

Polio Outbreak Simulation Exercise

How to test national
preparedness plans
using the POSE model



World Health
Organization

REGIONAL OFFICE FOR

Europe

Abstract

This simulation exercise is primarily designed for health organizations to run as a discussion-based simulation exercise over one day. The exercise is intended to be facilitated by emergency planners with specialist assistance as required. Multiagency participation is beneficial and is enabled through the scenario and discussion points.

The exercise has been designed to test a series of objectives for preparing for a possible poliovirus event or polio outbreak. Additional local objectives may be incorporated if required. To enable the delivery of each exercise, guidance notes are provided for facilitators in addition to explanatory material for participants.

Keywords

EPIDEMIOLOGIC SURVEILLANCE

IMMUNITY AND IMMUNIZATION

IMMUNIZATION PROGRAMMES

POLIOMYELITIS - PREVENTION AND CONTROL

OUTBREAK

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Introduction

This simulation exercise is primarily designed for health organizations to run as a discussion-based simulation exercise over one day. The exercise is intended to be facilitated by emergency planners with specialist assistance as required. Multiagency participation is beneficial and is enabled through the scenario and discussion points.

Most of the material to allow you to run the exercise is contained in this pack; however you may need to do some preparatory work to tailor the exercise to your own country or organization's needs. You should do your own research to help you discuss some of the scenarios. You may wish to add some further specific questions to the discussion points to reflect your organization or the partners you are working with.

The exercise has been designed to test a series of objectives for preparing for a possible poliovirus event or polio outbreak. Additional local objectives may be incorporated if required. To enable the delivery of each exercise, guidance notes are provided for facilitators in addition to explanatory material for participants.

The scenario of the exercise was developed primarily for countries utilizing inactivated polio vaccine (IPV).

It is also relevant for high- and intermediate-risk* countries utilizing oral polio vaccine (OPV), or IPV in conjunction with OPV, where there are districts or subpopulations with suboptimal immunization coverage. This scenario will be less relevant to low-risk* countries utilizing OPV or IPV in conjunction with OPV.

*Risk of poliomyelitis outbreak following importation as ranked annually by the European Regional Certification Commission for Poliomyelitis Eradication (RCC).

Background

Despite the progress made by the Global Polio Eradication Initiative, wild poliovirus (WPV) remains endemic in three countries (Afghanistan, Nigeria, and Pakistan), and importation-related outbreaks continue to occur in polio-free areas. Until polio is eradicated worldwide, all polio-free regions remain at risk for importation.

Although the overall risk of poliovirus transmission following WPV importation remains low for the WHO European Region, annual risk assessments conducted by the WHO Regional Office for Europe show that each year, there are several countries or subnational territories at high or intermediate risk of transmission due to suboptimal population immunity and/or inadequate surveillance.

The European Regional Certification Commission for Poliomyelitis Eradication (RCC) strongly encourages all countries in the WHO European Region to update national preparedness plans to improve the quality of planning in light of recent importation events.

Experience of the previous outbreak simulation exercises (POSE), which comprised two regional (Balkans and Caucuses) and one national exercise (United Kingdom) demonstrated the utility and advantages of POSE. In 2014, the RCC urged Member States to test their national preparedness plans using the POSE model.

Acknowledgements

The WHO Regional Office for Europe gratefully acknowledges Public Health England for development of this simulation exercise and the United States Agency for International Development (USAID) for its generous support and efforts toward global polio eradication.

Exercise design and format

Aim and objectives

The aim of the exercise is to critically review and update national plans on responding to the detection of wild or vaccine-derived polioviruses.

Objectives:

1. Increase the level of preparedness for a possible poliovirus event or polio outbreak.
2. Improve the capacity to respond rapidly to a poliovirus outbreak.
3. Improve country response and use of the International Health Regulations (IHR) mechanism in case of detection of wild poliovirus or vaccine-derived polioviruses.
4. Explore the communications response to the detection of wild poliovirus, including strategic-level planning and the development, use and interaction of social media tools with the traditional media.

Target audience

This discussion-based simulation exercise can be used to achieve the above objectives within the context of the local health sector capabilities and, where appropriate, regional and national capabilities. The scenarios and questions are designed to provide flexibility to meet the needs of the target audience.

To ensure the greatest participant value it is suggested that there be representation and input from senior representatives and policy-makers, although final participants will depend on the local exercise facilitator, and could represent:

- Ministry of Health
- public health authorities
- rapid response team
- clinicians
- vaccinators
- laboratories
- communications professionals
- multiagency partners.

The exercise is designed to run so that all participants work in one room.

Where there are large numbers of participants it is suggested that delegates are grouped within their particular organization or function to address the scenario and relevant questions. All groups should come back together in the feedback sessions to share their learning and discuss any cross-cutting issues. Where numbers are smaller consider amalgamating any organization or function groups to work through the scenarios and questions.

Reference material/plans

Participants should be asked to bring any relevant plans with them to the exercise; however it is useful to have additional copies of any appropriate local plans or national guidance available on the day.

The following references may help you. Exercise facilitators are advised to use the most up-to-date versions of these resources currently available.

