TECHNICAL REPORT

Case studies on preparedness planning for polio in Poland and Cyprus

www.ecdc.europa.eu

ECDC TECHNICAL REPORT

Case studies on preparedness planning for polio in Poland and Cyprus

This report was commissioned by the European Centre for Disease Prevention and Control (ECDC), coordinated by Svetla Tsolova (with support and input from Massimo Ciotti, Tarik Derrough, Paloma Carrillo-Santisteve) and produced by the PrEPArE Team (Public Health Emergency Preparedness Activities for Europe), Umeå University, Sweden.

Authors
John Kinsman, Fredrik Elgh and John Angrén

Acknowledgements
ECDC would like to acknowledge the work of the Cypriot and Polish ECDC national focal points for preparedness and response, Maria Koliou, Aleksandra Czyrznikowska and Michał Ilnicki.

Additional thanks go to Donato Greco (external consultant).

Suggested citation: European Centre for Disease Prevention and Control. Case studies on preparedness planning for polio in Poland and Cyprus. Stockholm: ECDC; 2016.

Stockholm, December 2016

Cover photo: UN Photo/JC McIlwaine, license CC BY-NC-ND 2.0

ISBN 978-92-9498-025-0
doi 10.2900/119689
Catalogue number TQ-07-16-086-EN-N

© European Centre for Disease Prevention and Control, 2016

Reproduction is authorised, provided the source is acknowledged

Contents

Abbreviations

cVDPV1	Vaccine-derived poliovirus type 1
GPEI	Global Polio Eradication Initiative
IPV	Inactivated poliovirus vaccine
OPV	Oral polio vaccine
POSE	Polio outbreak simulation exercise
RCC	Regional Certification Commission for Poliomyelitis Eradication
VAPP	Vaccine-associated paralytic poliomyelitis
VDPV	Vaccine-derived poliovirus
WPV	Wild poliovirus

Introduction

Decision 1082/2013/EU[1] on serious cross-border health threats provides a legal basis for collaboration and information exchange between EU Member States and between international and European-level institutions on preparedness planning, prevention, and mitigation in the event of a public health emergency. Specific attention is paid in the Decision to arrangements aimed at ensuring interoperability between the health sector and other sectors identified as being critical in the case of a public health emergency. This multisectoral and cross-border approach to preparedness is a relatively new policy area, and there remain some uncertainties about what it involves. While people in the health sector are very familiar with planning for outbreaks, the intersectoral and cross-border planning issues are not so widely understood.

In June 2015, the European Regional Certification Commission for Poliomyelitis Eradication (RCC) reviewed the annual updates for 2014 on the status of the national polio eradication programmes submitted by the Member States of the WHO European Region. The report of the meeting [1] concluded that the risk of importation and subsequent transmission of poliovirus in the WHO European Region remains high in some European countries. The subsequent annual RCC meeting, in June 2016, reiterated this point [2], although some new countries were now identified as being at elevated risk, while other countries had been removed from the list. This indicates that protecting the European Region from polio remains a significant and dynamic challenge, and that long-term efforts are required to bring about and sustain a minimal level of risk.

Europe's polio-free status has been challenged on several occasions following importation of wild poliovirus (WPV), including in 2013–2014 when (i) WPV was detected in sewage samples in Israel and (ii) when cases of paralytic poliomyelitis were confirmed in Syria at a time when the EU and EEA was receiving refugees from Syria. The detection of WPV in environmental samples in Israel was a reminder that wild poliovirus can circulate silently even in populations with very high inactivated poliovirus vaccine (IPV) immunisation coverage. In July 2015, two cases of circulating vaccine-derived poliovirus type 1 (cVDPV1) were also confirmed in Ukraine: only 50% of children in the country were fully immunised against polio and other vaccine-preventable diseases in 2014, and just 14% of infants under one year were estimated to have received the required doses of polio vaccine [3].

Following an increase in the international spread and in the number of cases reported, on 28 May 2014, WHO declared the international spread of polio to be a Public Health Emergency of International Concern. WHO called for global action to be taken to interrupt transmission and to strengthen efforts to prevent its spread. With this background, the European Centre for Disease Prevention and Control (ECDC) initiated a case study project to review the public health preparedness status of the health and other sectors in two EU Member States in the event of a polio outbreak[2]: Poland and Cyprus. Poland is neighbouring to the region of Ukraine where the outbreak of cVDPV was identified in 2015; and Cyprus has been receiving migrants from North Africa and the Middle East, some of whom may not have been vaccinated against polio. Poland and Cyprus were both considered by the RCC's 2015 report to be at 'intermediate risk' for the spread of infection following any poliovirus importation [1].

