Abstract

The fourth Polio Outbreak Simulation Exercise (POSE IV) was commissioned and funded by the WHO Regional Office for Europe (Regional Office) and designed and delivered in conjunction with Public Health England (PHE). It was conducted over a two-and-a-half day period on 17 to 19 November 2015 in Almaty, Kazakhstan.

The aim of POSE IV was to critically review and update national plans for responding to the detection of wild polioviruses and vaccine-derived polioviruses, in national and cross-regional contexts. This was the first POSE that involved Member States and officials from both the WHO European Region and the WHO Western Pacific Region. The exercise challenged participants in preparedness, response, risk assessment, reporting (including International Health Regulations), government engagement, budgetary constraints, communication in response to a polio outbreak and maintaining polio-free status. In addition, it is essential that countries continue to sustain high immunization coverage and increase coverage in high-risk or transient populations; sustain quality of acute flaccid paralysis (AFP) surveillance and sustain environmental surveillance.

Keywords

POLIOMYELITIS - epidemiology, prevention and control
DISEASE OUTBREAKS
SIMULATION TRAINING
CIVIL DEFENSE - methods
WORLD HEALTH ORGANIZATION

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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>AFP</td>
<td>acute flacid paralysis</td>
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<tr>
<td>cVDPV1</td>
<td>circulating vaccine-derived poliovirus type 1</td>
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<tr>
<td>EOMG</td>
<td>Eradication and Outbreak Management Group</td>
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<td>ERD</td>
<td>Public Health England Emergency Response Department</td>
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<td>GPEI</td>
<td>Global Polio Eradication Initiative</td>
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<td>IHR</td>
<td>International Health Regulations</td>
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<td>IPV</td>
<td>inactivated polio vaccine</td>
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<td>OPV</td>
<td>oral polio vaccine</td>
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<td>POSE</td>
<td>Polio Outbreak Simulation Exercise</td>
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<td>PHE</td>
<td>Public Health England</td>
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<td>RCC</td>
<td>European Regional Certification Commission for Poliomyelitis Eradication</td>
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<td>WHO/Europe</td>
<td>WHO Regional Office for Europe</td>
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<td>SOP</td>
<td>standard operating procedure</td>
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<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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<td>VDPV</td>
<td>vaccine-derived polioviruses</td>
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<td>WPV</td>
<td>wild poliovirus</td>
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<td>WPV1</td>
<td>wild poliovirus type 1</td>
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Acknowledgements

Many people contributed to the successful planning and delivery of POSE IV. The planning team would like to thank them all for their time and efforts, in particular, the WHO Regional Office for the Western Pacific and the WHO Country Office, Kazakhstan. The exercise facilitators and subject matter experts were essential during the exercise and provided invaluable feedback afterwards. Most importantly the participants should be congratulated for their enthusiasm and hard work.

This report was written by Hilary Moulsdale, Exercise Manager (Emergency Preparedness), Public Health England (hilary.moulsdale@phe.gov.uk).

Executive summary

Introduction

The fourth Polio Outbreak Simulation Exercise (POSE IV) was commissioned and funded by the WHO Regional Office for Europe (WHO/Europe) and designed and delivered in conjunction with Public Health England (PHE). The bi-regional table-top exercise included participants from two WHO Regions and was conducted over a two-and-a-half day period 17-19 November 2015 in Almaty, Kazakhstan. After previous POSEs held in Bosnia and Herzegovina (2011) and Ukraine (2013), the European Regional Certification Commission for Poliomyelitis Eradication (RCC) stated that “the utility and advantages of conducting POSE have now been demonstrated” and recommended that a formal review process be considered for updated plans and that all plans be tested using a programme of POSE events.

The aim of POSE IV was to critically review and update national plans for responding to the detection of wild polioviruses and vaccine-derived polioviruses, in national and cross-regional contexts. This was the first POSE that involved Member States and officials from both the WHO European Region and the WHO Western Pacific Region. The exercise challenged participants in preparedness, response, risk assessment, reporting (including International Health Regulations), government engagement, budgetary constraints, communication in response to a polio outbreak and maintaining polio-free status.

