POLIO GLOBAL ERADICATION INITIATIVE

STRATEGIC PLAN

FOR POLIO OUTBREAK RESPONSE IN THE MIDDLE EAST

November 2013

THE SYRIAN ARAB REPUBLIC, IRAQ, JORDAN,
LEBANON, TURKEY, WEST BANK
AND GAZA STRIP, EGYPT

World Health Organization

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Design by Paprika (Annecy, France)

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In October 2013, wild poliovirus was detected in north-eastern Syrian Arab Republic.
A robust coordinated multipartner plan is needed to interrupt virus transmission to protect the children in the region from paralytic polio.

CONTENTS

I. EXECUTIVE SUMMARY

The "WHO/UNICEF Strategic Plan for Polio Outbreak Response in the Middle East" outlines the specific actions that will need to be implemented across the Syrian Arab Republic, Iraq, Jordan, Lebanon, Turkey, Egypt and the West Bank and Gaza Strip[1] in response to the circulation of wild poliovirus (WPV) following importation. Successful implementation of all activities will meet the stated *objective of the plan: to stop this outbreak by the end of March 2014.*

New innovations and outbreak response guidelines form the backbone of this plan, based on lessons learnt over the past 10 years and capitalizing on new tools and tactics proven to more rapidly stop outbreaks following reinfection. The plan was jointly finalized by the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) in collaboration with the ministries of health and other humanitarian aid and United Nations (UN) partners.

On 28 October 2013, the Minister of Health of the Syrian Arab Republic announced that after a 15-year absence, polio had returned to the Middle East. Thirteen cases due to wild poliovirus type 1 (WPV1) were confirmed from Deir Al Zour province. Genetic sequencing indicates that the virus has been in the region for nearly a year (linked to virus detected in environmental samples in Egypt in December 2012, with closely related strains also detected in environmental samples in Israel, and the West Bank and Gaza since February 2013). Since that time, four additional cases have been reported including from Aleppo and rural Damascus, confirming the initial assumption that WPV circulation was widespread. As of 26 November 2013, a total of 17 cases have been reported.

Given the current situation in the Syrian Arab Republic, frequent population movements across the region and the immunization level in key areas, the risk of further international spread of WPV1 across the region is considered to be high. Thus within 24 hours of confirmation that polio had returned to the Middle East, the ministers of health from across the Eastern Mediterranean declared this reinfection a public health emergency, calling for extraordinary joint action to combat this ancient scourge.

A comprehensive outbreak response will need to be implemented across the region, with seven countries and territories to conduct mass polio vaccination campaigns targeting more than 22 million children aged under 5 years. Depending on the area and based on the evolving epidemiology, the anticipated response will last at least six to eight months. Based on a comprehensive risk assessment, priority zones of intervention have been defined, and available resources will be allocated to these areas in order of priority. The repeated, large-scale immunization campaigns will need to reach at least 90% of the identified target population, taking full advantage of the short interval additional dose approach, proven to more rapidly boost population immunity levels, in particular in difficult-to-access areas. A surveillance alert for the entire region has been issued, and efforts are ongoing to strengthen surveillance for acute flaccid paralysis (AFP). Extensive social mobilization activities are being scaled up, to further build on a history of strong community participation for immunization services across the region.

A critical challenge will be to access all children, including those living in areas difficult to reach due to conflict or insecurity. Outbreak response must therefore be conducted within the broader humanitarian response effort to the Syrian crisis, particularly in the Syrian Arab Republic and in refugee camps and host communities of neighbouring countries. Effective coordination with international humanitarian organizations, UN agencies, national Red Crescent societies, nongovernmental organizations (NGOs) and broader civil society forms a critical aspect of the plan. The primary goal is to ensure that oral polio vaccine (OPV) is urgently delivered into all communities.

1 As far as UNICEF is concerned, mentions of 'West Bank and Gaza Strip' throughout this publication should be understood as referring to the 'State of Palestine'.

Achieving this goal will require financial support. It is estimated that the overall cost for the six-month response in all zones will be approximately US$ 39.6 million with US$ 13.3 million for 2013 and US$ 26.3 million for 2014. Donors are invited to fund the polio outbreak response efforts in the Middle East through Regional Response Plan #6 (RRP6) of the Office of the United Nations High Commissioner for Refugees (UNHCR), the Syrian Humanitarian Assistance Response Plan (SHARP) and other emergency funding mechanisms. Specific funding projects for the polio outbreak and response efforts are being included in the RRP6 (surrounding countries) and in the SHARP (Syrian Arab Republic) to facilitate this process.

Bilateral funding from donor governments and humanitarian assistance agencies will also be necessary to cover any urgent gaps in funding for WHO and UNICEF budget lines not met by the humanitarian funding mechanisms, or to cover the costs of countries that cannot be included in the RRP6 and SHARP – for example, the West Bank and Gaza Strip.

WHO and UNICEF are committed to working with all organizations and agencies providing humanitarian assistance to Syrians affected by the conflict. This includes vaccinating all Syrian children no matter where they are, whether in government or contested areas, or indeed outside the Syrian Arab Republic. Ultimately, however, successful implementation of the plan will require the full engagement of all political and civil society partners across the region, as well as the support of the international development community to ensure that the plan is fully implemented and that the threat of polio is eliminated once again from the Middle East.

II. POLIO VIRUS OUTBREAK IN THE MIDDLE EAST

An outbreak of polio has been detected in the Syrian Arab Republic; it follows the detection of WPV in environmental samples in Egypt, Israel and the West Bank and Gaza Strip.

Detection of WPV in a polio-free country/area is a public health emergency. Despite the fact that at this stage polio cases have only been detected in the Syrian Arab Republic, given the complexity of the current situation in the country, the mass population displacement into neighbouring countries and the prolonged period of undetected virus circulation in the region, a multicountry response is needed to contain and eliminate the outbreak.

The strategic approach will be to:

1. implement large-scale and repeated supplementary immunization activities (SIAs) to stop the outbreak and protect all at-risk populations;
2. enhance the reporting and investigation of AFP cases to ensure rapid detection and response to any WPV transmission; and
3. improve routine immunization coverage to provide protection in the longer term and to sustain the polio-free status.

Based on a comprehensive risk assessment, three priority zones of intervention have been defined (Figure 1):

- *Zone 1: Primary Outbreak Intervention Zone:* Syrian Arab Republic
- *Zone 2: Secondary Outbreak Intervention Zone:* Areas in surrounding countries at immediate risk of virus transmission, i.e. Governorates/camps in border areas of Iraq, Turkey, Lebanon and Jordan
- *Zone 3: Risk Reduction Zone:* Rest of the neighbouring countries