The overall objective of this case study is to support these two EU Member States in updating their polio preparedness planning, and in complying with the RCC's reporting requirements. The specific aims of the case study were to:

- critically review implemented actions that have been successful, and identify gaps in order to propose approaches for strengthening key elements of the national polio plans; and
- identify and analyse health system and intersectoral elements that are important in polio preparedness planning, and provide examples of collaborative efforts between these sectors in planning measures for outbreak response to polio as a cross-border health threat.

[1] Decision No 1082/2013/EU of the European Parliament and of the Council of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC. Available from: http://ec.europa.eu/health/preparedness_response/docs/decision_serious_crossborder_threats_22102013_en.pdf

[2] In a country that has been free from polio for at least six months, a poliovirus outbreak is defined as *either* a single or multiple case(s) of poliomyelitis due to WPV or cVDPV, *or* a positive environmental sample for WPV/VDPV given that two or more separate samples contain WPV/VDPV with genetic sequencing information that indicates sustained local transmission; or a single sample is positive for WPV/VDPV and follow-up investigation identifies polio compatible cases or WPV/VDPV infected persons [8].

Global efforts towards polio eradication

The Global Polio Eradication Initiative (GPEI) was launched by the World Health Assembly in 1988. Since then, billions of children have been vaccinated. Although there have been setbacks (as indicated by the WHO's 2014 declaration of polio as a Public Health Emergency of International Concern), the annual number of global polio cases has decreased from over 350 000 in 1988 to just 72 cases in 2015. Currently, two countries remain endemic for wild poliovirus (Pakistan and Afghanistan), with Nigeria recently experiencing cases after a two-year polio-free period. An additional seven countries experienced outbreaks of circulating vaccine-derived poliovirus (cVDPV) in 2015 or 2016 (Pakistan, Guinea, Laos, Myanmar, Madagascar, Nigeria, and Ukraine), with a total of 28 cases [4,5].

Currently, GPEI is overseeing what is known as the endgame strategy, which has the goal of a polio-free world by 2018. In order to achieve this, three major objectives must be met [6]:

- Detect and interrupt all poliovirus transmission. Stop all wild poliovirus (WPV) transmission and new cVDPV outbreaks within 120 days of confirmation of the first case.
- Cessation of the use of oral polio vaccine (OPV) in order to eliminate the risks of vaccine-associated paralytic poliomyelitis (VAPP), chronic immunodeficiency-associated vaccine-derived poliovirus (iVDPV), and outbreaks of circulating vaccine-derived poliovirus (cVDPV). A globally coordinated action took place in April 2016, in which all trivalent OPVs (including types 1, 2 and 3) were taken out of circulation in 155 countries around the world, and replaced with bivalent vaccines, which do not include type 2[3].Type 2 has been responsible for 90% of cVDPV outbreaks in recent years [7], and its removal from the global vaccination programme will mark an important milestone in the Endgame Strategy.
- Implementation of poliovirus safe-handling and containment measures in order to minimise the risks of a facility-associated reintroduction of virus into the polio-free community. These containment activities are guided by the third edition of the Global Action Plan (GAPIII), which works on the basis that most countries will have no need to retain live polioviruses in the post-eradication and post-OPV era. Facility-associated risks in these countries can be eliminated by a thorough nationwide search for and destruction of all WPV and all OPV/Sabin infectious and potentially infectious materials [7].

In countries where polio has been eradicated, continuous surveillance is necessary in order to facilitate a rapid response in the event that the virus returns. Such surveillance takes the form of acute flaccid paralysis (AFP) surveillance, which detects suspected clinical polio cases within the health system; and environmental surveillance, which investigates sewage or wastewater in order to provide an early indication of new subclinical poliovirus importations or of vaccine-derived poliovirus (VDPV) transmission. A secondary but nonetheless major role of environmental surveillance is to provide evidence that a country remains polio-free [6].