Participants

Outcomes

There were many positive outcomes of the exercise. All the participants were open and honest about their current polio preparedness and response arrangements. Each country delegation critically reviewed their national action plan and noted areas for improvement highlighted by the exercise. The communications aspects introduced in this exercise following recommendations from previous POSE exercises (Regional Office workshop and recorded interviews) were all received very positively as was the focus on the International Health Regulations (IHR).

The main issues identified during POSE IV for each participant country to concentrate on subsequently were to:

- revise the national plan of action, in line with the current Global Polio Eradication Initiative (GPEI) standard operating procedure (SOP) for responding to an outbreak;
- develop national risk communication plans in preparation for the management of a polio outbreak;
- perform a current assessment to understand who and where the high-risk/marginalized population groups (including travellers, nomads) are;
- identify strategies to reach these high-risk groups with polio eradication interventions;
- advance collaboration between the Ministry of Health and other ministries on information sharing about cross-border population movement.

In addition, it is essential that countries continue to sustain high immunization coverage and increase coverage in high-risk or transient populations; sustain quality of acute flaccid paralysis (AFP) surveillance and sustain environmental surveillance.
Background

The Global Polio Eradication Initiative (GPEI), spearheaded by WHO and partners, seeks to ensure that future generations of children will be free from the threat of polio paralysis. The GPEI aims for a polio-free world by 2018.

Achievement of this goal depends on interrupting poliovirus transmission in the remaining two endemic countries: Afghanistan and Pakistan.

Equally important to success is ensuring a rapid and effective response to an imported wild poliovirus or vaccine-derived poliovirus into polio-free countries. All countries that receive travellers from polio-endemic or polio-outbreak countries are vulnerable to importation, particularly those countries bordering and close to Afghanistan and Pakistan. In 2010 wild poliovirus spread from India and caused a large outbreak in both adults and children in Tajikistan (461 cases and 29 deaths) with subsequent spread to Russian Federation (15 cases), Turkmenistan (3) and Kazakhstan (1). In 2011, China experienced its first polio outbreak in more than a decade—the result of wild poliovirus (type 1) being carried through the Karakoram corridor into southern Xinjiang. The virus paralysed 21 people, including 10 young children, and caused two deaths.

Whilst polio cases have been declining year on year, many countries have dropped their guard regarding polio surveillance and vaccination programmes. Annual WHO risk assessments indicate several countries or territories are considered to be at high risk or medium risk of transmission following importation (see maps below).
In addition, in populations that have been immunized with inactivated poliovirus vaccine (IPV), a poliovirus 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.

The RCC concluded at its 22nd meeting in 2009 that “National plans of action for responding to an imported or circulating poliovirus are missing or incomplete for many countries”. The report also recommended that “WHO should consider conducting a formal test of the national preparedness plan in one or more appropriate Member States”.

Following on from this report, a programme of simulation exercises was commissioned and funded by the Regional Office and designed and delivered by PHE in conjunction with the Regional Office. These simulation exercises were designed to explore national planning and coordination in response to the detection of wild polioviruses (WPVs) or vaccine-derived polioviruses (VDPVs). This programme of exercises was termed POSE. POSE I took place for the Balkans region in Sarajevo, Bosnia and Herzegovina in December 2011; POSE II took place in Kiev, Ukraine in May 2013; and the Department of Health in the United Kingdom independently conducted a POSE in London in 2013.

At its 28th meeting in 2014, the RCC stated that the utility and advantages of conducting POSE had now been demonstrated” and therefore recommended that a formal review process be considered for updated plans and that all plans be tested using a programme of POSE events.

Following from this report, POSE III was conducted for the countries bordering or close to Ukraine, after two cases of circulating vaccine-derived poliovirus type 1 (cVDPV1) were confirmed in Ukraine in 2015. POSE III took place in Bucharest, Romania in October 2015 and was designed for and delivered to Czech Republic, Hungary, Republic of Moldova, Romania and Slovakia.

POSE IV took place 17-19 November 2015 in Almaty, Kazakhstan for China, Kazakhstan, Kyrgyzstan, Mongolia and Russian Federation. POSE IV exercised cross-border spread and communications between countries in the WHO European Region and countries in the adjoining WHO Western Pacific Region close to the polio-endemic countries of Afghanistan and Pakistan.