Useful guidance:

- [WHO: Poliomyelitis fact sheet No 114](http://www.who.int/mediacentre/factsheets/fs114/en/)
<http://www.who.int/mediacentre/factsheets/fs114/en/>
- [WHO: Guidelines on responding to the detection of wild poliovirus in the WHO European Region](http://www.fhi.no/dav/ce8c946bae.pdf)
<http://www.fhi.no/dav/ce8c946bae.pdf>
- [Polio Eradication and Endgame Strategic Plan 2013–2018](http://www.polioeradication.org/Resourcelibrary/Strategyandwork.aspx#sthash.PBsAZ50c.dpuf)
<http://www.polioeradication.org/Resourcelibrary/Strategyandwork.aspx#sthash.PBsAZ50c.dpuf>
- [Global Polio Eradication Initiative: Responding to a poliovirus outbreak. Standard Operating Procedures for a new outbreak in a polio-free country](http://www.polioeradication.org/Portals/0/Document/Resources/PolioEradicators/1a.PolioOutbreakGuideline20150220.pdf)
<http://www.polioeradication.org/Portals/0/Document/Resources/PolioEradicators/1a.PolioOutbreakGuideline20150220.pdf>
- [International Health Regulations \(2005\)](http://whqlibdoc.who.int/publications/2008/9789241580410_eng.pdf?q=international)
http://whqlibdoc.who.int/publications/2008/9789241580410_eng.pdf?q=international
- [In-country plans](#)
(to be provided by facilitator)

Format of the exercise

Participants should do some background reading in advance. The exercise is divided into three sessions designed to provoke consideration of the range of issues arising from the importation of wild poliovirus.

The sessions are structured to build an evolving scenario that generates a discussion of the issues, preparedness and response to the importation of wild poliovirus.

The regions, districts and towns in the scenario should be adapted for your location. Each session starts with a short scenario followed by a series of questions for the participants to consider. It is intended that all question sets are discussed and answered to ensure that the key issues surrounding the topic are covered. Additional questions can be added as necessary.

The facilitator may need to help participants move through the issues presented and re-direct discussion should participant discussion falter or go off-track.

The timing of the exercise can be planned as suggested in Table 1.

Table 1 Suggested programme

Time recommended for activity*	Activity
Pre-exercise	Links to background reading and session 0 to be sent to participants with joining instructions.
30 minutes	Registration
60+ minutes	Introduction Presentation: Introduction to Exercise Presentation: Overview of Poliomyelitis Presentation: Overview of local plans (to be prepared by facilitator)
60+ minutes	Session 1 – Detection of WPV1 in the Environment
20 minutes	Feedback and Discussion – session 1
60+ minutes	Session 2 – Detection of WPV1 in Environmental samples from multiple sites
20 minutes	Feedback and Discussion – session 2
45+ minutes	Session 3 – Recovery
20 minutes	Feedback and Discussion – session 3
30 minutes	De-brief on key learning points from day
10 minutes	Summing up and next steps

*All times are flexible. Refreshment and comfort breaks should be added as determined by the local exercise facilitator.

Exercise preparation

Preparations required to use the exercise material and deliver the exercise

The exercise package comprises two types of materials.

Materials for the organizer/facilitator:

- guidance notes for using the exercise and practical setup
- example documents to support preparations for the exercise
- scenarios and question sets for local adaptation
- presentations for local adaptation.

Materials for the participants:

- example invitation letter and brief details of the day
- scenarios and suggested question sets for participants to discuss and answer
- response sheets for each group to complete.

To prepare for the exercise the organizer/facilitator should:

- decide on the representation required and the appropriate groupings
- add required locations to the scenario
- decide how the responses to the scenarios and questions will be captured during the discussion and feedback sessions and identify a report writer (see lesson capture and debrief section).

Practical considerations for setting up the exercise

This list is not exhaustive but may serve as an aide-memoire. A checklist for organizers/facilitators is provided below (Table 2).

To prepare for the exercise:

- recruit participants with relevant role and expertise
- book meeting room for exercise delivery
- issue exercise instructions – ensure that all participants and control staff know what the exercise is about, where it is and what time they need to be there (see example participant invitation and brief details of the exercise)
- identify someone to take notes during the feedback sessions
- adapt the scenario for local use
- prepare and update introductory briefings
- ensure that the presentation and internet access will work in the room you will be using
- make sufficient copies of the finalized scenario and question sets to hand out to delegates

On the day of the exercise:

- ensure the room is set-up and that the presentation and a computer with internet access is working
- have copies of relevant guidance and plans
- ensure control staff (e.g. additional facilitators, note-takers) are happy with their roles
- provide tea/coffee/lunch if required
- deliver introductory briefings, scenarios, question sets as per your timetable
- keep to the times set unless there is a need for a more detailed examination of a particular area before moving on
- keep a record of attendees for noting in the report.

Facilitator notes

The role of the facilitator on exercise day is to:

- give the opening presentation and exercise briefing, allowing for any guest speakers
- start the exercise with the first scenario and ask delegates to break into their pre- set groups
- hand out the relevant scenario and accompanying question sets
- answer questions and keep groups on track as required
- alert groups to final five minutes in each session in order to prepare for feedback session
- conduct feedback sessions
- conduct final debrief and summing up.

During opening presentation:

- see presenter notes for each slide
- remind that the exercise is not to test individuals but an opportunity to rehearse, identify any issues and to refine and improve plans; it is a safe learning environment.