Should a polio outbreak be identified, WHO has issued a set of standard operating procedures that are designed to assist governments to mount a rapid and effective response. One of the core principles of the standard operating procedures is a 'no-regrets' policy, which ensures that sufficient technical and financial resources will always be provided by GPEI to assist countries that are fighting an outbreak, on the basis that 'it is better to err on the side of over-resourcing the critical functions than to risk failure by under-resourcing' [8].

Polio vaccination in Poland and Cyprus

The last cases of poliomyelitis due to wild poliovirus in Poland and Cyprus were registered in 1984 and 1995, respectively. Current efforts against polio are therefore aimed at maintaining the two countries' polio-free status.

The polio vaccination schedule in Poland currently consists of four doses of IPV. Up until April 2016, when the globally coordinated action on the oral polio vaccine (OPV) switch described above was implemented[4], the schedule included three doses of IPV vaccine in children under 2 years of age (first dose at 3–4 months of age, second at 5–6 months, third at 16–18 months), and a supplementary dose of OPV at the age of 6 years.

Polio vaccination rates are high across all regions of Poland, with national coverage for the country's 38.5 million residents in 2014 estimated at 98.2%. The rates vary by region, but all report at least 96% coverage. As of 30 July 2014, 10 689 of the 1 960 000 children under the age of five years in Poland (= 0.54%) were estimated to be

[3] http://www.who.int/immunization/diseases/poliomyelitis/endgame_objective2/oral_polio_vaccine/en/

[4] Objective 2 of the Polio Eradication and Endgame Strategic Plan 2013–2018 calls for an important transition in the vaccines used to eradicate polio and requires the removal of all oral polio vaccines in the long term – to eliminate the rare risks of vaccine-associated paralytic polio and circulating vaccine-derived poliovirus. The withdrawal of OPVs occurred in a globally synchronised manner, starting in April 2016 with a switch from trivalent OPV to bivalent OPV, removing the type 2 component (OPV2) from immunisation programmes. Preparation for the removal of OPVs also includes the introduction of at least one dose of inactivated polio vaccine into routine immunisation programmes in all countries by the end of 2015. (http://www.who.int/immunization/diseases/poliomyelitis/endgame_objective2/oral_polio_vaccine/en/)

susceptible to polio. A total of 58 acute flaccid paralysis (AFP) cases were identified in 2014, but none were classified as polio-compatible (9).

Cyprus is a much smaller country than Poland, with 858 000 residents [10]. The polio vaccination schedule there includes five doses of IPV (i.e. no OPV), given up until the age of 6 years. The last year for which polio immunisation coverage data are available was 2012, when coverage at the national level was reported at 98.8%, with no district reporting below 90% coverage. Three cases of AFP were identified in the country in 2012, but none were classified as polio-compatible [11].

Methodological approach

This study used a qualitative case study methodology [12], which included a documentary review, as well as a series of open-ended, semi-structured interviews with experts from different sectors who are engaged in preparedness planning and response for a polio outbreak.

The documentary review was based on published and unpublished materials, most of which were provided by the Polish and Cypriot National Focal Points for Preparedness (NFPs). The material included, among other documents, the most recent Annual Updates on Polio Eradication Activities, as produced by the respective countries' National Certification Committees, and submitted to the RCC [9, 11]. The material was analysed prior to week-long country visits, at which an intensive series of interviews was conducted. The country visits took place between 2 and 6 November 2015 in Poland, and between 23 and 27 November 2015 in Cyprus. Experts representing different categories of professionals involved in public health emergency planning and response, from both the health and non-health sectors, were identified and recruited for interviews.

The interview questions concerned five broad thematic areas, including surveillance, vaccination, external communication and social mobilisation, national polio preparedness plans, and cross-border issues (see Annex). Two scientists from Umeå University, Sweden, conducted each interview, one of whom asked the questions and led the discussion, while the other took extensive notes. Interviewees were asked a set of pre-defined questions that were specific to their position, and that had been discussed and agreed beforehand with the NFPs. The questions were sent to the informants prior to the interviews to allow them to prepare for the discussion as they saw fit.