This was the first WHO cross-regional polio outbreak exercise.

In addition a self-use resource has been developed by PHE and the Regional Office to help countries assess their emergency plans and preparedness.
Aim and objectives

The aim of the exercise is to critically review and update national plans for responding to the detection of WPVs and VDPVs in national and regional contexts.

The objectives of the exercise are to:

• increase the level of preparedness for the potential importation of a WPV or VDPV;
• improve capacity to respond rapidly to the detection of a circulating poliovirus;
• improve capacity to use the IHR mechanism in the event of detection of a WPV or VDPV.
• explore the communications response to the detection of a WPV, including strategic-level planning and the development and use of traditional and social media.

Participants in the exercise

The course was attended by 42 participants representing the following countries and organizations:

- China
- Kazakhstan
- Kyrgyzstan
- Mongolia
- Russian Federation
- WHO Regional Office for Europe
- WHO Regional Office for the Western Pacific
- Public Health England
- WHO China
- WHO Mongolia
- UNICEF Kazakhstan
- United States Centers for Disease Control and Prevention
- WHO Regional Polio Laboratory

See Appendix A for a full list of delegates.
Part 2 – Exercise

Exercise design and facilitators

The simulation exercise was designed by WHO/Europe and PHE, which is a United Kingdom public sector body that combines public health and scientific expertise, research, emergency planning and training. The Exercises Team of PHE Emergency Response Department (ERD) has considerable experience in the design, development, delivery and evaluation of a wide range of exercises designed to test preparedness of the health community, government departments and other supporting partners.

Discussions and feedback after each session during POSE IV were led by a bi-lingual facilitator from the Regional Office. Each country group had a facilitator who provided the link between exercise staff and participants to ensure participants had the resources they required. Group facilitators also captured key discussion points and produced a facilitator report.

Exercise date and location

POSE IV was conducted over a three-day period between 17 and 19 November 2015 and was held in Almaty, Kazakhstan. The participants had access to the internet and online resources including polio fact sheets, IHR (2005) and GPEI SOPs for responding to a poliovirus outbreak. Participants participated within their own country group.

Exercise format

The three-day POSE IV was combined with a half-day communications workshop on 19 November and a half-day IHR workshop on the following morning (20 November).

During the exercise, participants were grouped according to country. The groups reacted directly to the scenarios and challenges presented. The exercise had the additional value of allowing direct personal interaction and communications between participant groups and subject matter experts. There were frequent plenary sessions throughout to share learning and issues encountered. In addition representatives from each country were interviewed by a “mock media” film crew on their response to the outbreak.

The exercise was delivered in English and Russian, including all documents, presentations and plenary sessions. Two experienced translators enabled simultaneous translation into either English or Russian. Each group had the opportunity to discuss the issues in their own language before summarizing the discussions for their group facilitator. Participants must be commended on their contribution to this exercise, particularly those communicating in a second language.

Scenario description

The true-to-life scenario began with participants being asked to review their plans in light of ongoing polio transmission in neighbouring countries Afghanistan and Pakistan.

The scenario then developed fictionally with a ‘hot’ case of wild poliovirus type 1 (WPV1) identified in Kyrgyzstan. This case was a young child whose father was a lorry driver operating from Naryn (Kyrgyzstan) north to Bishkek (Kyrgyzstan) and Almaty (Kazakhstan) and south to Kashgar (China). In Kashgar, the father regularly spent time with other drivers who operate from Pakistan through the Karakoram Highway to Kashgar, Urumqi (China) and onward to Ulaanbaatar (Mongolia).
One further case was identified in a school child in Almaty, Kazakhstan.

An exercise teleconference chaired by WHO was held to practice the logistics around key people speaking different languages dialling in from neighbouring countries.

The national media reported these outbreaks in a way that caused anxiety in the population and alarmed visitors to the regions. Anti-vaccination pressure-group social media reports were damaging to the response by publishing inaccurate facts about the dangers of vaccination.

In order to examine the recovery and longer term issues the exercise scenario concluded with a time jump to >120 days after the detection of WPV1 in Kyrgyzstan and Kazakhstan during which time there had been no further cases.

The scenario was spread over three sessions. Each session began with scene setting and focused on the following topics.