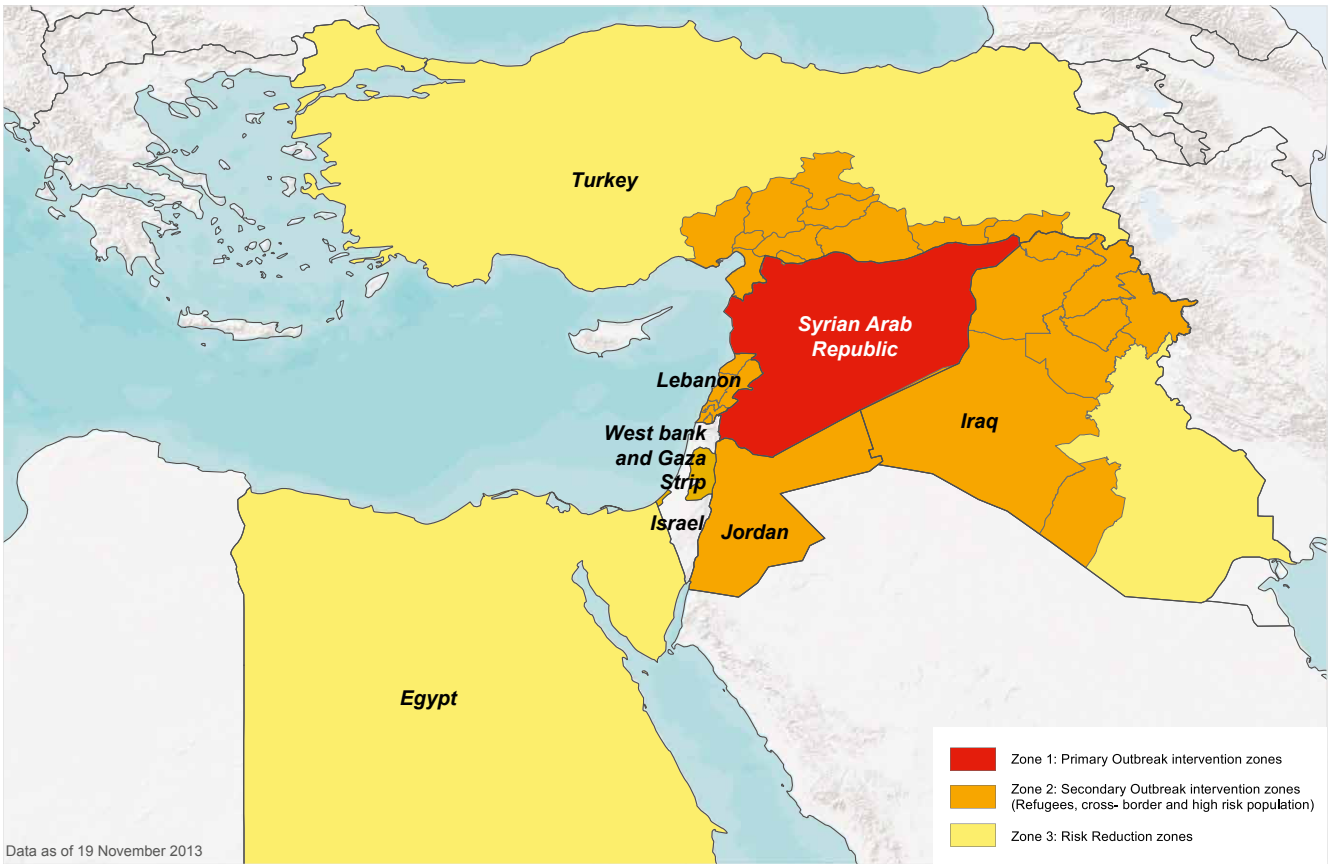
III. GOALS AND OBJECTIVES

Goal: To interrupt WPV transmission in the Syrian Arab Republic and surrounding countries by the end of March 2014.

Objectives:

- Zone 1: To rapidly interrupt WPV transmission in the Syrian Arab Republic through the implementation of the proven Global Polio Eradication Initiative (GPEI) outbreak response strategy:
  - Target 1: annualized non-polio AFP rate greater than 2/100 000 by March 2014;
  - Target 2: at least six National Immunization Day (NID) rounds by April 2014;
  - Target 3: the second round in December to reach 90% of accessible target population by district and the third round to reach 90% of the entire target population; and
  - Target 4: any new Governorate with confirmed WPV1 infection to implement a large-scale mop-up response within 14 days.
- Zone 2: To prevent further polio outbreak extension to border areas of neighbouring countries at immediate risk of virus transmission (bordering Governorates of Iraq, Turkey, Lebanon and Jordan):
  - Target 1: annualized non-polio AFP rate greater than 2/100 000 by March 2014;
  - Target 2: 95% coverage of the target population during at least three NIDs or Subnational Immunization Days (SNIDs);
  - Target 3: routine polio vaccination of 95% of children on arrival in camps near borders; and
  - Target 4: any new area with confirmed WPV1 infection to implement a large-scale mop-up response within 14 days.
- Zone 3: To reduce the risk of polio outbreaks in surrounding countries:
  - Target 1: annualized non-polio AFP rate greater than 2/100 000 by March 2014;
  - Target 2: 95% coverage of the target population during at least two NIDs;
  - Target 3: routine polio vaccination of 95% of children (POL-3) by December 2014 (including refugees); and
  - Target 4: any new area with confirmed WPV1 infection to implement a large-scale mop-up response within 14 days.

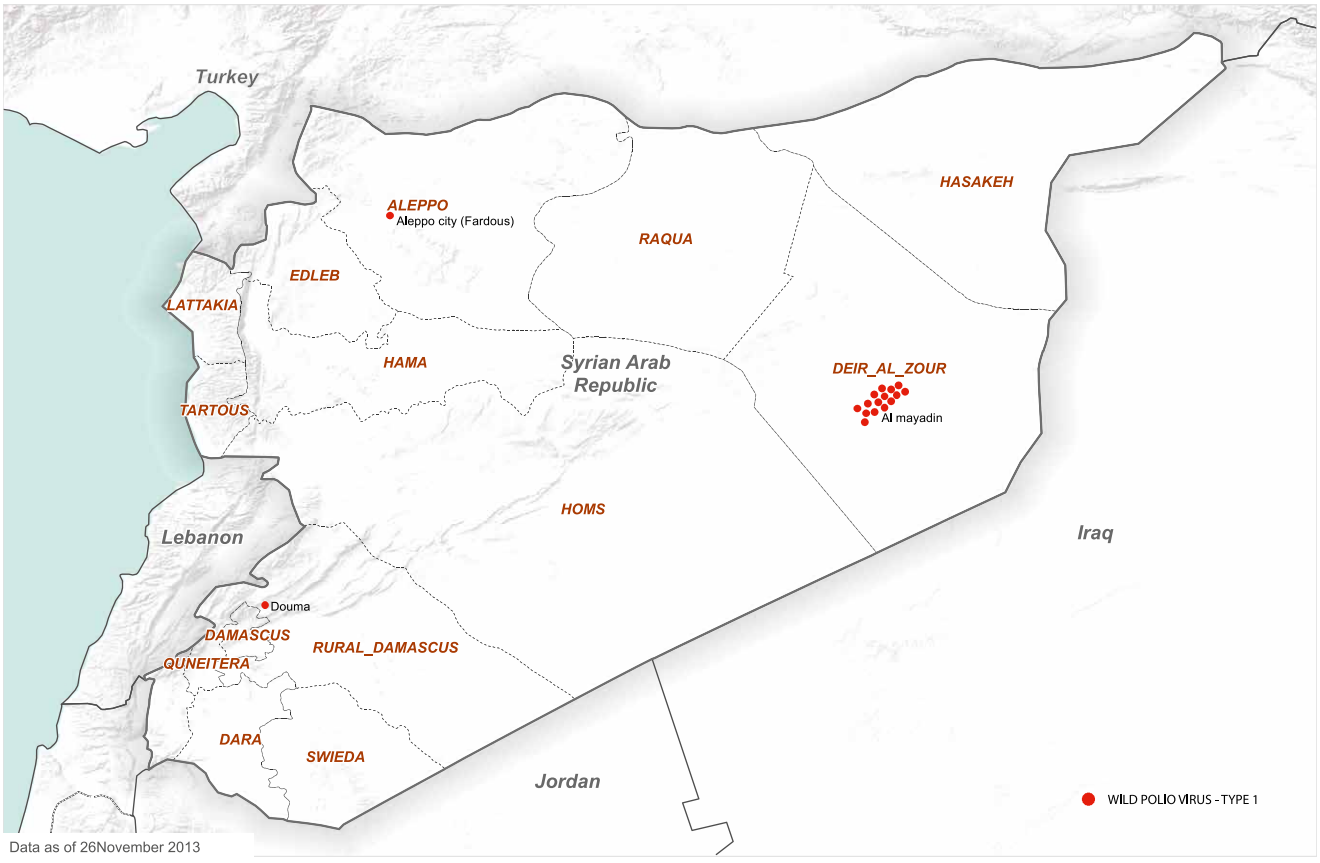
Figure 1: Polio outbreak response zones - Middle East



IV. SITUATION OVERVIEW AND EPIDEMIOLOGY

On 17 October 2013, a cluster of AFP cases was detected in Deir Al Zour province in the north-east of the Syrian Arab Republic. Following case investigations, stool samples were collected and confirmed positive for WPV1 in WHO accredited laboratories. As of 26 November 2013, 17 cases of WPV1 have been detected in the Syrian Arab Republic: 15 from Deir ez-Zor Governorate, one from Aleppo Governorate and one from rural Damascus. The cases have occurred in predominately under-immunized young children (aged under 2 years) (see Figure 2 for cases in Deir Al Zour). *Prior to this outbreak, WPV had not been detected in the Syrian Arab Republic since 1999.*

Figure 2: Map of reported polio cases as of 26 November 2013, Syrian Arab Republic



The surveillance of AFP in the Syrian Arab Republic is linked to the WHO supported early warning (EWARN) system, which is functioning. The system is detecting AFP cases at a rate of 1.2/100 000. This is suboptimal for an outbreak setting and indicates a decline from a rate of 2.0/100 000 reported in 2010. *Because of the large cohort of non-immune children in the Syrian Arab Republic and complex population movements, a very high risk of spread to further areas of the country and to neighbouring countries exists.*

Genetic sequencing indicates the isolated viruses are most closely linked to virus detected in environmental samples in Egypt in December 2012 (which in turn had been linked to WPV1 circulating in Pakistan). Closely related WPV strains have also been detected in environmental samples in Israel since February 2013 and in the West Bank and Gaza Strip since August 2013. Differences in genetic sequences of virus isolates within the Syrian Arab Republic and the strains detected in environmental samples in other countries of the region indicate that the imported viruses have been circulating in the Syrian Arab Republic and other Middle Eastern countries over a prolonged period, and other parts of the Syrian Arab Republic and the region are likely infected.