Ten interview sessions were held in Poland, mostly including one to three respondents each, but with as many as 20; 14 interview sessions were held in Cyprus, with up to eight respondents per session. Interviewees in both countries were identified and recruited by the ECDC NFPs for Preparedness and Response, who also took responsibility for organising the times and venues of each interview during our country visits. The list of key stake holders to be invited for an interview was discussed and agreed with both countries in teleconferences prior to country visits. The categories of informants in the two countries included:

- Health sector: ministry of health (chief sanitary inspectorate, chief health officer, focal point for preparedness/expanded programme on immunisation (EPI) manager, health communicator/spokesperson), national polio certification committee, national institute of public health, hospital ward for paediatric neurology, Red Cross, national immunisation coordinator, central pharmacy, laboratory, health security committee representative and local health authorities.
- Non-health sector: ministry of foreign affairs, ministry of the interior, police and border control, ministry of justice, civil defence, asylum and refugee centre representatives, health journalists

The data were subjected to thematic analysis, based on the five broad thematic areas identified above, but a few other themes also emerged from the data during analysis. In order to facilitate identifying common features, to be addressed systematically in the way forward, a standardised approach was taken for the preparatory work, interviews during the country visits, and data analysis.

The country visits were focused primarily on the national level, but in Poland, a 24-hour visit was made to Rzeszów in the south-east of the country, 300 km from Warsaw and near to the Ukraine border. In Cyprus, the team spent half a day at an asylum and refugee centre at Kofinou, 50 km from Nicosia. We did not conduct any interviews with international institutions such as the European Commission, WHO, or ECDC (note that the Red Cross interviewees were working at local level and as such did not represent the organisation's international positions), and this may have implications for the interpretation of the data.

Cross-country findings on preparedness capacity

Strengths

Several major strengths were identified in the polio preparedness capacity of both Poland and Cyprus.

- Strong legal frameworks. The major overall finding from this case study exercise is that each of the sectors that are involved in polio preparedness in both Poland and Cyprus work within a clear legal framework, and

all the key actors appear to be fully informed about their respective roles and tasks. These are, in other words, well-integrated and properly functioning systems.
- Environmental surveillance capacity. Both Poland and Cyprus have the technical and scientific capacity to conduct polio environmental surveillance, even though this capacity is not being utilised in either country.
- Vaccination coverage. Overall polio vaccination rates are high in both Cyprus and Poland.
- Intersectoral collaboration. In general, there appears to be good coordination for polio preparedness between the health- and the non-health sector representatives with whom we met in both countries.

Challenges and suggested ways forward

In spite of the overall high level of preparedness and technical expertise in both countries, some areas were identified as needing attention. The text below concerns issues that arose in both Poland and Cyprus, and as such this represents an aggregated list of challenges and suggested ways of addressing these challenges. Issues that arose in only one of the two countries are not included here. All the suggested ways forward were given by at least one expert during our interviews.

1. Environmental surveillance

Neither Poland nor Cyprus currently conduct environmental surveillance, but there was clear consensus among the experts whom we met that its absence undermines the two countries' capacity to protect themselves against a polio outbreak. National experts argued for the introduction of environmental surveillance in regional capitals, potential hot spots such as refugee centres, major airports, and other points of entry. In the event that sustainable funding for environmental surveillance was obtained, it would also be important to think through what would have to be done in the event that polio virus was identified. If this happened, a series of pre-defined activities – such as mass vaccination – would then be required by law, and some additional funding would be needed to support these.

Suggested ways forward:

- Promoting environmental surveillance among decision makers. There is a need for decision makers to endorse and provide sustained funding for the implementation and maintenance of environmental surveillance systems. It is important that communications are carefully tailored so that decision makers understand the importance of environmental surveillance, not least as a potentially cost-effective exercise over the longer term since it would likely identify a polio outbreak early on, thus reducing its spread, impact, and cost.
- Proposal development. There were requests to have ECDC contribute to the development of concrete proposals for establishing environmental surveillance in both countries, including funding estimations. Targeting the respective ministries of health, the proposals would be aimed at ensuring sustained funding for environmental surveillance over a number of years.
- Information exchange. There were requests for ECDC to organise a technical workshop on environmental surveillance, with input from both ECDC experts and experts from other EU Member States that have implemented environmental surveillance. The workshop would facilitate the exchange of experiences and lessons learned concerning the practicalities of conducting large-scale environmental surveillance.

