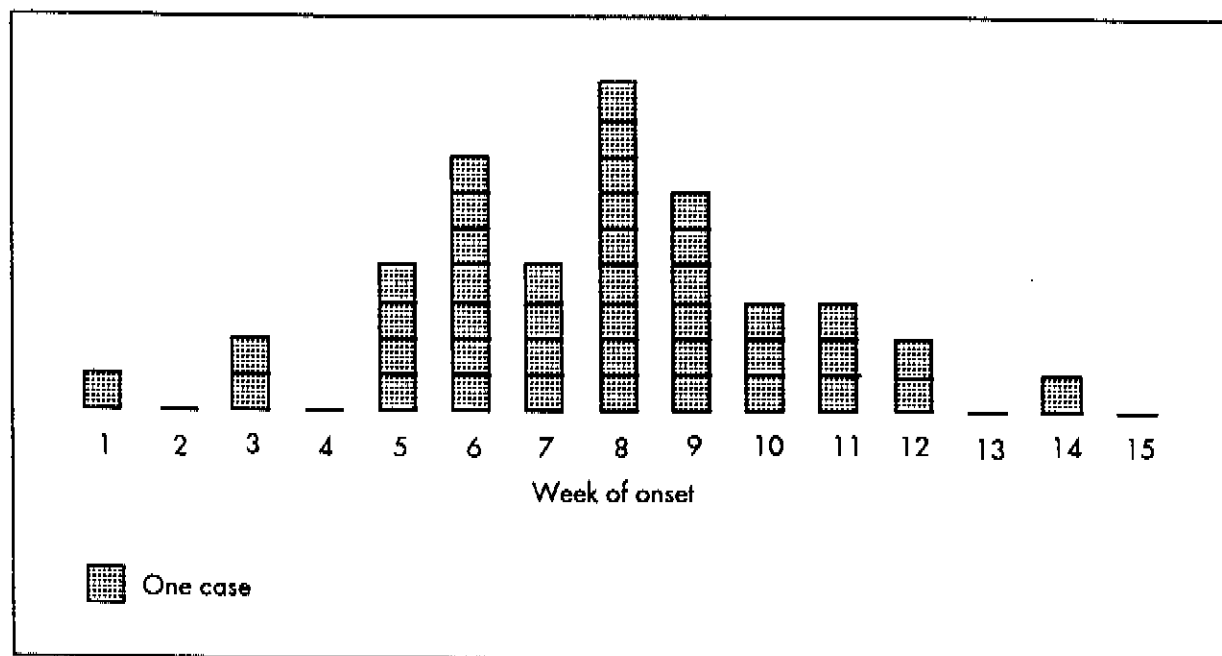
Observations: _____

SIGNATURE

Name of investigator _____
Signature _____
Title _____
Place of Work _____
Date ____/____/____

Name of Surveillance Coordinator _____
Signature _____
Title _____
Place of Work _____
Date ____/____/____

Example of a Time Graph



Example of a Specimen Label

EPId No.	_____
Patient Name	_____
Date Specimen collected	__/__/__ day mo yr
Laboratory 1	_____
Laboratory 2	_____
Laboratory 3	_____

Laboratories must not obscure the data given on the top part of the form; use the relevant space on the lower half of the form for recording individual laboratory numbers, dates, etc.

Case Laboratory Report Form

Patient Name:		EPId Number:	
Country:	State/Region:	Town/District:	
Clinical Diagnosis:			
Date of onset: da ___/mo ___/yr ___			
Poliovaccine History:		Date of last OPV dose: da ___/mo ___/yr ___	
Specimen type:		From patient/Contact No.:	
Date collected: da ___/mo ___/yr ___			
Date sent: da ___/mo ___/yr ___		<i>See reverse for name/address of investigator.</i>	