Before breaking into pre-set groupings:

- remind groups how long each session will last
- ensure groups nominate a chair/scribe for completing the master response sheet
- let groups know they can interact with each other
- advise that some groups may be busier than others in the different sessions.

Near the end of each session:

- remind groups to note the key points for the feedback session (this can be on sticky notes).

Table 2. Facilitator’s checklist

Item	Source	Comments	✓
Venue booked			
Seating/room arrangements			
Invitation letters			
Speakers/subject matter experts			
Scenarios (adapted), question sheets per person			
Response sheets per group			
Laptop/projector			
Scenario amended in presentation			
Spare presentation on USB memory stick			
Internet access			
Flip chart			
Sticky notes			
Paper, pens			
Dry wipe markers			
Reference material			
Extension lead			
Name cards			
Facilitator packs (if additional facilitators)			

Example preparation documents

Enclosed as separate documents and designed for local adaptation:

- example invitation to participants
- example brief details of the day.

Example participant invitation letter

Dear

Invitation to a Polio outbreak Simulation Exercise: POSE on [\(insert date\)](#)

The [\[insert organization\]](#), in conjunction with [\[insert second organization if required\]](#), is holding a one day exercise on [\[insert date\]](#) to enable a review of current action plan on preparedness and responding to a poliovirus outbreak.

It is intended for use by local health organizations with multiagency partners.

The exercise will facilitate the review of local preparedness and response arrangements to an importation of wild poliovirus or detection of circulating vaccine-derived polioviruses.

Details of the exercise are attached. Please note that this invitation is specifically for you and should not be forwarded to anyone else. If you are unable to attend please nominate a deputy to attend in your place, then contact me directly to arrange for a new invitation to be sent out.

I would be grateful for your response as soon as possible. If you have any questions, please do not hesitate to contact me on [\(insert email and telephone contact details\)](#).

I look forward to seeing you at our exercise,

Regards

Insert any relevant logos

Polio Outbreak Simulation Exercise: POSE Brief details of the day

Day/date:

Venue:

Time:

Programme

The exercise will start at xxx with refreshments available from xxx. It is expected that the day will finish at approximately xxx.

Exercise aim

The aim of the exercise is to critically review and update national plans on responding to the detection of wild polioviruses.

Exercise objectives

1. Increase level of preparedness to a possible event of importation of wild poliovirus or vaccine-derived polioviruses into a poliomyelitis-free country.
2. Improve capacity to respond rapidly to the detection of circulating polioviruses.
3. Improve country response and use of IHR mechanism in case of detection of wild poliovirus or vaccine-derived polioviruses.
4. Explore communications response to the detection of wild poliovirus, including strategic-level planning and the development, use and interaction of social media tools with traditional media.

Format of the day

The exercise will begin with an introduction, briefings and presentations, after which participants will consider three short scenarios and a series of questions within their groups. The day will be punctuated by a series of feedback opportunities and culminate with the development of an action plan for further work as required. To achieve the desired outcomes each participating organization should bring all relevant guidance for use during the exercise.

Additional information/contact details

Insert as required

Thank you for your support for this exercise.

Exercise feedback and lesson capture

Conducting feedback sessions, final debrief and report

The encouragement of open and candid feedback is critical to capturing any lessons from the exercise.

The sticky note system of giving feedback is a useful way for each group to bring forward the key points from their discussions in each of the three feedback sessions. A poster describing potential areas for comment is included in this simulation exercise pack as a visual prompt to stimulate feedback. A master response sheet for each organization/group to complete during discussions is also included and these should be collected after each session to assist with report writing. Facilitators may of course wish to use their own method of gathering feedback to suit the needs of the groups involved and/or additional facilitators to assist in the process.

At the end of the exercise it is useful to draw together the thoughts of the participants; how you do this will depend on the number of participants. One way is to ask participants:

- How well prepared is your organization?
- What is the main lessons learnt today?
- What are the key issues?
- What needs to be done now?

You should summarize the activity and tell the participants what you will be doing with the information gathered during the exercise and their feedback. The final summing up session is an opportunity to take the points raised in the previous sessions and begin to develop a way forward (i.e. an action plan with names and timescales).

A brief report focusing on the lessons identified and the accompanying action plan should be circulated to participants and other interested parties as soon as possible following the exercise.

On completion of the exercise, we would be grateful if you could provide feedback on its design and delivery to the PHE Emergency Response Department to assist us in future training and exercising. A pro-forma is included in the pack for your comments and we would be grateful if you will kindly return it to exercises@phe.gov.uk