2. Addressing vaccine hesitancy, and promoting vaccination more generally

Although overall vaccination rates are high in both countries, there are increasing numbers of parents in both countries who, for a number of reasons, do not want to have their children vaccinated. The absolute numbers of such people remain relatively small, but they constitute a vocal group whose efforts can significantly undermine public trust in vaccination programmes.

Suggested ways forward:

- National awareness campaign. Memories of polio have largely faded from national consciousness in both countries, and a majority of people are simply unaware of its potentially devastating effects. Sustained national awareness campaigns using a variety of channels, including social media, could be considered to promote vaccination, both for polio but also more generally. These campaigns should be properly evaluated, and lessons learned fed back to ensure improvement and continued relevance.
- Understanding vaccine hesitancy. The rationales of those who resist vaccination for their children are not fully understood. In-country medical anthropologists or social scientists with similar skills would be well placed to conduct systematic investigations of this issue and provide important insights for national health communicators into how to address it.
- Improve journalists' health literacy. Trainings about polio vaccination and the benefits of vaccination in general could be held for journalists, so as to ensure that they report the topic accurately.
- Use information that is already available. Information, links and other available materials on how to address vaccine hesitancy are available from, for example, ECDC and the Global Polio Eradication Initiative. These could prove invaluable in addressing vaccine hesitancy and supporting vaccination in general, for use at the national and local levels

3. Intersectoral collaboration

Formal protocols for use in the event of a polio outbreak exist in Poland and Cyprus, and include mention of intersectoral collaboration. However, the protocols have not been tested as there have been neither polio cases nor any substantial exercises (such as a polio outbreak simulation exercise, or POSE) in either country for decades. It may be challenging to ensure effective intersectoral collaboration under such circumstances.

Suggested ways forward:

- It is important that protocols are regularly reviewed and updated as necessary, with a particular focus on ensuring effective intersectoral collaboration. This may be facilitated by conducting simulation exercises, as detailed in Section 5 below.
- If environmental surveillance is to be introduced, new stakeholders from other, non-health sectors will become involved. Efforts will be needed to provide actors and institutions in these other sectors with clear guidance on their respective roles.

4. Booster vaccinations for front line personnel

Personnel from the health and other sectors who are working with migrants and other potential carriers of poliovirus do not currently receive polio vaccine booster doses as part of standard practice. There were requests made by interviewees for booster vaccinations to be made available for healthworkers and others whose work could place them at risk of contracting polio.

Suggested ways forward:

- It could be beneficial for potentially at-risk staff to have the option of receiving booster vaccinations formally recommended and subsidised by the national-level authorities.
- If booster vaccinations are considered and necessary funding is available to support a booster vaccination programme, sufficient quantities of IPV would have to be acquired.

5. Training and exercises

The absence of polio in Poland and Cyprus since 1984 and 1995, respectively, has diminished both knowledge of the disease among clinicians as well as hands-on experience in dealing with it. Since a rapid and effective initial response is essential for controlling a polio outbreak, this diminished capacity could lead to delays and a compromised response.

Suggested way forward:

- A simulation exercise or training course on risk assessment and incident analysis at national and/or regional level, involving all relevant sectors, could be used to review and discuss existing outbreak response guidelines for polio. Support from ECDC for such an effort would be appreciated.

6. Service provision for refugees and the Roma population

Both Poland and Cyprus have relatively small but nonetheless significant numbers of refugees and Roma people. These groups are particularly vulnerable to having low vaccination rates.

Refugees: Poland and Cyprus are the first EU countries reached by many refugees, who require health screening and, if necessary, the opportunity to be vaccinated. Communication can be challenging for refugees because there may be no shared language with the personnel who are receiving them, and there are also the possibility for cultural misunderstandings.

Suggested way forward:

- Culturally and linguistically appropriate medical information should be considered, including about vaccination. Written and/or visual materials on this issue may already exist from other countries in Europe, which ECDC may be able to help identify, so as to avoid any unnecessary duplication of work.

Roma: As Roma people are often itinerant, it is not always easy to provide them with health services, including vaccination.

Suggested way forward:

- Ongoing engagement with Roma community leaders in combination with outreach services would help to maximise vaccination rates.

Conclusion

Decision 10821082/2013/EU provides a strong framework based on which EU Member States can enhance their intersectoral preparedness status against serious cross-border health threats.