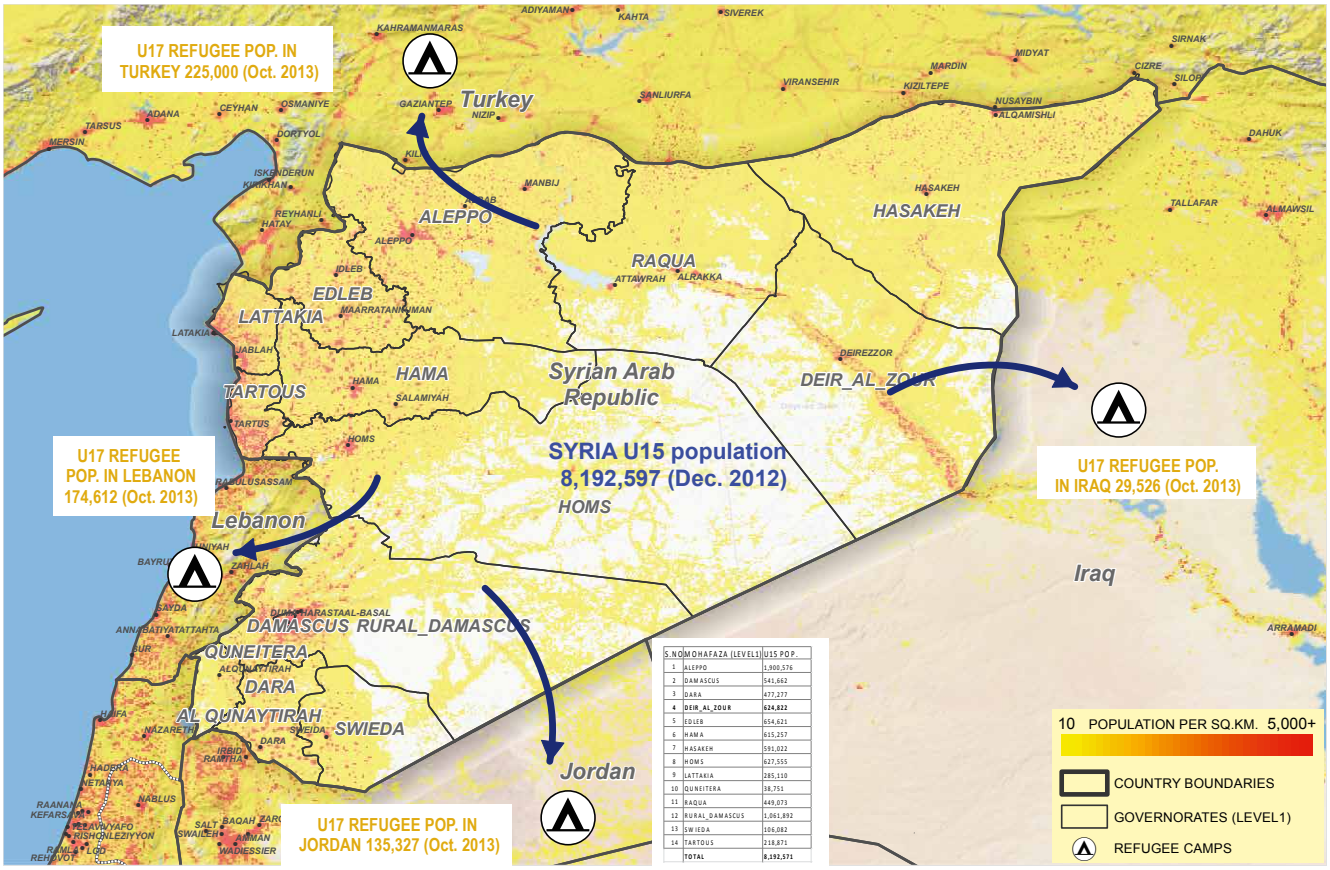
The occurrence of an outbreak in the Syrian Arab Republic reflects declining immunization rates due to the severe interruption of public health services and to the conditions in which the people are living.

V. RISK ASSESSMENT

The risk is very high that this outbreak will spread further within the Syrian Arab Republic and expand to neighbouring countries, and potentially beyond. This threatens a collective global good and demonstrates that until endemic areas are cleared of polio virus, the risk of reinfection in countries with low immunization rates will always be present.

Since the beginning of the conflict in the Syrian Arab Republic, over 8.7 million persons have been displaced, including over 2.2 million into neighbouring countries, primarily Jordan, Lebanon, Iraq and Turkey. Inside the Syrian Arab Republic, the ongoing conflict is hampering health programme delivery and creating difficult circumstances for staff (both UN and non-UN) delivering vaccines to children, especially in areas of active conflict and insecurity (Figure 3).

Figure 3: Population movements - Syrian Arab Republic



S.NO	MOHAFAZA (LEVEL1)	U15 POP.
1	ALEPPO	1,900,576
2	DAMASCUS	541,662
3	DARA	477,277
4	DEIR_AL_ZOUR	624,822
5	EDLEB	654,621
6	HAMA	615,257
7	HASAKEH	591,022
8	HOMS	627,555
9	LATTAKIA	285,110
10	QUNEITERA	38,751
11	RAQUA	449,073
12	RURAL_DAMASCUS	1,061,892
13	SWIEDA	106,082
14	TARTOUS	218,871
	TOTAL	8,192,571

Data as of 22 October 2013

While a proportion of the Syrian refugee population outside the country receives health service delivery in organized refugee camps, up to 75% of the refugee population lives outside of formal camps within the host country population, making health interventions specific to the Syrian population difficult to implement. The Syrian population has not seen polio in close to a decade so their risk perception, given their many other health concerns, will need to be heightened throughout the six-month campaign schedule.