Example documents

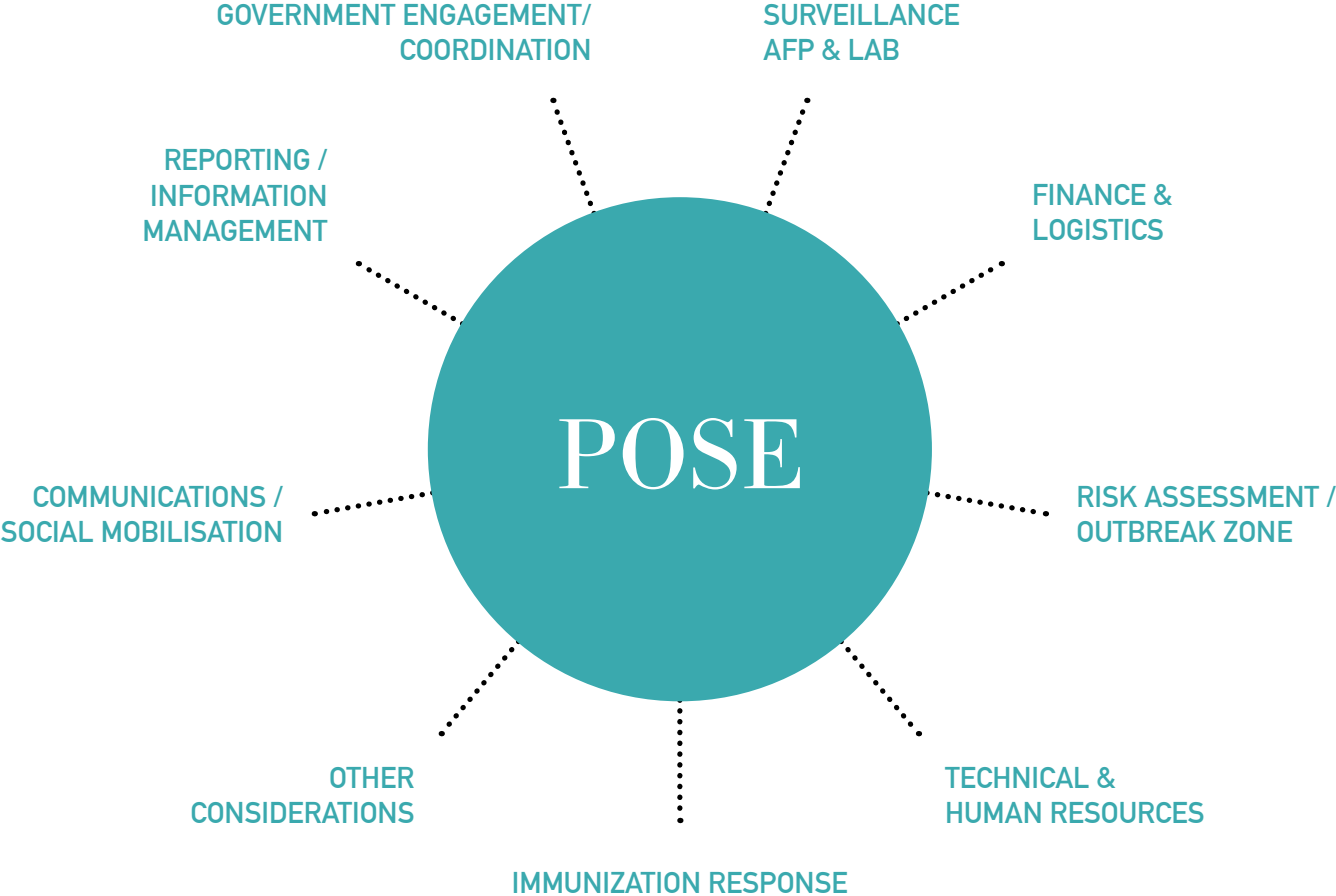
- Action plan template
- Feedback poster for sticky notes (for sizing up)

Table 3. POSE action plan template

To be given to each group at start of simulation exercise (One copy per group). Expand table as necessary

Issue	Planned actions	By whom	By when
Outbreak confirmation, grading, response assessment and closure			
Coordination and advocacy			
Technical and human resources			
Information management			
External communication, social mobilization and behaviour change			
Finances and logistics			
Other considerations/ special circumstances			

Figure 1. Feedback poster



Exercise feedback/comment form

Please complete this form and return to **xxxx@xx.xx.xx** or fax to **+ xx xxxx xxxxxx**

Name:..... Organization:.....

Location of exercise:

Date of exercise:..... No. of participants/attendees:.....

Exercise content	Strongly agree	Agree	Disagree	Strongly disagree
1. The exercise achieved the stated aim	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The scenarios and question sets generated good discussions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. The exercise generated important issues and identified useful lessons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Please list the main lessons learnt and key issues arising from today's exercise

5. Please suggest any areas for improvement for this simulation exercise

6. Please add any additional comments or observations

Your feedback is very important to us; it enables us to improve our exercises. Thank you!

Exercise materials

Presentation examples

Introductory briefing presentation

Insert logo
(as needed)

Polio Outbreak Simulation Exercise: POSE

A discussion based exercise

Facilitator: *Add name*

As required, insert appropriate local branding

Introduction

- Role of the Facilitator: *Introduce yourself as the Facilitator*
- Purpose of the event:
- Introduction of any observers:

2

Introductory briefing presentation (continued)

As required, insert appropriate local branding

Event timetable

Insert your event programme here.
 An example timetable is contained in your facilitator pack (see next slide example)

3

As required, insert appropriate local branding

Time recommended for activity*	Activity
Pre-exercise	Links to background reading and session 0 to be sent to participants with joining instructions.
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45+ minutes	Session 3 – Recovery
20 minutes	Feedback and Discussion - session 3
30 minutes	De-brief on key learning points from day
10 minutes	Summing up and next steps

4

Introductory briefing presentation (continued)

As required, insert appropriate local branding

Administration

- Fire procedures
- Smoking
- Documentation
- Cloakrooms
- Refreshments

5

As required, insert appropriate local branding

Exercise Aim:

To critically review and update national plans on responding to the detection of wild or vaccine-derived polioviruses

6

Introductory briefing presentation (continued)

As required, insert appropriate local branding

Exercise Objectives:

1. Increase level of preparedness to a possible poliovirus event or polio outbreak.
2. Improve capacity to respond rapidly to a poliovirus outbreak.
3. Improve country response and use of IHR mechanism in case of detection of wild poliovirus or vaccine-derived polioviruses.
4. Explore the communications response to the detection of wild poliovirus, including strategic-level planning and the development, use and interaction of social media tools with the traditional media.