Polio is just one of many such health threats, but the substantial resources and expertise that exist globally to bring about polio eradication bring with them the opportunity to strengthen preparedness and response activities more generally. Many of the lessons learned from polio are sufficiently generic to be applicable to wider immunisation programmes, as well as to other preparedness planning activities. These include, for example, strategies to address vaccine hesitancy and to increase vaccine coverage among under-served populations; the value of having a clear legal framework supported by accompanying standard operating procedures that delineate specific roles for the various sectors, institutions and agencies that may be involved in preparedness and response; and the importance of conducting training and exercises in order to strengthen capacity and identify gaps that could impede the response to a future outbreak.

This case study project has reported on these generic issues, but it has also looked into several important polio-specific points. We heard strong calls from our interviewees for the institution of, for example, environmental surveillance as a means of identifying potentially circulating poliovirus, and booster shots for workers in various different sectors who may be at high risk of exposure to polio. We acknowledge the relatively small number of interviews involved in our field visits as a potential limitation of the study, and we do not claim that these calls are universally shared by all relevant actors in the two participating countries. However, the fact that there were no dissenting voices from amongst our interviewees on these points indicates at the very least that these issues deserve additional attention, perhaps involving a comprehensive cost–benefit analysis of the suggestions.

This report focuses on case study work conducted in two quite different EU countries, but we have presented material that was common to both. It may be, therefore, that some of the issues raised and the suggestions made are also relevant in other EU Member States. On this basis, it is hoped that the findings presented in this Technical Report may assist such EU Member States in their efforts to remain polio-free while simultaneously providing input into their wider, more generic prevention and control activities.

ECDC, together with the WHO Regional Office for Europe, is discussing further activities to support EU Member States to perform sustainable actions for enhanced surveillance. The Centre also supports activities to raise awareness among health professionals, promoting the need to ensure a polio-free environment.

References

1. WHO Regional Office for Europe. Report of the 29th Meeting of the European Certification Committee for Poliomyelitis Eradication. Copenhagen: WHO Europe; 2015. Available from: http://www.euro.who.int/__data/assets/pdf_file/0006/287511/RCC29-meeting-report-final-19-10-15.pdf.
2. WHO Regional Office for Europe. 30th Meeting of the European Regional Certification Commission for Poliomyelitis Eradication. Copenhagen: WHO Europe; 2016. Available from: http://www.euro.who.int/__data/assets/pdf_file/0006/318651/Meeting-report-30th-RCC.pdf.
3. European Centre for Disease Prevention and Control. Rapid risk assessment: Outbreak of circulating vaccine-derived poliovirus type 1 (cVDPV1) in Ukraine. Stockholm: ECDC; 2015.
4. Global Polio Eradication Initiative/World Health Organization. Polio now [interactive map with cases of polio and surveillance indicators]. [Accessed 9 Nov 2016.] Geneva: WHO; 2016. Available from: http://www.polioeradication.org/Dataandmonitoring/Poliothisweek/Poliocasesworldwide.aspx
5. Global Polio Eradication Initiative/World Health Organization. GPEI statement: opportunity for eradication remains despite Nigeria cases. Geneva: WHO; 2016. Available from: http://reliefweb.int/sites/reliefweb.int/files/resources/GPEIStatement201608.pdf
6. Global Polio Eradication Initiative/World Health Organization. Guidelines on environmental surveillance for detection of polioviruses – working draft. Geneva: WHO; 2015. Available from: http://polioeradication.org/wp-content/uploads/2016/07/GPLN_GuidelinesES_April2015.pdf
7. World Health Organization. WHO Global Action Plan to minimise poliovirus facility-associated risk after type-specific eradication of wild polioviruses and sequential cessation of oral polio vaccine use – GAPIII. Geneva: WHO; 2015. Available from: http://polioeradication.org/wp-content/uploads/2016/09/GAPIII_2014.pdf
8. Global Polio Eradication Initiative/World Health Organization. Responding to a polio outbreak: standard operating Procedures for a new polio outbreak in a polio-free country. Geneva: WHO; 2015.
9. National Certification Committee for Poland. Annual update on polio eradication activities for 2014, Poland. Warsaw; 2014. [Unpublished, internal document for WHO Regional Office for Europe.]
10. Eurostat. [Accessed 9 November 2016]. Brussels: Eurostat; 2016. Available from: http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tps00001&plugin=1
11. National Certification Committee for Cyprus. Annual update on polio eradication activities for 2013. Nicosia: NCC Cyprus; 2014. [Unpublished, internal document for WHO Regional Office for Europe.]
12. Yin RK. Case study research: design and methods. Los Angeles, California: Sage; 2009.