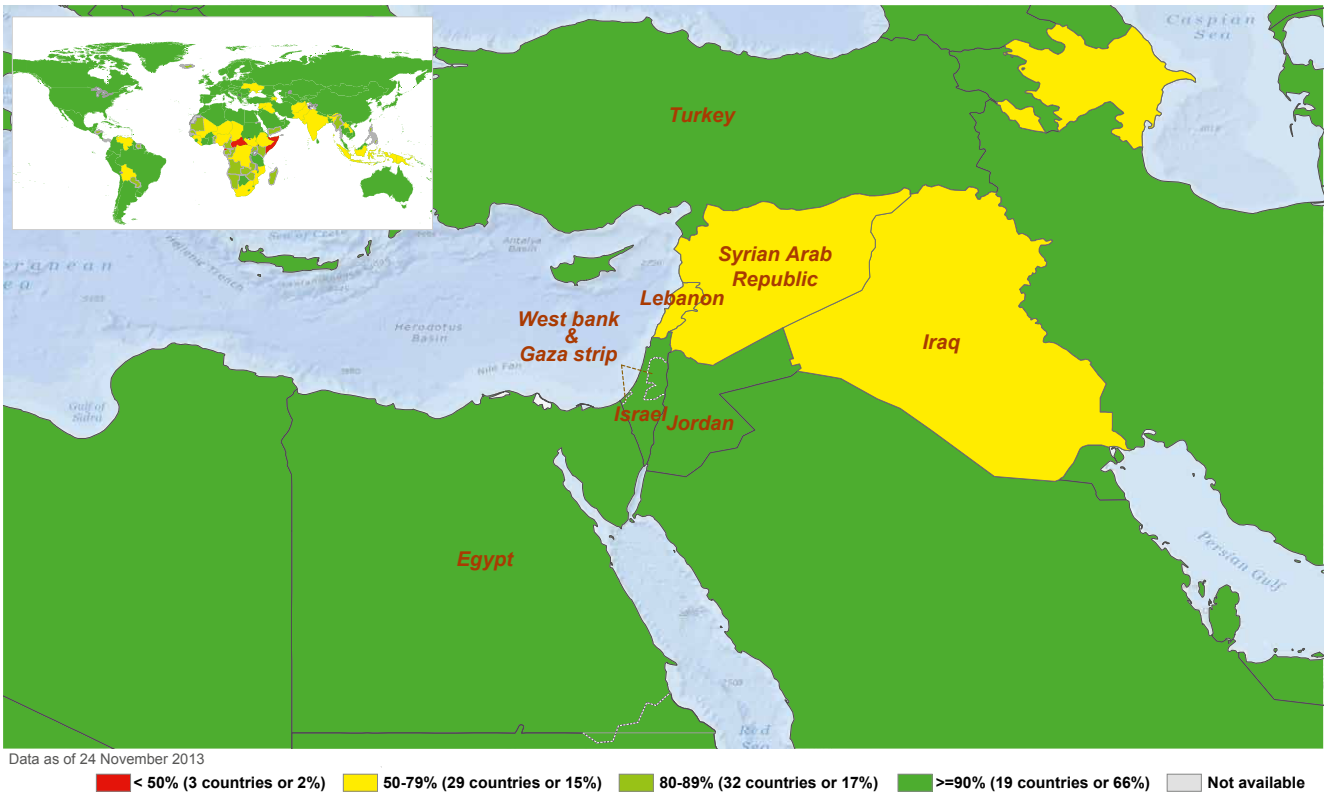
In addition, other vulnerability factors include:

- a disrupted routine immunization programme over the last two years that has left large numbers of children susceptible to polio;
- poor living conditions for many children, with overcrowding and inadequate sanitation and access to clean water; and
- severely disrupted primary health-care services, with destruction or damage to the majority of infrastructure.

However, there are significant positive factors in the risk assessment:

- *a strong vaccination culture:* the historically high vaccination coverage in the Syrian Arab Republic and neighbouring countries is a major advantage in containing this outbreak (Annex 1). However, vaccination coverage for polio is suboptimal in Lebanon and Iraq. There are enough unvaccinated children and unreached groups across the region to cause concern for virus spread beyond the current outbreak zone (Figure 2);
- *the high population demand:* Anecdotal evidence indicates high population demand for the vaccine across the region, and especially in the Syrian Arab Republic; and
- *low season:* entrance into the low transmission season offers a vital opportunity to interrupt transmission.

Figure 4: Reported OPV3 routine immunization coverage, 2012



Thus, following detection of WPV1 cases in the Syrian Arab Republic and the evidence of prolonged undetected poliovirus transmission in the region, a robust, comprehensive multipartner, multicountry intervention is needed to rapidly detect and interrupt WPV transmission and protect children in the region from paralytic poliomyelitis.

VI. LESSONS LEARNT FROM PREVIOUS OUTBREAK RESPONSES

While endemic transmission of polio is now limited to three countries, many countries have been reinfected with polio virus originating from endemic countries, requiring a range of outbreak response activities to clear these areas of virus. Many of these responses have occurred in conflict affected countries with multicountry engagement. Measures that contributed to past successes include:

- focus on rapid response following an outbreak, with a plan to increase campaign quality and coverage as campaigns are repeated;
- use of vaccine specific to each outbreak, for example bivalent (types 1 and 3) or monovalent (type 1) oral polio vaccine (bOPV or mOPV1), during a WPV1 outbreak such as in the case of the Syrian Arab Republic;
- multiple short interval vaccination rounds (six to eight) in rapid succession;
- enlargement of the size of the target age group population, where appropriate;
- mass mobilization to generate a social movement for vaccination;
- localized communications plans designed to engage communities and address specific concerns;
- analysis to understand the security dynamics at the village/settlement level to determine the extent to which insecure and inaccessible areas exist; this forms the basis for operational flexibility and mitigating measures to be put in place to reduce the number of hard-to-reach children;
- high-level advocacy on access, coupled with local negotiations to reach children in areas under dispute;
- rigorous analysis of population movements and transit vaccine stations;
- pre-positioning of vaccines, plans and logistics near insecure and in inaccessible areas for rapid vaccination when they become accessible; and
- polio control rooms/teams at the district, provincial and national levels for quick resolution of campaign management and access issues and multipartner coordination.

VII. RESPONSE TO DATE

Due to prior identification of poliovirus in environmental samples, some regions (Egypt, Israel and the West Bank and Gaza Strip) had planned supplementary immunization activities in October, November and December 2013, with Egypt and the West Bank and Gaza Strip using trivalent oral polio vaccine (tOPV) to target all children aged under 5 years, and Israel using bOPV to target children aged under 10 years. Some campaigns also included measles and rubella vaccination along with polio. As a result of the outbreak in the Syrian Arab Republic, many countries have accelerated the timing of their campaigns, ensuring they are completed or under way, including the Syrian Arab Republic, Jordan, Iraq and Lebanon (see the country profiles and Annex 2 for activity details). The data collected to plan and evaluate these campaigns will provide valuable information as the December and January regional response is implemented.

Zone 1: At least six SIAs will be conducted in the next six months in these areas. On 24 October, a previously planned large-scale SIA was launched in the Syrian Arab Republic to vaccinate 1.6 million children against polio, measles, mumps and rubella, in both government-controlled and contested areas.

Zone 2: Since the beginning of the conflict in the Syrian Arab Republic, over 8 million persons have been displaced, over 2 million into neighbouring countries, primarily Jordan, Lebanon, Iraq and Turkey. Refugees aged under 15 years are currently being vaccinated against polio on arrival in camps and, in some cases such as in Jordan, prior to arrival at camp at the border. SNIDs have taken place in the bordering Governorates of Iraq (October/November 2013).

Zone 3: All surrounding countries had put plans in place for NIDs or SNIDs in response to the environmental identification of poliovirus in the region. Those SIAs are completed or under way in Iraq, Jordan, Egypt and Lebanon, and the West Bank and Gaza Strip and planned in Turkey.

The specific public health actions to be employed to interrupt this outbreak and the activities needed to protect all children in the region from this crippling disease follow.

VIII. FURTHER PUBLIC HEALTH ACTIONS/RESPONSE

The response strategy will focus on the interruption of WPV transmission by multicountry and multiagency efforts by vaccinating all targeted children aged under 5 years in a coordinated and synchronized series of large-scale, multiple, short interval vaccination campaigns, as needed, in the Syrian Arab Republic and the surrounding six countries.

This coordinated initiative will focus on public health action across a range of areas, including:

- enhancement of AFP surveillance/EWARN and laboratory confirmation capacities;
- vaccine procurement and delivery;
- operational planning and detailed local level microplanning;
- training;
- communications and social mobilization;
- independent monitoring;
- innovative means to access target populations in inaccessible areas;
- bundling where possible of other health interventions targeted at young children (for example micronutrients); and
- coordination with partners and stakeholders.

Because of the ongoing conflict in the Syrian Arab Republic, a complex network of UN and nongovernmental agencies as well as neighbouring governments is providing health services to the Syrian population both inside and outside the country.

To accommodate the changing situation on the ground in the Syrian Arab Republic, a flexible approach will be adopted to incrementally improve response activities during the outbreak response.

The next major step in the fight to contain this virus is multiple rounds of vaccination that are synchronized as far as possible with NIDs commencing in the Syrian Arab Republic on 8 December 2013 and 5 January 2014 initially.

A multicountry and multipartner effort is now under way to align vaccine supply, operational planning, surveillance enhancement, communications and social mobilization in order to launch a regionwide campaign in children aged under 5 years on this date.

These campaigns will be repeated in all countries in January and will be continued every month in the Syrian Arab Republic and in other at-risk countries, depending on the evolving epidemiology of the outbreak.