7

As required, insert appropriate local branding

Exercise Format:

- This exercise is designed to form the basis for a facilitated discussion on Polio importation preparedness
- The exercise has been divided into three sessions (1,2,3)
- Links to background reading were provided with joining instructions
- Each session provides an update of the scenario, followed by a series of questions

8

Introductory briefing presentation (continued)

As required, insert appropriate local branding

How to Participate

- Identify a leader and scribe for your group
- Be prepared to feedback your answers in a plenary session
- Exercise should 'rehearse' the people and 'test' the plans
- Artificialities and limitations – make allowances, don't challenge the scenario
- Full participation to get the most from the exercise - enter into the spirit of the exercise
- Practice plans, procedures and protocols
- Don't jump too far ahead in your response

9

As required, insert appropriate local branding

Outcomes

At the end of the exercise, participants should:

- Understand the potential challenges and impact of the scenario
- Identified lessons that can be used to develop emergency preparedness and response arrangements

10

Introductory briefing presentation (continued)

As required, Insert appropriate local branding

**Session 1 – Scenario
Detection of WPV1 in the Environment**

11

As required, Insert appropriate local branding

**Session 2 – Scenario
Detection of WPV1 in Environmental
samples from multiple sites**

12

Introductory briefing presentation (continued)

As required, Insert appropriate local branding

Session 3 – Scenario Recovery

13

As required, Insert appropriate local branding

Hot de-brief

- How well prepared is your organisation?
- What is the main learning from today?
- What are the key issues?
- What needs to be done now?

14

Introductory briefing presentation (continued)

As required, insert appropriate local branding

Next Steps

Describe what you will now do with the feedback from the exercise

15

Insert logo
(as needed)

Polio Outbreak Simulation Exercise: POSE

Thank you

Facilitator: *Add name*

Overview of polio

Insert logo
(as needed)

EXERCISE POSE

Polio Outbreak Simulation Exercises

Insert logo
(as needed)

POSE

- Background to Polio
- Polio eradication
- Polio world-wide
- European experience
- POSE exercises



Overview of polio (continued)

Insert logo
(as needed)

Paralytic Polio



Polio is a distant memory in most of the world

Disease still endemic in 3 countries

Mainly affects children under 5

One in 200 infections leads to irreversible paralysis (usually legs)

Among those paralysed, 5-10% die when their breathing muscles become immobilized

Paralysis develops 1-10 days after prodromal illness and progress for 2-3 days

Degree of recovery varies

3 Photo courtesy of WHO

Insert logo
(as needed)

Polio Eradication

In 1988 polio paralysed >350 000/year

WHA Resolution 1988

Largest-ever internationally-coordinated public health effort in history

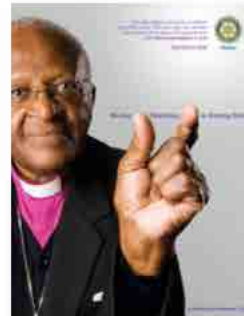
Polio cases have decreased by more than 99%

359 polio cases reported in 2014

Goal: No wild poliovirus found; no clinical polio cases associated with wild polio virus

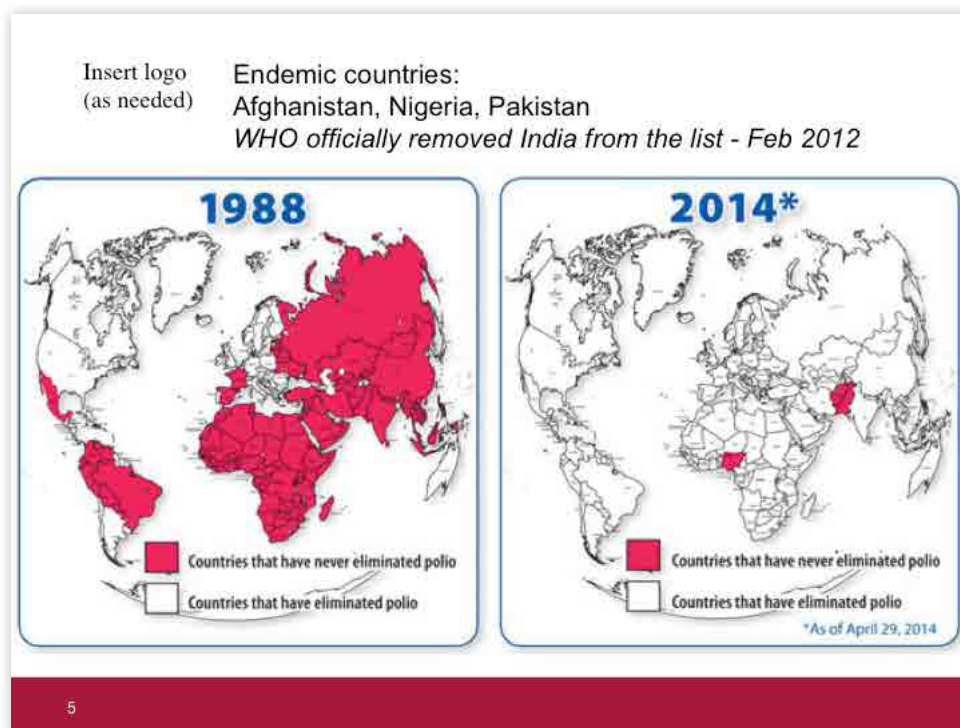
Original target date: 2000

2013–2018 's target is for cessation of poliovirus transmission by end of 2018



4

Overview of polio (continued)