**Session 1:**
Review of polio plans and preparedness
Consideration of population movement

**Session 2:**
Outbreak response (including teleconference)
Risk assessment
Government engagement
Reporting including IHR
Communication plan
Vaccine
Supplementary immunization activities
Enhanced surveillance

**Session 3:**
Evaluation
Reporting
Maintaining polio-free status
Part 3 – Evaluation of the exercise

Introduction

The exercise was well received and the feedback confirmed that all facilitators and participants believed that the aim was achieved. All agreed or strongly agreed that the exercise generated valuable discussions and all agreed or strongly agreed that the exercise identified important issues and areas for development. All the participants were interested and motivated and were open and honest in their feedback about current preparedness and response arrangements for polio.

The exercise allowed the participants to critically review their existing polio plans (the aim of the exercise) and all the participant countries created an action plan to highlight key areas to address post exercise. The communications aspects [workshop, recorded interviews] were all received in a very positive context and seen as a significant benefit to all the participants. It was an opportunity for participants to meet and share good practice, and allowed awareness raising of the issues faced by participants and possible solutions to be suggested.

The lessons identified from this exercise are based on plenary discussions and feedback received from exercise participants and facilitators’ reports. This is detailed below under the aim and objectives incorporating the GPEI’s six critical functions.

Aim

The aim was met, i.e. to critically review and update national plans for responding to the detection of wild polioviruses and vaccine-derived polioviruses, in national and regional contexts.

After reviewing their national plans of action countries largely agreed that they need to:

• revise their national plans of action, in line with the current GPEI SOP for responding to a polio outbreak;
• develop national risk communication plans in preparation for the management of a polio outbreak;
• perform a risk assessment to understand who and where the high-risk/marginalized population groups [e.g. travellers, nomads] are;
• identify strategies to reach these high-risk groups with polio eradication interventions;
• advance collaboration between the Ministry of Health and other ministries on information sharing about cross-border population movement.

Objectives

Objective 1 was met, i.e. to increase preparedness for the potential importation of wild poliovirus or vaccine-derived poliovirus.

This was demonstrated by the learning points identified above, following critical review of national action plans.

Recommendation 1. Update national plans in line with the GPEI SOP and continue to review them on a regular basis.

Recommendation 2. Develop national risk communication plans in preparation for the management of a polio outbreak. These could include specific public and social media strategies.
The most important aspect of increasing preparedness for the potential importation of wild poliovirus or vaccine-derived poliovirus is high immunization coverage and good surveillance.

All participating countries have >95% national routine immunization coverage of all infants, in line with WHO recommendations. However, all countries acknowledged that there are gaps in immunization coverage in some districts and/or populations e.g. the nomadic populations of Mongolia. All countries also realize the extra complexities associated with transient populations, particularly from Afghanistan or Pakistan, either passing through the country or staying without authorization.

There is variation across the countries in tracking population movement. The polio vaccination history of travellers from the endemic countries to Xinjiang province of China is closely checked and vaccination is provided if there is no proof of prior immunization, but other provinces are not as rigorous. Kazakhstan keeps thorough records of all arriving individuals, including children under 15 years of age. Kyrgyzstan does not keep specific records of travellers, but during the 2010 outbreak in Tajikistan visitors from that country were required to show a certificate of immunization. Russia and Mongolia will conduct risk assessments of travellers from countries of concern and provide vaccination when necessary.

All countries conduct surveillance for AFP, and all countries report non-polio AFP rates >2 per 100 000 of those under 15 years old. Countries realized that, in the event of a “hot” case of polio in the country, extra training for health care workers would be required in active screening for AFP in all those less than 15 years old.

China and Russian Federation conduct all enterovirus surveillance, with China particularly focusing on cases of one particular enterovirus causing hand, foot and mouth disease.

China, Kyrgyzstan and Russian Federation also carry out environmental surveillance from wastewater samples in regions of concern, including the North Caucasus territories of Russian Federation, and 10 high-risk provinces of China.

Kazakhstan had the added complication that surveillance is not the responsibility of the Ministry of Health and requires coordination with the Ministry of Social Development.

In the event of a “hot” case of polio in the country all agreed that active surveillance for AFP would be enhanced.