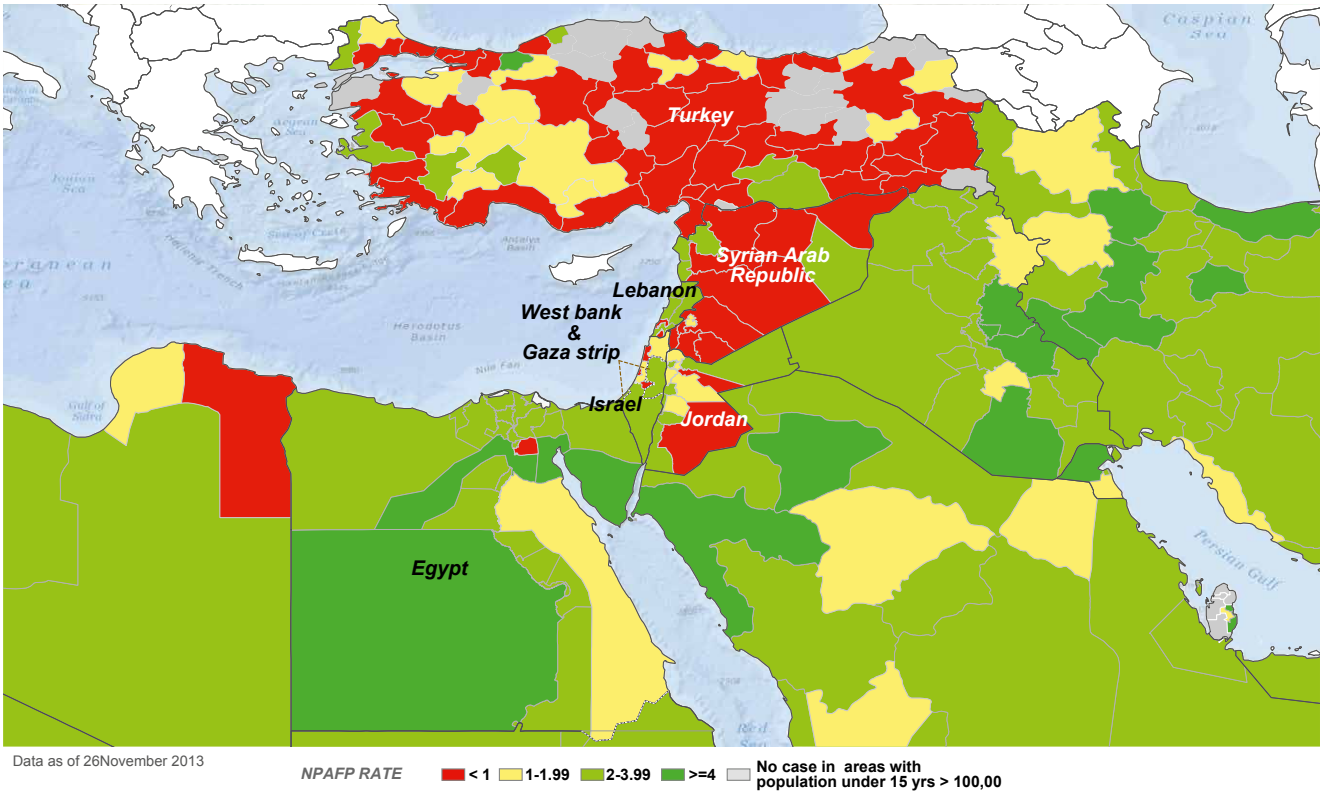
The WHO and UNICEF have worked with each country in cooperation with ministries of health, NGOs, other UN agencies and other partners to produce national plans for this response. These plans are now finalized and include the following elements: target populations, vaccine needs, coordination mechanisms, active AFP surveillance and door-to-door vaccination. Microplanning is under way at the subnational level where logistical, security, training and communications needs and difficulties can be met and solved.

The focus of implementation over the coming weeks and months will be:

8.1 Enhancement of AFP surveillance/ EWARN and laboratories

AFP surveillance is well established in all target countries, including in the Syrian Arab Republic. However, target non-polio AFP detection rates vary across the region. In particular, AFP detection rates have fallen dramatically in the Syrian Arab Republic over the past two years (Figure 5).

Figure 5: Non-polio acute flaccid paralysis detection rates by subnational areas October 2012-September 2013



In 2012, to strengthen the national surveillance system, detect epidemic threats early, respond and control outbreaks and monitor epidemic-prone diseases, WHO, the ministry of health and NGOs established an early warning and response system (EWARN).

Established on 23 September 2012, this system collects information on 10 diseases, including polio, from a network of 321 sentinel sites, including public and private hospitals, health centres, internally displaced persons (IDPs) shelters and NGOs across the country's 14 Governorates. The system captures data on case counts of diseases with epidemic potential, and its main goal is to detect outbreaks early by "flagging" unusual events and triggering an appropriate investigation and response to manage the event.

Surveillance sites, using a simple data collection tool, report on case counts of selected diseases that are diagnosed by health-care providers on the basis of a case definition. The system analyses the surveillance data on selected health conditions and provides feedback on a weekly basis for a timely and appropriate response.

Improvements are being made to specific protocols for case investigation, laboratory sampling and specimen transport to speed up investigation and diagnosis and ensure that adequate data and specimens are collected, transported and shared.

EWARS in surrounding countries are being enhanced or established. For example, in Jordan, an EWARS has been introduced with WHO support since mid-2013 on a pilot basis in the two northern Governorates bordering the Syrian Arab Republic, Mafraq and Irbid. An EWARS has also been established in Iraq.

8.2 Vaccine procurement and delivery

UNICEF is coordinating this action to ensure adequate supplies of bOPV and tOPV are available to meet country requirements and to arrange delivery of the vaccine in time to conduct the campaigns.

Because of the increased demand from endemic countries and responses to the outbreaks in the Horn of Africa, Cameroon and the Middle East, the availability of both tOPV and bOPV will be extremely tight over the coming two to three months. Therefore, to ensure the vaccine is prioritized where it has the most programmatic impact, the allocation of vaccine over this period will be coordinated closely with WHO and UNICEF. For planning purposes, when placing orders for OPV, over three weeks must be allowed for vaccine delivery to countries.

In the upcoming vaccination campaigns in December, the Syrian Arab Republic will use bOPV, and Egypt, Iraq, Jordan, Lebanon, Turkey and the West Bank and Gaza Strip will use tOPV.

Countries are being encouraged to license bOPV as quickly as possible. To help facilitate the use of bOPV in this response, the UNICEF Supply Division is working with all manufacturers to expedite the licensing of the product in the countries planning to use the vaccine in subsequent rounds. Arrangements are being put in place for emergency licensing should the need arise.

8.3 Operational planning and implementation including microplanning

Microplanning is the process by which all population groups are mapped and considered for SIAs and where resources are assessed to create detailed plans for vaccination campaigns. The following elements are being included in the microplanning process:

- detailed identification and social mapping of all population groups and estimated numbers in the targeted age group;
- estimation of the number of vaccination teams required, taking into consideration geographic and field criteria as well as the estimated number of targeted children;
- determination of supply needs (vaccine, tally sheets, finger-markers, cold boxes, ice packs, fuel, vehicles, etc.);
- training plan for vaccinators and supervisors ahead of each campaign on how to deliver vaccine, and on interpersonal communications skills to address family concerns around vaccinating children;
- transportation plan for vaccine delivery and vaccinator movement, which will need to include the identification of consolidated delivery points in the opposition held areas within the Syrian Arab Republic;
- plan for in-process supervision, meetings and feedback to vaccination teams;
- social mobilization and communications plan ahead of each campaign based on available social data, including campaign awareness and refusal rates;
- evaluation of the quality of the campaign (in-process and post-campaign assessments);
- analysis of the security situation specific to polio response efforts to determine and focus on areas of inaccessibility, with the ability to map key influencers to improve access negotiations;
- plan for special populations known to be difficult to reach with vaccine (conflict, rural, refusals, etc); and
- identification of local influencers who can be called upon in each area to facilitate access into an area or household, or who can facilitate vaccination with families.

This activity is in progress with the assistance of the ministry of health and NGOs and will be completed before the planned campaign dates in December. Feedback will be received after each campaign to refine the microplan for the subsequent SIA rounds.