Insert logo (as needed)

The problem in the endemic countries

Weak health systems - not all children get immunised
 Poor sanitation
 Insecurity

- Polio vaccination teams frequently attacked
- Some religious leaders denounce vaccination campaign
- Cover for spying
- Plot to secretly sterilize Muslim children

} Local fears

6

Overview of polio (continued)

Insert logo
(as needed)

WHO European Region

WHO European Region declared 'polio free' in 2002

Wild poliovirus spread from India


Large outbreak 2010 – Tajikistan (461 cases)

Subsequent spread to: Russian Federation (15), Turkmenistan (3), Kazakhstan (1)

Cases in both adults and children

29 deaths (~6%)

Annual WHO risk assessments indicate several high risk countries or territories (all in Central Europe)



7

Insert logo
(as needed)

WHO European Region

- In populations immunized with **IPV** poliovirus may circulate silently.
- Wild poliovirus type 1 was isolated from sewage samples in Israel – sustained transmission throughout 2013 and early 2014.
- No clinical cases of paralyzing illness caused by polio virus reported.
- Potential public health emergency - anyone not vaccinated, particularly infants, at risk of contracting the disease.
- Risk of international spread of poliovirus - poses a public health threat to countries where immunization coverage is low.

8

Overview of polio (continued)

Insert logo
(as needed)

Rationale for POSE Polio Outbreak Simulation Exercise

Report of the 22nd meeting of the RCC (2009)

Conclusion: 'National plans of action for responding to an imported or circulating poliovirus are missing or incomplete for many countries' .

Recommendation: 'WHO should consider conducting a formal test of the national preparedness plan in one or more appropriate Member States' .

9

Insert logo
(as needed)

POSE I, POSE UK, POSE II

Balkans (Sarajevo) – Dec 2011:
Bosnia Hz, Montenegro, Serbia



UK, London - Jan 2013: Prof David
Salisbury (Chair RCC) requested
POSE for UK



Ukraine (Kiev) – May 2013: Ukraine,
Georgia, Armenia, Azerbaijan



10

Overview of polio (continued)

Insert logo
(as needed)

POSE Aim

To critically review and update national plans on responding to the detection of wild polioviruses

11

Insert logo
(as needed)



The POSE Exercises

Discussion-based - response, coordination, communication, collaboration - international and national

Initiated by WHO Regional Office for Europe

Designed and delivered by Public Health England (develop exercises for health community, government depts, multiagency - UK and Europe)

WHO Bosnia and Herzegovina country office, UK DH, WHO Ukraine country office - selection of participants, development and delivery

Implemented over one or two days

Confirmed the value of POSE

All Member states should have the opportunity

12

Overview of polio (continued)

Insert logo
(as needed)

Participant Feedback



All agreed POSE exercises worthwhile and addressed objectives

All facilitators, 100% of participants in POSE I, 100% of participants in POSE II, 97% of participants in POSE UK agreed aim of exercise achieved

Few participants in POSE I and POSE II had taken part in a simulation exercise before

In the UK exercising emergency plans across health organisations has been mandated since 2005 in accordance with the UK Civil Contingencies Act (2004)

13

Insert logo
(as needed)



POSE delivered:



Worthwhile learning and discussions

Familiarisation of preparedness plans

Cooperation between organisations and countries

Action plans

Identified areas for development

Valuable tools helping to maintain the polio-free state

Lessons identified from POSE exercises are transferable to other vaccine-preventable diseases

14

Overview of polio (continued)

Insert logo
(as needed)

EXERCISE POSE

THANK YOU and ENJOY!

Session 0

Background preparation

To be sent to all participants in advance of the simulation exercise

The Global Polio Eradication Initiative (GPEI) seeks to ensure that future generations of children will be free from the threat of polio paralysis.

The achievement of this goal depends on interrupting poliovirus transmission in three countries where endemic wild poliovirus (WPV) continues to circulate and paralyse children – Afghanistan, Nigeria and Pakistan.

Equally important to success is to ensure a rapid and effective response to polioviruses reintroduced into polio-free countries from the remaining endemic countries or another polio outbreak country.

Europe is surprisingly vulnerable. The World Health Organization (WHO) declared its European Region free of polio in 2002 but many countries have since dropped their guard. Surveillance systems are often incomplete and of poor quality, and suboptimal vaccination rates mean that many countries are considered to be susceptible to outbreaks sparked by imported cases.

In populations that have been immunized with IPV virus may circulate silently which is a potential public health emergency and anyone who has not been vaccinated, particularly infants, is at risk of contracting the disease.