**Recommendation 3.** Continue sustaining high routine immunization coverage with polio vaccines and increase coverage in high-risk or transient populations.

**Recommendation 4.** Health ministries to collaborate with other ministries to obtain current information on population movement across borders to facilitate risk assessment.

**Recommendation 5.** Continue high-quality AFP surveillance and environmental surveillance.

**Recommendation 6.** Consider health care training in active screening for AFP in advance of any potential outbreak.
Part 3 – Evaluation of the exercise (continued)

Objective 1 incorporates GPEI critical function 1: Outbreak confirmation, grading, response assessment and closure.

Outbreak confirmation – Definitions as set out in the GPEI SOP were not reflected in national plans. All country representatives understood the need to update their national plan.

Outbreak grading – Participants were not familiar with the SOP provision. All countries acknowledged that documentation to facilitate risk assessment depends on data on high-risk populations and regions and population movement across borders.

Outbreak response assessment – Countries felt this would be the responsibility of the GPEI with countries asked to facilitate this with documentation. The strategy laid out in the GPEI SOP is unfamiliar, although the countries were willing to adopt the use of oral polio vaccine (OPV) for outbreak response.

Outbreak closure – Countries saw this as a WHO responsibility but realized their responsibility to prepare documentation on outbreak investigation and risk assessment, robust immunization response, effective communication and social mobilization, and enhanced AFP and laboratory surveillance, which would inform the closure decision of GPEI Eradication and Outbreak Management Group (EOMG).

Since the exercise, the WHO Regional Office for the Western Pacific has produced a more detailed document outlining the criteria for response assessment and closure and these are now available in a separate document.

In October 2015, it was identified in POSE III that the GPEI SOP have been written primarily for outbreaks in Afghanistan, Pakistan and the African continent rather than for those countries with good health systems. This gives the impression that WHO and GPEI partners will form the EOMG in the affected country to investigate, assess and monitor. WHO is now considering revising the SOP to reflect countries that require less support and intervention than African and the endemic countries.

Recommendation 7. In advance of a potential outbreak, countries should inform GPEI of all difficulties they may encounter in meeting all the requirements of the GPEI SOP.

Objective 1 incorporates GPEI critical function 2: Coordination and advocacy

Current national action plans clarify the responsibilities of different ministries with the coordination and collaboration generally under the leadership of the National Health Authority or Ministry of Health, so that Government, Ministerial and Chief Medical Officer commitment is generally assured.

All countries understood the necessity to use OPV in case of an outbreak and all countries believed that there were sufficient stocks of trivalent vaccine available to at least begin the supplementary immunization activities before looking to WHO and UNICEF for further supplies of monovalent vaccine. Two Chinese pharmaceutical companies produce polio vaccine and provincial health authorities procure vaccine for routine immunization and supplementary immunization activities. They also procure an extra 20% of the vaccine, which is stock-piled for emergency response.
Part 3 – Evaluation of the exercise (continued)

Objective 1 incorporates GPEI critical function 6. Finances and logistics

Although this was not explored in great detail, the countries were all confident that their governments would finance the implementation of an approved polio outbreak response plan, which may require a declaration of a Public Health Emergency. However only China and Russian Federation appear to have adequate budgets for communications and social mobilization.

Objective 2 was partly met, i.e. to improve capacity to respond rapidly to the detection of circulating polioviruses

The countries with high immunization coverage all accepted the very real risk of circulating poliovirus especially as China, Kazakhstan and Russian Federation had all experienced outbreaks within the last five years. Each country accepted that they all had hard-to-reach populations, which would be high risk, including nomads in Mongolia, which comprise 30% of a population of almost three million. Each realized the possibility that sustained silent transmission of poliovirus following importation cannot be ruled out in populations with high immunity (as was the case in Israel in 2013).

Kazakhstan confirmed that their updated plan would detail the roles and responsibilities of the rapid response team.

Transportation of samples to reference laboratories is well thought out and practiced already, but logistical problems and delays are possible, as the participating countries cover a large geographic area.

Objective 2 incorporates GPEI critical function 3: Technical and human resources

All participating countries generally have good technical and human resources, although health care training in active screening for AFP in under-15-year-olds in advance of any potential outbreak would require Government commitment and funding.