8.4 Training

While many health workers, vaccinators and communicators were retrained in preparation for the October and November campaigns, refresher training is being carried out at the country level. Standard trainings will be conducted and coordinated for staff across the regional, country and subnational levels, focusing on such critical issues as SIA microplanning, cold chain maintenance, vaccine forecasting, AFP surveillance, data collection, and analysis and monitoring.

8.5 Communications and social mobilization

With WHO and other partners, UNICEF will support the affected countries to raise awareness on the risks and impact of the poliovirus, rationale for vaccines used and the delivery strategies, and to generate community demand for vaccination each time OPV is offered.

A regional communications strategy has been developed to address information needs in the Syrian Arab Republic and neighbouring countries. Communication activities will be designed to achieve several objectives over the next six months.

It will be important to elevate and sustain the risk perception of the virus among a population who has not seen polio in over a decade. Caregivers and influencers will need to understand the severity of polio and the necessity to take sufficient doses of OPV to prevent it. Amid conflict, distrust among various population groups about the safety of the vaccine is likely to emerge – particularly after the initial wave of response and media attention has waned. The communications plan will identify trusted influencers in the Syrian Arab Republic and the region to promote the safety of the vaccine and the need for multiple doses.

A rumour tracking and response system will be established and linked to Polio Control Teams (PCTs) to promptly identify false rumours or urgent community concerns about the vaccination programme.

Vaccination campaigns will be promoted through multiple channels before each activity takes place. Diverse mediums will be utilized to promote campaigns and vaccination messages in conflict-affected areas, IDP host communities and accessible areas. Mass media and social media will be an important platform to reach inaccessible areas in particular, with multiple spokespeople identified and trained to promote OPV who can relate to – and be trusted by – diverse segments of the population.

Local health workers will be an important source of information at transit points, health centres and doorsteps. The communications programme will ensure the health workers are equipped with interpersonal communications skills and materials that allow them to explain the importance of vaccination and respond to caregiver questions.

Building trust for immunization will be a cornerstone of the communications strategy, and the programme will need to demonstrate its genuine concern for the well-being of children's health in general, beyond polio. Where feasible, immunization will aim to be promoted with other health or humanitarian services to maximize vaccination coverage.

Independent monitoring data will be analysed to measure the proportion of children missed due to refusals or other social reasons, and this data will be incorporated into local communications plans.

8.6 Independent monitoring

The campaigns will be subject to routine and independent vaccination monitoring using finger-markers in most cases. For example, in Iraq and Jordan, an independent monitoring process has been established. A standard monitoring framework now covers the three phases of campaign activity – planning, implementation and post-campaign assessment. The focus is on ensuring monitoring procedures identify missed children, and examining reasons why they were missed. When implementation is complete, end-process evaluations are used to gauge the overall quality and to identify areas needing further corrective action as necessary.

Communication related indicators (missed children due to refusals, and campaign awareness) will be integrated to ensure the monitoring of family vaccination acceptance throughout the campaigns.

For the Syrian Arab Republic, a critical monitoring element will be the establishment of a delivery verification system for cross-line vaccine shipments. This will require close collaboration between UNICEF, the ministry of health, the Syrian Arab Red Crescent and other actors on the dispatch side and the establishment of independent verification mechanisms on the arrival side.

8.7 Innovative means to vaccinate target population

A new approach in polio eradication is the short interval additional dose strategy. This strategy quickly boosts population immunity by delivering two to three doses

of vaccine to the target age group in a short period of time when access to an area may be limited. For this reason, it is often used in conflict settings when periods of peace can be negotiated. The cornerstones for the success of this strategy in conflict affected areas have been:

- delivery of multiple doses of vaccine, typically bOPV, with intervals of only days between vaccination;
- mobilization of community resources to ensure every child is reached with vaccine;
- coordination between campaign planning and communications to trigger information to the community;
- ready-to-use communication messages about the importance of multiple doses once access is gained;
- a whole-of-society approach to vaccination campaigns that often means the movement of vaccine beyond normal health infrastructure and service in partnership with local and international NGOs who can demonstrate their capacity to reach children and have the necessary infrastructure and training; and
- negotiated access to hard-to-reach children.

IX. HUMANITARIAN ENGAGEMENT/ INOVATIVE STRATEGIES

A vast number of UN, international and local NGOs, and government agencies are providing humanitarian assistance to Syrians affected by the ongoing conflict both in and outside Syrian borders. The specific health needs of the Syrian population vary based on their location and access to services. To maximize the opportunity to reach these populations, a "bundling" strategy should be explored in select communities.

To accomplish this, humanitarian agencies will be intimately involved in regional and local polio campaign planning.

To ensure outreach to populations in hard-to-reach areas, UNICEF will capitalize upon existing networks of local partners and young people to mobilize community-led initiatives in support of the campaigns. An integrated sectorial analysis and approach, with water, sanitation and hygiene, as well as the education and shelter sectors to expand the outreach, will also be considered.

X. OUTBREAK MANAGEMENT AND COORDINATION

The success of the outbreak response plan relies on the operation of the key partners – the ministry of health, WHO and UNICEF – as a single team, in addition to the support of other stakeholders including other UN agencies and local and international NGOs. The plan proposes:

- Polio Control Teams (PCTs) in the Syrian Arab Republic (Damascus), Jordan (Amman), Turkey (Gaziantep) and Iraq (Baghdad) to serve as the country operational centres for the outbreak response;
- a Regional Polio Control Team (RPCT) in Jordan (Amman) to serve as the overall coordinating centre for the outbreak and response in neighbouring countries.

The PCTs will be expanded to include WHO and UNICEF technical (polio technical lead, data management, communications) and logistics teams. The PCTs will be responsible for the daily oversight and guidance of the plans, including but not limited to:

- regular coordination meetings with provincial and district teams to facilitate access;
- determination of the dates of campaign;
- a review of campaign preparedness, communications and social mobilization, implementation and post-campaign evaluation;
- coordination of real-time information collection from the field for all operational activities – status of district accessibility, available staff and logistics;
- assessment of the verification process of AFP cases and of reverse cold chain maintenance;
- weekly meetings between WHO and UNICEF technical and logistics teams with minutes circulated to all levels and partners; and
- in the initial phase of the plan, implementation of weekly conference calls between the RPCT and WHO/UNICEF headquarters/regional offices.

The RPCT will include WHO and UNICEF technical and communications teams. It will be responsible for the daily oversight and guidance of the regional plans, including but not limited to:

- weekly coordination meetings with regional partners;
- weekly coordination meetings/teleconferences with the Damascus and Gaziantep PCTs;
- compilation of data from each PCT and dissemination of a situation report weekly to all partners;
- regular coordination meetings with donors;
- regular operational assessment/planning meetings between WHO and UNICEF technical and logistics teams with minutes circulated to all levels and partners; and
- in the initial phase of the plan, implementation of weekly conference calls between WHO (Regional Office for the Eastern Mediterranean and headquarters) and UNICEF headquarters.

XI. BUDGETS AND FINANCIAL PLANNING

The targeted population in all zones is 22.6 million children and the overall financial cost for the six-month response in all zones is projected to be US$ 39.6 million with US$ 13.3 million for 2013 and US$ 26.3 million for 2014. The costs also include funding for the surge technical capacity at the regional level in Amman for WHO and UNICEF. Additional funding may be required based on the epidemiology and assessments after the initial six-month period.

Annex 3 provides more details and a detailed breakdown of costs by country, agency and activity.

The campaigns that are already completed or that are under way have received adequate vaccines and funding. However, for the planned multicountry synchronized campaigns, significant gaps exist in funding for surveillance enhancement and operational activities, starting with activities planned for December 2013.

While the GPEI has established a six-year budget for the 2013-2018 Polio Eradication and Endgame Strategic Plan that includes an emergency response budget line, the polio outbreak in the Syrian Arab Republic and surrounding countries will be considered as part of the broader humanitarian response to the Syria crisis. In this regard, donors are invited to fund the polio outbreak response efforts in the Middle East through UNHCR's Regional Response Plan #6 (RRP6), the Syrian Humanitarian Assistance Response Plan (SHARP) and other emergency funding mechanisms. Specific funding projects for the polio outbreak and response efforts are being included in the RRP6 (surrounding countries) and in the SHARP (Syrian Arab Republic) to facilitate this process.