Before you attend the simulation exercise consider:

1. What is your country/organization/partner organization doing now to prepare for a possible importation of polio virus?
2. Are you familiar with:
 - WHO: Poliomyelitis fact sheet No 114
<http://www.who.int/mediacentre/factsheets/fs114/en/>
 - Immunization coverage in your country
 - National action plan for responding to a confirmed case of wild poliovirus or circulating vaccine-derived poliovirus (in-country)
 - Outbreak response plan (in-country)
 - WHO guidelines
<http://www.fhi.no/dav/ce8c946bae.pdf>
 - Polio Eradication and Endgame Strategic Plan 2013–2018
<http://www.polioeradication.org/Resourcelibrary/Strategyandwork.aspx#sthash.PBsAZ50c.dpuf>
 - Global Polio Eradication Initiative: Responding to a poliovirus outbreak
<http://www.polioeradication.org/Portals/0/Document/Resources/PolioEradicators/1a.PolioOutbreakGuideline20150220.pdf>
 - International Health Regulations
http://whqlibdoc.who.int/publications/2008/9789241580410_eng.pdf?q=international

These should all be available during the exercise.

Exercise direction (all groups)

To be given to each participant at the start of the simulation exercise.

Action Plan template to be given to each group at the start of the exercise. (One copy per group).

- Identify a person within your group who will chair the group and allocate tasks during the exercise.
- Identify a person within your group who will act as spokesperson for the group during the plenary sessions.
- Identify a person(s) within your group who will:
 - **take notes** during the session and
 - complete the **answer sheets**
 - complete the **action plan** on the group's behalf.

Note: there can be change-over of all/any of these roles during the day.

- Each group will discuss all relevant questions.
- Use the answer sheet to detail your responses to the questions [note taker].
- Use the action plan template throughout all sessions to note: significant issues or gaps, what further action is required, and by whom [note taker].
- Bring forward the key considerations from your discussions to the feedback session [spokesperson]. The outcomes of your discussions will be shared with everyone in the plenary sessions.
- There will be a lead facilitator who will guide plenary discussions.
- To avoid repetition groups will take turn to lead on feedback, with other groups contributing extra comments as appropriate.

Abbreviations

AFP	acute flaccid paralysis
ENV	environmental Poliovirus Surveillance
GPEI	Global Polio Eradication Initiative
IHR	International Health Regulations
IPV	Inactivated poliovirus vaccine
OPV	oral poliovirus vaccine
PHEIC	Public Health Emergency of International Concern
RCC	Regional Commission for the Certification of Poliomyelitis Eradication
WHO	World Health Organization
WPV	wild poliovirus

Session 1

Scenario 1 – Detection of WPV1 in the environment

To be given to each group at the start of session 1. (At least one copy per two people.)

SCENARIO

As part of the Environmental Poliovirus Surveillance¹ (ENV) for monitoring of poliovirus transmission in human populations, environmental specimens are routinely examined from major European cities. The World Health Organization has recommended ENV to be increasingly used in poliovirus surveillance, supplementing AFP surveillance.

Yesterday, the WHO polio laboratory network reported detection of WPV type 1 (not vaccine-derived virus) in a sample of sewage from a single site from a southern district* in your country where there is a high number of travelling community, considerable population movement and commerce.

To date there have been no clinical cases of paralyzing illness caused by poliovirus reported in your country.

Following detection of the wild poliovirus, health authorities need to conduct a full epidemiological and public health investigation, actively searching for potential cases of paralytic polio as well as for any un-immunized persons.

*Nominate an appropriate district or region.

The scenario of the exercise was developed primarily for countries utilizing IPV.

It is also relevant for high- and intermediate-risk* countries utilizing OPV, or IPV in conjunction with OPV, where there are districts or subpopulations with suboptimal immunization coverage.

This scenario will be less relevant to low-risk* countries utilizing OPV or IPV in conjunction with OPV.

*Risk of poliomyelitis outbreak following importation as ranked annually by the European Regional Certification for Poliomyelitis (RCC).

Use the response sheet to detail your responses to the questions below [nominate a note taker].

Use the action plan template to note: significant issues or gaps, what further action is required, and by whom [nominate a note taker].

Bring forward the key considerations from your discussions to the feedback session [nominate a spokesperson].

(60+ minutes)

¹ http://whqlibdoc.who.int/hq/2003/who_v&b_03.03.pdf

Suggested questions

To be given to each group at the start of session 1. (At least one copy per two people)

1. Carry out a risk assessment of the situation.
2. List the actions required in your response to this event.
3. Would you expect this event to be graded (by the Eradication and Outbreak Management Group) as Grade 1, Grade 2, or Grade 3?
4. What support can you realistically expect from the GPEI?
5. Who needs to be notified? Do you have all necessary contact details? What information needs to be shared?
6. What further sampling is required? What specimens would be collected? Where would they be sent (and how)?
7. What is your country's immunization coverage? Are there regions or populations where low coverage is of concern? Or where coverage is unknown (e.g. unauthorised immigrant populations).
8. Outline your immunization response planning.
9. What is the case definition for polio and how would you exclude other diseases?
10. What is your capacity for polio diagnosis, supportive treatment and rehabilitation?
11. What messages (if any at this stage) need to be given to the media and public?

Table 4. Response sheet – scenario 1

To be given to each group at start of simulation exercise (one copy per group), and returned to the facilitator at the end of the session. Expand table as necessary.