Laboratory 1	<input type="checkbox"/> National	<input type="checkbox"/> Reference	<input type="checkbox"/> Specialized
Name of laboratory:		<i>See reverse for address.</i>	
Date specimen received: da ___/mo ___/yr ___		Temperature monitor index on receipt: <input type="checkbox"/>	
Specimen type:		Virus isolation:	
Isolate(s) sent to Reference Laboratory:		Date sent: da ___/mo ___/yr ___	
Original specimen sent to Reference Laboratory:		Date sent: da ___/mo ___/yr ___	
Comments:		Date reported: da ___/mo ___/yr ___	

Laboratory 2	<input type="checkbox"/> National	<input type="checkbox"/> Reference	<input type="checkbox"/> Specialized
Name of laboratory:		<i>See reverse for address.</i>	
Date specimen/isolate(s) received: da ___/mo ___/yr ___		Temperature monitor index on receipt: <input type="checkbox"/>	
Virus identification:			
If isolate(s) sent to Specialized Laboratory:		Date sent: da ___/mo ___/yr ___	
Comments:		Date reported: da ___/mo ___/yr ___	

Laboratory 3	<input type="checkbox"/> National	<input type="checkbox"/> Reference	<input type="checkbox"/> Specialized
Name of laboratory:		<i>See reverse for address.</i>	
Date isolate(s) received: da ___/mo ___/yr ___		Temperature monitor index on receipt: <input type="checkbox"/>	
Virus identification:		Virus characterization:	
Comments:		Date reported: da ___/mo ___/yr ___	

Polio Outbreak Control Summary Form

COUNTRY: _____ **YEAR:** _____ **DATE SUMMARY FILLED OUT:** ____/____/____

DISTRICT: _____

Neighboring districts that also have polio outbreaks

List districts: _____

Date of onset of paralysis of first case reported in this district: ____/____/____

Village/City of first case: _____

Age of first case: _____

Date of onset of paralysis of most recent case reported in this district: ____/____/____

Village/City of most recent case: _____

Age of most recent case: _____

AGE AND IMMUNIZATION STATUS OF REPORTED CASES IN THIS DISTRICT

Age (years)	Not Immunized	Number of OPV Immunizations*			Unknown Immunization Status	Total No. Polio Cases
		1 Dose	2 Doses	3 Doses		
Less than 1						
1 to 2						
3 to 4						
5 to 6						
7 to 10						
Total						

*Do not count OPV Zero.

COUNTRY: _____ DISTRICT: _____ YEAR: _____

ESTIMATED COVERAGE (with 3 or more doses of OPV) IN THIS DISTRICT AT THE START OF THE OUTBREAK

Children 0 to 11 months _____
Children 12 to 23 months _____
Children 24 to 35 months _____
Children 36 to 47 months _____

IMMUNIZATIONS FOR OUTBREAK CONTROL

	First Control Round	Second Control Round
Date Started	___/___/___	___/___/___
Date Finished	___/___/___	___/___/___
Number Immunized by Age Group		
Children 0 to 11 mo	_____	_____
Children 12 to 23 mo	_____	_____
Children 24 to 35 mo	_____	_____
Children 36 to 47 mo	_____	_____
Total 0 to 47 mo	_____	_____
Total 48 mo and older	_____	_____

Other Outbreak Control Activities:

ANNEX B: SUPPLIES AND EQUIPMENT

For case investigation

- A. Official standard case definition of polio (one copy for each team member).
- B. Case Investigation Forms – (one form per reported case, *but* always take three times more forms than you think you need).
- C. Materials for collecting, storing, and shipping specimens. These include:
 - Stool collection containers – nonsterile, disposable, polyethylene, with water-tight screw cap
 - Tongue depressors – wooden, disposable
 - Specimen labels (See Annex A)
 - Sealing tape
 - Polyethylene bags to hold specimen containers – sealable
 - Laboratory Report Forms (See Annex A)
 - Polyethylene bags to hold laboratory report forms
 - Insulated box with ice packs to maintain temperature at 0° to +8°C. This box should **ONLY** be used to transport specimens and **NEVER** for vaccines.
- D. Work Supplies:
 - 1. Clipboards (one for each team member)
 - 2. Paper, pencils, pens, etc. (for each team member)

For immunizations

- A. Official standard case definition (one for each team member).
- B. Forms:
 - 1. Immunization Registers.