Bilateral funding from donor governments and humanitarian assistance agencies will also be necessary to cover any urgent gaps in funding for WHO and UNICEF budget lines not met by the humanitarian funding mechanisms, or to cover the costs of countries that are not included in the RRP6 and SHARP – for example, the West Bank and Gaza Strip.

XII. COUNTRY PROFILES AND SUMMARY OF NATIONAL RESPONSE

12.1 Syrian Arab Republic

Polio history

The last virologically confirmed case in the Syrian Arab Republic was reported in 1999 and was determined by genetic sequencing to be an imported case. Prior to that, the last virologically confirmed indigenous case in the Syrian Arab Republic was reported on 29 March 1995.

Acute flaccid paralysis surveillance

AFP surveillance, the traditional surveillance system used for polio, has been in place since 1993. Since 1996, the indicators used to measure AFP surveillance quality have met or been above the standards indicating a quality system. However, a decline in surveillance has been evident since 2011 where the key indicator of non-polio AFP surveillance (at least two cases of AFP per 100 000 population aged under 15 years detected annually) has not been met. AFP data is aggregated weekly and analysed at the country and regional levels.

EWARN surveillance

In 2012, to strengthen the national surveillance system, detect epidemic threats early, respond and control outbreaks and monitor epidemic-prone diseases, WHO and the ministry of health established an EWARS.

Established on 23 September 2012, this system collects information on 10 diseases, including polio, from a network of 321 sentinel sites, including public and private hospitals, health centres, IDP shelters and NGOs across the country's 14 Governorates. The system captures data on case counts of diseases with epidemic potential, and its main goal is to detect outbreaks early by "flagging" unusual events and triggering an appropriate investigation and response to manage the event.

Surveillance sites, using a simple data collection tool, report on case counts of selected diseases that are diagnosed by health-care providers on the basis of a case definition. The system analyses the surveillance data on selected health conditions and provides feedback on a weekly basis for a timely and appropriate response.

Laboratory

Laboratory testing of stool samples collected from AFP cases is routinely conducted in the Syrian national poliovirus laboratory in Damascus. This laboratory is WHO-accredited and part of the Eastern Mediterranean Region poliovirus laboratories network. While the laboratory has the technical capacity to isolate and detect poliovirus, for intratypic differentiation (between wild and Sabin polioviruses), virus samples are shipped to one of the regional poliovirus reference laboratories in the WHO Regional Office for the Eastern Mediterranean. To facilitate early detection during the current outbreak, necessary equipment is being obtained and the training of staff is being scheduled to enable intratypic differentiation within the Syrian Arab Republic.

Routine immunization

Routine immunization against polio has been mandatory since 1964. A combination of OPV given at six, 12 and 18 months and inactivated poliovirus vaccine (IPV) given at two and four months is used in the routine immunization programme. WHO and UNICEF immunization coverage estimates among children aged 12–23 months show coverage with three doses of OPV (OPV3) above 80% since the year 2000 but declining to 75% in 2011 and to 52% in 2012 (Annex 1). Additionally, non-polio AFP immunity profile monitoring shows an increase in the number of children that have never received polio vaccine or who have not completed the full routine immunization regime since 2011.

Current situation, risk assessment and initial response

As of 26 November 2013, 17 cases of polio due to WPV1 have been reported: 15 from Deir ez-Zor Governorate, one from Aleppo Governorate and one from rural Damascus.

Given the current situation in the Syrian Arab Republic, frequent population movements across the region and subnational immunity gaps in key areas, the risk of internal and international spread of WPV1 across the region is considered to be high. A surveillance alert

has been issued for the region to actively search for additional potential cases.

On 24 October, a previously planned large-scale SIA was launched in the Syrian Arab Republic to vaccinate 1.6 million children against polio, measles, mumps and rubella, in both government-controlled and contested areas using tOPV. The campaign is being delivered mainly through fixed vaccination posts. Implementation of an immunization campaign against polio in Deir Al Zour province was initiated when the first cases were reported. Larger-scale outbreak response vaccination campaigns across the Syrian Arab Republic and neighbouring countries began in November and will be further synchronized and enhanced to last for at least six to eight months, depending on the area and based on the evolving epidemiology.

Further response

The Syrian Arab Republic will carry out five further NIDs commencing on 8 December 2013, repeated at monthly intervals until April 2014. The target population for these rounds has been increased to 2.2 million children aged under 5 years. The required bOPV vaccines are under procurement by UNICEF, along with required cold chain equipment, etc.

A technical committee from the ministry of health, WHO, UNHCR and UNICEF was formed in Damascus for coordination with local partners. PCTs are to be established in all Governorates, each managing approximately five districts and appropriately staffed by the ministry of health, UNICEF and WHO.

Key to the success of these NIDs will be:

- optimizing vaccine-delivery strategies – teams need to decide on a flexible mix of vaccine delivery strategies – whether through house-to-house immunization, fixed post or mobile teams;
- focusing on communications – repetitive campaigns over the coming six to nine months may have negative implications on family acceptance to repeated vaccination at short intervals. This may also exhaust vaccination teams and health workers over time and may affect their interest in maintaining quality services throughout the response period. An Outbreak Communications Plan has been developed to address how to convince the community of the importance of multiple campaigns, including engaging with young people and adolescents in using social media and through school children by engaging the ministry of education. Effective training of health staff and volunteers is needed to implement, supervise and monitor NIDs at all levels;
- ensuring that high-risk groups and areas are targeted and reached – with detailed planning, including mapping and pre-NID walk-throughs at the community level, to make certain that teams covering remote areas and involved in house-to-house immunization are sufficiently prepared and supervised to ensure that all children are immunized;
- supervising – establishing a comprehensive supervision system at all levels, utilizing both government health workers and NGOs, and assuring that supervisory roles and responsibilities are clearly defined at each level;
- monitoring – monitoring staff, preferably from outside the Expanded Programme on Immunization system, including national and international monitors, to observe NID preparation and implementation and give feedback to NID coordinators at the province and national levels; monitors will also be involved in "zero-dose monitoring" to establish the proportion of children who have never received OPV; and
- evaluating – both ad hoc and systematic evaluation activities, including the use of finger-marking and checklists conducted by monitors and supervisors; post-NID meetings of monitors and partner organization staff will be held to exchange observations and discuss possible activities to improve and fine-tune subsequent NID rounds.

Support is requested for:

- enhancement of AFP surveillance and EWARS;
- improved routine immunization activities;
- implementation of five national immunization days;
- procurement of 10 million doses of vaccine and cold chain equipment;

- operational costs, including incentives for vaccinators and needed communications, logistics, transportation, cold chain, human resources;
- training and supervision;
- communications and social mobilization;
- independent monitoring to assure high quality NIDs; and
- coordination and technical support.

12.2 Jordan

Polio history

Jordan reported the last indigenous polio case in 1988, although the last virologically confirmed case was reported on 3 March 1992, with the probable origin of virus from Pakistan.

Acute flaccid paralysis surveillance.

National reporting started in 1993 and, in 1995, Jordan shifted to virological classification. Indicators have been above certification standards since 1998.

Laboratory

Jordan's national poliovirus laboratory in Amman is a WHO-accredited laboratory in the Eastern Mediterranean Region poliovirus laboratories network. Phase 1 of laboratory containment of polioviruses has been completed and a report documenting the quality of containment activities has been submitted to WHO.

Routine immunization

Routine immunization against polio has been mandatory since 1979. Current vaccine schedules are OPV: 4 months, 5 months, 9 months, 18 months, 6 years; and DTaP-Hib-IPV (diphtheria–tetanus–acellular pertussis - *Haemophilus influenzae* type b - inactivated polio vaccine): 3 months, 4 months, 5 months. Vaccine coverage rates are high with POL-3 (third dose of polio vaccine) at 98% in 2012 (Annex 1).

National immunization days

National immunization days were carried out yearly from 1995 to 2001. Since 2002, yearly subnational immunization days have been conducted in high-risk and border areas and before the hajj season.

Current situation, risk assessment and initial response

In response to positive polio environmental samples in the region and due to the crisis in the Syrian Arab Republic, with support from UNICEF, WHO and UNHCR the ministry of health has been vaccinating arriving refugees from the Syrian Arab Republic. Furthermore, in response to a measles outbreak in February 2013 and continued concerns over the risk of a polio outbreak, the Government of Jordan successfully implemented other campaigns coordinated by the ministry of health and WHO, in partnership with UNICEF, UNHCR, the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) and the International Organization for Migration (IOM), both inside and outside camps.