Group name:	Session:	Date:	
Exercise questions	Where evidenced in your own plan(s) (if appropriate)	Significant issues	Further actions required?

Session 2

Scenario 2 – Detection of WPV1 in environmental samples from multiple sites

To be given to each group at the start of session 2 (at least one copy per two people).

SCENARIO

During the subsequent weeks and months, additional testing has identified more WPV1- positive sampling sites in several towns* in the South* and Central* districts, covering an area 50km x 100km.

Genetic sequencing indicates the strain is non-Sabin poliovirus type 1 belonging to the South Asian (SOAS) lineage from Pakistan and Afghanistan, rather than West African lineage from Nigeria. This strain was also isolated from sewage samples in Israel from February to September 2013.

WHO also reported that the wild poliovirus has been identified in stool samples from 42 healthy individuals, tested in the area of WPV1 circulation in your country (4.4% of the sampled population). All have been fully vaccinated with IPV and 40 of 42 were children from the age group of 0-9 years.

There have been no clinical cases of paralysing illness caused by poliovirus reported in your country but these findings indicate that virus is circulating silently in a population that has been immunized with IPV. This is a potential public health emergency and anyone who has not been vaccinated, particularly infants, is at risk of contracting the disease.

Moreover, given the prolonged circulation of virus over a large area there is a risk of international spread of poliovirus from your country which poses a public health threat to countries where immunization coverage is low.

*Nominate appropriate towns, districts or regions

Use the master response sheet to detail your responses to the questions below [nominate a note taker].

Use the action plan template to note:

Significant issues or gaps, what further action is required, and by whom [nominate a note taker].

Bring forward the key considerations from your discussions to the feedback session [nominate a spokesperson].

{60+ minutes}

Suggested questions

To be given to each group at the start of session 2 (at least one copy per two people).

1. Update your risk assessment of the situation. Who/where are your vulnerable populations?
2. Would you expect this outbreak to be now graded differently by the Eradication and Outbreak Management Group?
3. What further support can you realistically expect from the GPEI?
4. How will you fully engage the government to take this threat seriously to ensure financial and human resources? Who will be your senior government focal person?
5. Are you familiar with the requirements under IHR and PHEIC?
6. Describe your supplementary immunization activities; include target groups, vaccine (IPV and/or OPV), scale and timing.
7. How will you gain consensus amongst the medical community in the absence of paralytic cases? What is the message to doctors?
8. What is your policy for procurement of vaccine? Which vaccine? Which supplier? Where would vaccines be delivered and stored?
9. Outline your plan for enhancing AFP surveillance. How would you share surveillance data with bordering countries? Who would advise and coordinate this?
10. Outline your plan for enhancing laboratory surveillance. Who would advise and coordinate this?
11. What would your risk communication plan be (in a community already immunised with IPV/or in a community with lower coverage)? What are the most important messages to the public? Who would advise and coordinate this and how will these messages be delivered?
12. How will you mitigate rumours via social media and messages from anti- vaccination groups who may take advantage of the situation?
13. What are the travel and trade considerations? What communications will be shared with the border agency?
14. Are there additional measures required that are missing from your plans?

Table 5. Response sheet – scenario 2

To be given to each group at start of simulation exercise (one copy per group), and returned to the facilitator at the end of the session. Expand table as necessary.

Group name:	Session:	Date:	
Exercise questions	Where evidenced in your own plan(s) (if appropriate)	Significant issues	Further actions required?

Session 3

Scenario 3 – Recovery

To be given to each group at the start of session 3 (at least one copy per two people).

SCENARIO

WPV1 has not been detected in environmental samples for more than six months.

Over the previous seven-month period WPV1 was detected in 87 of 220 samples tested that were obtained from 79 sewage sampling sites. In the southern district*, most of the treatment facilities with samples that were continuously WPV1 positive were in areas inhabited by travelling communities. WPV1 was also detected in several sewage sampling sites in the central district* mostly around mixed communities, indicating there had been countrywide transmission.

There have been no clinical cases of paralysing illness caused by poliovirus reported in your country; now press and social media reports have suggested that the government over-reacted, a lot of money has been wasted and individuals put at risk of vaccine-derived polio.

Use the response sheet to detail your responses to the questions below [nominate a note taker].

Use the action plan template (Table 3) to note: significant issues or gaps, what further action is required, and by whom [nominate a note taker].

Bring forward the key considerations from your discussions to the feedback session [nominate a spokesperson].

(45+ minutes)

Suggested questions

To be given to each group at the start of session 3 (at least one copy per two people).

1. How would you formally confirm that the outbreak is over?
2. What continuing surveillance would you envisage?
3. What final evaluation and reporting would be carried out? What information will be collated for the European Regional Commission for the Certification of Poliomyelitis Eradication (RCC)? How would this inform your plans?
4. What is the economic impact of this outbreak and how would this be assessed and addressed?
5. What messages would you give to the media and the general public, considering that there have been no cases?
6. After participating in this exercise – should the national strategy to sustain poliomyelitis-free status be updated and revised? Who is responsible for this?

All to use the Action Plan template to assist with this.

Response sheet – scenario 3

To be given to each group at start of simulation exercise (one copy per group), and returned to the facilitator at the end of the session. Expand table as necessary.

Group name:	Session:	Date:	
Exercise questions	Where evidenced in your own plan(s) (if appropriate)	Significant issues	Further actions required?

The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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