Technical assistance would also be expected from WHO and GPEI partners in order to produce an effective response to a polio outbreak.

Objective 3 was met, i.e. to improve capacity to use the IHR mechanism in the event of detection of wild poliovirus or vaccine-derived polioviruses.

Objective 3 incorporates GPEI critical function 4: Information management

The country teams all appeared to be knowledgeable of the IHR mechanism to activate in the event of WPV (or VDPV) detection and all the participating countries’ governments had appointed an IHR National Focal Point.

Countries have clear, effective and practiced information management and reporting systems for collecting, analysing and disseminating communicable disease data nationally and to WHO. It was also agreed that sharing information between countries was necessary.
Part 3 – Evaluation of the exercise (continued)

Objective 4 was met: Explore the communications response to the detection of wild poliovirus, including strategic-level planning and the development and use of traditional and social media.

Objective 4 incorporates GPEI critical function 5: External communication, social mobilization and behaviour change.

Communications was explored thoroughly during the workshop and the exercise, and streamlining the existing national plan of action with the GPEI SOP to include a crisis communications plan was identified as a requirement. Participants felt it would be helpful for WHO to include a polio communications Q&A on the WHO website to aid countries to write their own communications plans. This has been done for pandemic influenza and is very useful.

Recommendation 8. WHO to include a polio communications Q&A on the WHO website to aid countries to write their own communications plans.

An exercise teleconference chaired by WHO was held at the start of the outbreak response to practice the logistics around rapidly setting up a meeting with key people speaking different languages dialling in from neighbouring countries. There needed to be an agreed format including the logistics of simultaneous translations during such a teleconference.

During the exercise the country groups were asked to prepare a briefing to their Health Minister and later on to deliver a press release. The official briefings were thorough, accurate and appropriate; the press releases were less successful as they were almost identical to the briefings. During the communications workshop participants realized the importance of a single over-riding communication objective and keeping messages to the media and public short and understandable, avoiding any scientific jargon.

Recommendation 9. Further media training, including for spokespersons.

Participants also explored communication to the public through traditional media (television, radio, newspapers) and discussed the importance of working with journalists to ensure the correct messages are disseminated.

Social networks were not routinely monitored but are an important aspect of social mobilization in order to gauge public mood and when necessary mitigate anti-vaccination rumours. During the Tajikistan outbreak, Kazakhstan had experience of divisive stories being circulated that the serious outbreak was a malicious fabrication. There was discussion around the ethics of using material showing paralysed children to get the message across.

Recommendation 10. Strengthen monitoring of social media.
**Suggested improvements for future WHO POSEs**

All of the suggested improvements from POSE III were implemented in POSE IV. Feedback received from participants suggested that the format, time-management, brainstorming and activities ensured that they worked hard and learned a lot. However, the exercise can still be improved. There are three further additions that would add value to the exercise experience.

Sharing real-life experience: It was suggested that countries that have responded to a polio outbreak should give a presentation on how this was managed and an overview of the lessons learnt.

**Exercise improvement 1.** Countries that have responded to a polio outbreak should give a presentation on how this was managed and an overview of the lessons learned.

Cross-border working: Some participants suggested that there should be more interaction between the groups during the exercise and also perhaps socially at an evening reception.

**Exercise improvement 2.** Increase interaction between the country groups during the exercise and also perhaps socially at an evening reception.

Expert guidance: Participants acknowledged that their country response would be specific to their country and therefore tailored by them, but often they were looking for more guidance from the experts about best practice.

**Exercise improvement 3.** Increase input and guidance from the experts about best practice.
POSE IV was successful in allowing participants to critically review their national polio plans. It raised awareness of the GPEI SOP and the issues surrounding a polio response, and gave an opportunity to share good practice.

The participating countries were all very aware of the real risk of polio crossing the borders from the endemic countries of Afghanistan and Pakistan, requiring the support and commitment of their government.

The exercise made clear that preparedness is essential through the regular review of polio plans, vaccine and surveillance performance. The exercise highlighted the importance of effective pre-prepared communications strategies, the importance of monitoring and that effective risk communications requires a dedicated budget.