If immunizations are given in health facilities during the control effort, teams should record them on the facility's immunization register. To be sure that a register is available, each immunization team should carry an extra one.

-
2. Tally Sheets – for keeping track of the number of immunizations given.
 3. Immunization Cards, Under-Fives Cards, or Road-to- Health Cards (number depends on size of target population).

C. Work Supplies, as above.

D. Vaccines and Vaccination Supplies.

Because the target group in polio outbreak control is usually all children below the age of five, you will need three to five times more vaccine than for a normal immunization session. All children within the target age group should be immunized whether they have had OPV before or not.

If you decide to give other antigens after the first OPV round, calculate vaccine and vaccination supplies according to the size of the target population and the kinds of antigens being offered. If the target population includes children up to age five, again you will need three to five times more of these other vaccines than usual.

E. Sterilization Equipment

If you are giving antigens in addition to OPV and use non- disposable needles and syringes, you will need equipment for cleaning and sterilizing needles and syringes. The amount you need will depend on how many immunization teams you have and how dispersed they are.

F. Cold Chain Equipment.

Again, the amount you need will depend on what antigens you are using, how many immunization teams you have, and how dispersed they are.

In any case, because you will be immunizing a large target population, you will need more storage space at health centres and equipment for mobile teams than normal.

If a house-to-house immunization strategy is used, special attention must be paid to maintaining the cold chain.

For surveillance

- A. Official standard case definition (one copy for each team member).
- B. Office supplies, as above.
- C. Maps of affected communities and contiguous areas, as detailed as possible, for showing the location of cases. One map should be maintained by the outbreak manager at his/her headquarters; another should be kept by each surveillance team leader in the field.

For outbreak manager and team leaders

Copies of all forms listed above and extra work supplies, plus:

1. Line List Forms.
2. Maps of affected communities and contiguous areas.
3. Outbreak Control Summary Forms.
4. Office supplies – e.g., cello-tape, scissors, staplers.

ANNEX C: EVALUATING OUTBREAK PERFORMANCE

Consider the following questions when evaluating your performance in responding to an outbreak.

1. What was the total number of cases in the outbreak?
 - 1.1 Number of reported cases? _____
 - 1.2 Number confirmed? _____
2. Reporting of cases to headquarters.
 - 2.1 How many were reported within 24 hours of detection?

	Number? _____	Percent? _____	
--	---------------	----------------	--
 - 2.2 After 24 hours?

	Number? _____	Percent? _____	
--	---------------	----------------	--
3. Investigation of reported cases.
 - 3.1 How many reported cases were investigated within 48 hours of detection?

	Number? _____	Percent? _____	
--	---------------	----------------	--
 - 3.2 After 48 hours?

	Number? _____	Percent? _____	
--	---------------	----------------	--
4. For how many suspected cases were stool specimens collected?

	Number? _____	Percent? _____	
--	---------------	----------------	--
5. When were specimens collected? How many specimens were collected:
 - 5.1 Within one week of detection?

	Number? _____	Percent? _____	
--	---------------	----------------	--
 - 5.2 After one week?

	Number? _____	Percent? _____	
--	---------------	----------------	--
6. How many Case Investigation Forms were correctly filled out?

	Number? _____	Percent? _____	
--	---------------	----------------	--
7. Were control measures instituted within 24 hours of the preliminary investigation team's diagnosis of a suspected case?

	Yes _____	No _____	
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8. Was each immunization that was given as an outbreak control measure recorded:

8.1 On the child's immunization card?

Yes _____ No _____

8.2 If possible, in the health centre Immunization Register?

Yes _____ No _____

9. Was a Line List maintained? Yes _____ No _____

10. How many patients with suspected cases were given a second physical examination approximately 60 days after the onset of paralysis? Number? _____ Percent? _____

Comments

If you are dissatisfied with your performance in any of these areas, investigate further to find the reasons for the problem and try to resolve them before the next outbreak.