Annex. Interview questions used in this study

Each interviewee was asked a subset of these questions, selected in accordance with their professional position and expertise.

Surveillance

1. Overall, do you think the country has sufficient surveillance capacity to detect a polio outbreak, should one occur? What gaps, if any, exist, and how could these be addressed?
2. Is there currently enhanced clinical surveillance ongoing for AFP in any specific groups (e.g. migrants, inadequately-vaccinated populations), and if so how is it structured? Are there any challenges in this work?
3. Is there currently environmental surveillance ongoing for specific groups (e.g. migrants, inadequately-vaccinated populations), and if so how is it structured? Are there any challenges in this work?
4. Are there sufficient laboratory resources, training, and validated laboratory procedures for any ongoing environmental surveillance in the country? Please describe these. Are there any funding or other challenges for this work?

Vaccination

5. [Cyprus only] Since IPV is currently being used in Cyprus for routine polio vaccination, what is the protocol for obtaining OPV/mOPV in the event of an outbreak? Do you think that sufficient quantities will be available, or do you anticipate possible shortages? Is funding likely to be available for vaccine procurement?
6. Is there currently a strategy for increasing immunisation coverage (i.e. through supplementary immunisation activities) of migrant and lower-uptake populations? Details?
7. [Cyprus only] Do refugee centres, or other structures attending to refugees, assess polio vaccination status and vaccinate all children under five years of age from high-risk countries unless the child has proof of vaccination?
8. Are booster polio vaccines provided for Polish/Cypriot citizens who are working with high-risk populations?
9. How would you assess public perceptions and knowledge about polio vaccination, and in particular OPV? Do you expect there may be resistance to using it in the event of an outbreak?
10. Are you satisfied by the accuracy of routine polio immunisation coverage data in the country, both for the whole population and for any hard-to-reach groups? Please explain.

External communication, social mobilisation, and behaviour change communication

11. What sort of communication strategy (both internal and external) has been developed to respond to a polio outbreak? Who is responsible for implementing the strategy? How has this system worked during any previous health alerts, and what improvements may be needed?
12. To what extent are public health experts in the ministry of health and in the health services informed about the principles and practice of health communication? Do those who will be working as official spokespeople in the event of a health emergency such as a polio outbreak have media training? Details of the training?
13. What is the strategy, if one is available, to inform clinicians and media contacts how they can gain access to the latest advice in the event of a polio outbreak?
14. What are the systems/structures for working with specific journalists, media focal persons, or communications channels within the media during a polio outbreak?
15. What are the potential challenges of working with the media in a polio outbreak? How can these best be addressed?
16. What evidence is or will be available regarding community perceptions, attitudes and practices related to immunisation practices, especially OPV; and how would this information be used in the social mobilisation process during a polio outbreak?
17. Have publicity and health promotion materials been produced for use in the event of a polio outbreak? If not, at what point, and by whom, would this process be activated?
18. What plans are there, if any, to utilise social media in the event of a polio outbreak?
19. Are there any guidelines to facilitate planning and coordination with the media from neighbouring countries? Details?

20. Have you had feedback from the public about reporting (by journalists, as well as by the government) on previous health alerts? Are people satisfied with the information they receive from the government and the media? Does the public trust the health information they receive?
21. Describe your experience of reporting on previous disease outbreaks. How have your working relations been with the authorities? Have they actively engaged you and/or your colleagues in their public information campaigns regarding the outbreak?
22. Is it clear to you who has overall official responsibility for health communication to the public in the event of a polio outbreak? Where do you fit in here, as a journalist? How has this system worked during any previous health alerts?
23. Are there plans for communicating with other relevant sectors in the event of a polio outbreak? Are there updated and comprehensive lists of contacts across government, in order to facilitate effective coordination and information exchange? Who is responsible for ensuring that this list of contacts is kept updated, and who is empowered to initiate communication?