The POSE series of simulation exercises has promoted and benefitted the Global Polio Eradication Initiative. In addition a self-use resource was developed by Public Health England and the Regional Office to help countries self-assess their emergency plans and preparedness.

We have never been so close to global polio eradication and if all countries remain vigilant and a final sustained effort is delivered to the remaining endemic countries, this goal could be achieved by 2018.
# Table 1. Recommendations

## General recommendations

**Recommendation 1**  
Update national plans in line with the GPEI SOP and continue to review on a regular basis.

**Recommendation 2**  
Develop national risk communication plans in preparation for the management of a polio outbreak. These could include specific public and social media strategies.

**Recommendation 3**  
Continue sustaining high immunization coverage and increasing coverage in high-risk or transient populations.

**Recommendation 4**  
Health Ministries: collaborate with other ministries to obtain current information on population movement across borders to facilitate risk assessment.

**Recommendation 5**  
Continue high-quality AFP surveillance and environmental surveillance.

**Recommendation 6**  
Consider health care training in active screening for AFP in advance of any potential outbreak.

**Recommendation 7**  
In advance of a potential outbreak, inform GPEI of all difficulties a country may encounter in meeting all the requirements of the SOP.

**Recommendation 8**  
WHO: include a polio communications Q&A on the WHO website to aid countries to write their own comms plans.

**Recommendation 9**  
Further media training, including for spokespersons.

**Recommendation 10**  
Strengthen monitoring of social media.

## Exercise improvements

**Recommendation 1**  
Countries that have responded to a polio outbreak should give a presentation on how this was managed and an overview of the lessons learnt.

**Recommendation 2**  
Increase interaction between the country groups during the exercise and also perhaps socially at an evening reception.

**Recommendation 3**  
Increase input and guidance from the experts about best practice.
## Appendix A – Participants

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<tr>
<th>Name</th>
<th>Organization/country</th>
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<tr>
<td>Dr Mi Yanping</td>
<td>China</td>
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<tr>
<td>Dr Zhang Yong</td>
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<td>Dr Wen Ning</td>
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<td>Dr Manar Smagul</td>
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<td>Dr Ainagul Kuatbayeva</td>
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<td>Dr Aknur Mutaliyeva</td>
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<td>Dr Asel Sametova</td>
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<td>Dr Nurjamal Sheisheeva</td>
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<td>Dr Tilek Buteshov</td>
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<td>Dr Elena Turkenich</td>
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<td>Dr Madina Mambetova</td>
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<td>Dr Narangerel Dorj</td>
<td>Mongolia</td>
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<tr>
<td>Dr Amarjargal Choijoo</td>
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<tr>
<td>Dr Mukhbat Enkhtuya</td>
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<tr>
<td>Dr Ichinkhorloo Bonduush</td>
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<td>Dr Nyamkhuu Dulmaa</td>
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<tr>
<td>Dr Deblina Datta</td>
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<tr>
<td>Dr Marina Kazinova</td>
<td>Russian Federation</td>
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<tr>
<td>Dr Nadezhda Morozova</td>
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<tr>
<td>Ms Hilary Moulsdale</td>
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<td>Ms Gema Rios</td>
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<tr>
<td>Mr Craig Cameron</td>
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<td>Dr Mark Evans</td>
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## Appendix A – Participants

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization/country</th>
</tr>
</thead>
<tbody>
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<td>UNICEF/Kazakhstan</td>
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<td>Dr Tigran Avagyan</td>
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<td>Dr Zuo Shuyan</td>
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<td>Dr Sodbayar Demberelsuren</td>
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<td>Mr Robb Butler</td>
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<td>Dr Patrick O’Connor</td>
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<td>Dr Sergei Deshevoi</td>
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<td>Dr Shahin Huseynov</td>
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<td>Thomas Hofmann</td>
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<td>Dr Zhanara Bekenova</td>
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<td>Professor Erdenebaatar Janchivdorj</td>
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<td>Jascha Wiehn</td>
<td>Institute of Veterinary Medicine</td>
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<td>Ms Luidmila Funso</td>
<td>Consultant</td>
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<tr>
<td>Mr Timur Nurpeisov</td>
<td>Consultant</td>
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</tbody>
</table>
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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