National polio preparedness plans

24. When were the national polio response plans last reviewed and updated? Is this done on a regular or on an ad hoc basis?
25. Does the national preparedness plan specify the type of vaccine to be used for the outbreak response (IPV or OPV), the sources of funding, and the source of vaccine supply in case of emergency?
26. Does the national preparedness plan specify the command and control structures that would be needed in order to coordinate the response (e.g. descriptions of responsibilities and chains of command)?
27. Does the national preparedness plan specify the necessary coordination mechanisms that should function between sectors? If not, are there MoUs between the relevant sectors?
28. Is there a budget in place to fund a polio outbreak response? Is / where is this formally included in the national polio response plans?
29. Is there a regional or district planning and coordination structure in place in the event of a polio outbreak? If yes, is it intersectoral? Which institutions are involved and how? To what extent is there national level involvement in sub-national planning and coordination?
30. Has assistance from key international partners been explored in the event of a polio outbreak, and have processes to ensure smooth relations been agreed?
31. Are the reporting protocols under IHR and EWRS in place?
32. What are the plans for destroying all WPV and OPV materials in the country (as under GAP III)? What is the status of such material now: how much is there, where is it, and how secure is it thought to be?
33. Has the country ever participated in a polio outbreak simulation exercise (POSE)? What was the experience, and what impact, if any, did it have on national preparedness plans?
34. Are you satisfied that the health services have sufficient support – clinically, administratively, and managerially – to effectively and safely manage a polio outbreak or event in the country? What might be still needed, and who would be responsible for providing this?
35. What actions would be taken in the event of a polio outbreak being confirmed in the country?

Cross-border issues

36. Does the national preparedness plan specify how cross-border coordination of the response will be conducted?
37. Has joint work been undertaken with or other countries (neighbouring, EU, and/or non-EU) on issues of mutual concern in the event of a possible polio outbreak? If yes, what form has this taken, who has been involved, what has been the outcome, and what have been the challenges in the process? If no, has the possibility of such joint work been discussed?
38. Are there plans for communicating with neighbouring, EU, and other countries in the event of a polio outbreak? Are there updated and comprehensive lists of contacts for the key institutions in these countries, in order to facilitate effective coordination and information exchange? Who is responsible for ensuring that this list of contacts is kept updated, and who is empowered to initiate communication? Do you think the planning for this is adequate, or would more work on it be needed? Please explain.

General

39. What do you see as your main institutional strength in terms of preparedness for polio?
40. Where do you think improvements are still needed within your institution or your sector in terms of preparedness for polio? What would be needed to bring these improvements about?
41. What would be your institutional role in responding to a polio outbreak? Is this role defined in a formal protocol?

European Centre for Disease Prevention and Control (ECDC)

Postal address:
Granits väg 8, SE-171 65 Solna, Sweden

Visiting address:
Tomtebodavägen 11A, SE-171 65 Solna, Sweden

Tel. +46 858601000
Fax +46 858601001
www.ecdc.europa.eu

An agency of the European Union
www.europa.eu

Subscribe to our monthly email
www.ecdc.europa.eu/en/publications

Contact us
publications@ecdc.europa.eu

Follow us on Twitter
@ECDC_EU

Like our Facebook page
www.facebook.com/ECDC.EU

ECDC is committed to ensuring the transparency and independence of its work

In accordance with the Staff Regulations for Officials and Conditions of Employment of Other Servants of the European Union and the ECDC Independence Policy, ECDC staff members shall not, in the performance of their duties, deal with a matter in which, directly or indirectly, they have any personal interest such as to impair their independence. Declarations of interest must be received from any prospective contractor(s) before any contract can be awarded.
www.ecdc.europa.eu/en/aboutus/transparency

HOW TO OBTAIN EU PUBLICATIONS

Free publications:

- one copy:
  via EU Bookshop (http://bookshop.europa.eu);
- more than one copy or posters/maps:
  from the European Union's representations (http://ec.europa.eu/represent_en.htm);
  from the delegations in non-EU countries (http://eeas.europa.eu/delegations/index_en.htm);
  by contacting the Europe Direct service (http://europa.eu/europedirect/index_en.htm) or
  calling 00 800 6 7 8 9 10 11 (freephone number from anywhere in the EU) (*).

  (*) The information given is free, as are most calls (though some operators, phone boxes or hotels may charge you).

Priced publications:

- via EU Bookshop (http://bookshop.europa.eu).

Publications Office