A measles/polio campaign (90 000 target population with >98% measles coverage) was conducted jointly inside Zaatari camp in April 2013 and a measles only campaign was conducted jointly in June/July 2013 (>88% coverage; 630 000 vaccinated). A previously planned large-scale campaign against measles, rubella and polio was started on 27 October 2013 in Zaatari camp with over 96% coverage of approximately 20 000 Syrian refugee children. This was followed on 2 November by the launch of a nationwide measles/rubella (MR) and polio campaign targeting all Syrians, Jordanians and other nationalities aged from 6 months to 20 years for MR and aged from 0 to 59 months for polio. The campaign is being led by the ministry of health, with joint support from WHO, UNICEF, UNHCR, UNRWA and IOM, operating under one action plan. Administrative coverage has reached 100% but final coverage will be subject to an independent monitoring exercise.

Jordan's Governorates bordering the Syrian Arab Republic are Irbid and Mafraq. Jordan hosts over 540 000 Syrian refugees according to UNHCR, of whom 55% are children. Approximately 120 000 Syrian refugees live in Zaatari camp, with a further 8 000 in three other camps (Cyber City, King Abdullah Park and the Emirates Jordanian camp). Zaatari camp is in Mafraq Governorate; Emirates Jordanian camp is in Zarqa Governorate and Cyber City and King Abdullah Park are in Irbid. Vaccination on arrival is routinely conducted by IOM at registration sites with all children aged 0–15 years receiving vaccination.

Syrians enter Jordan either as refugees, through various crossing points, assisted by IOM and processed at Raba Al Sarhan Reception Centre in Mafraq, or as normal travellers by road and through Queen Alia International Airport.

Further response

In accordance with the WHO/UNICEF polio emergency response plan finalized on 5 November by the ministry of health, WHO, UNICEF, UNHCR, UNRWA and IOM, the ministry of health will carry out further polio NIDs in December 2013 and January 2014 targeting all children aged between 0 and 5 years irrespective of previous immunization history. A PCT has been established by the ministry of health and WHO/UNICEF with active representation from the National Immunization Technical Advisory Group, UNHCR, IOM and UNRWA. Jordan's PCR conducted a focused analysis of health service providers and parents' perception of attitudes, which was used as the basis for the communications strategy that has been developed.

The objectives of the NIDs are to vaccinate 95% of all Jordanian and non-Jordanian children aged under 5 years in the country, and to ensure that refugee camp border areas and new arrivals receive intensive focus. WHO and UNICEF will support the ministry of health financially and technically to conduct the remaining rounds of polio NIDs to immunize 922 905 Jordanian and non-Jordanian children aged under 5 years. To do this, 2.25 million doses of tOPV are under procurement through UNICEF.

Support is requested for (agencies in support of the ministry of health in each area appear in parentheses):

- procurement of 2.5 million tOPV doses to immunize 895 012 Jordanian and non-Jordanian children aged under 5 years in two NID rounds (vaccines for the November campaign are already in place) (UNICEF);
- intensification of active surveillance for AFP (WHO);
- strengthening of routine immunization within refugee camps (UNHCR, UNRWA) and for new arrivals (IOM);
- increasing and refreshing health worker skills (WHO);
- logistics to cover the training and transportation of vaccinators and the safe distribution and transport of vaccines (WHO);
- advocacy, social mobilization and mass communication (UNICEF, WHO, UNHCR);
- coordination, management and technical support (WHO); and
- independent monitoring to assure high quality NIDs (WHO).

12.3 Iraq

Polio history

The last laboratory-confirmed indigenous polio case was reported on 28 January 2000.

Acute flaccid paralysis surveillance

National reporting started in Iraq in 1997. Virological classification was introduced in 2000. Iraq has achieved and maintained certification standards since 1997.

Laboratory

The Iraq national poliovirus laboratory in Baghdad is a WHO-accredited laboratory in the Eastern Mediterranean Region poliovirus laboratories network. Phase 1 of laboratory containment of polioviruses has been completed and a report documenting the quality of containment activities has been submitted to WHO.

Routine immunization

Routine immunization against polio has been mandatory since 1985. After reaching high levels in the 1980s, routine immunization decreased significantly in the 1990s and then increased again. Current vaccine schedules are OPV: birth, 2 months, 4 months, 6 months, 18 months, 4 years; and DTwP-Hib-HepB-IPV (diphtheria–tetanus–pertussis - *Haemophilus influenzae* type b - hepatitis B - inactivated polio vaccine): 2 months, 4 months, 6 months. Vaccine coverage rates are suboptimal with POL-3 at 79% in 2012, although WHO/UNICEF estimates are 70% (Annex 1).

National immunization days

National immunization days have been held yearly since 1995. Iraq has carried out at least two national immunization days every year since then.

Current situation, risk assessment and initial response

According to UNHCR, 240 000 Syrian refugees, 40% of whom are children, have fled to Iraq (97% to the Kurdistan Region of Iraq in the north). Almost 80 000 of these refugees live in 11 camps (10 of which are in the north).

In response to the 2013 positive environmental samples in Egypt, Israel and the West Bank and Gaza Strip, the Ministry of Health of Iraq has already conducted one round of NID and two rounds of SNIDs. In September

2013, a SNID was carried out in Kurdistan and Mosul with a target of 750 000 children; a second round took place in November. An NID was carried out on 2-5 November 2013 with a target of 4.3 million children.

Further response

In accordance with the WHO/UNICEF polio emergency response plan following the polio outbreak in the Syrian Arab Republic, the Ministry of Health of Iraq plans to conduct a further six rounds of polio NIDs/SNIDs. The SNIDs will target 1.9 million children, including in high-risk areas (Anbar, Erbil, Dohuk, Sulaimaniyah, Mosul, Najaf, Karbala and Samarra).

WHO and UNICEF will support the ministry of health financially and technically to conduct two rounds of polio NIDs to immunize 4.3 million children in Iraq. Under the leadership of the ministry of health, UNICEF and WHO will form emergency polio operations teams at the national level and in high-risk provinces. Ten million doses of bOPV and cold chain equipment are under procurement.

An accelerated communications plan, including outreach to refugee populations and immunization activities in transit areas, has been developed and will build on standard polio SIA communication activities.

Support is requested for:

- enhancement of AFP surveillance;
- procurement of 10 million doses of bOPV and cold chain equipment;
- operational costs of US$ 2.8 million to cover needed communications, logistics, transportation, cold chain, human resources;
- training and workshops;
- communications and social mobilization;
- independent monitoring to assure high quality NIDs; and
- coordination and technical support.

12.4 Lebanon

Polio history

The last virologically confirmed indigenous polio case was reported on 8 June 1994. Lebanon was certified as polio free on a regional basis in 2002. An imported case was reported in January 2003 and was found to be caused by a virus closely related to the strains circulating in India.

Acute flaccid paralysis surveillance

AFP surveillance started in Lebanon on a regular basis in 1994. Virological classification was introduced in 1995. Surveillance indicators have not met certification standards in the last two years.

Laboratory

There is no poliovirus laboratory in Lebanon; the country is served by the poliovirus regional reference laboratory in Cairo, Egypt. Phase 1 of laboratory containment of polioviruses has been completed and a report documenting the quality of containment activities has been submitted to WHO.

Routine immunization

Routine immunization against polio with OPV has been mandatory since 1968. A single dose of IPV was introduced in 2011. It should be noted that almost 50% of routine vaccination is provided by private physicians and IPV was in use before 2011 through this system.

Both OPV and IPV are in use. The OPV schedule is: 4 months, 6 months, 18 months, 5 years, 16 years; and IPV: 2 months. Coverage for IPV1 is high at 96% but coverage for POL-3 is lower at 77% (Annex 1).

National immunization days

National immunization days were conducted from 1995 to 2000, and in 2003 in response to the importation. Localized supplementary immunization activities are occasionally conducted in border areas and in areas with low routine coverage.

Current situation, risk assessment and initial response

According to estimates by the Government of Lebanon, there are over 1 million Syrian refugees in Lebanon, with an additional 90 000 Palestinian refugees from the Syrian Arab Republic. Due to the government's no-camp policy, Syrian refugees are spread over 1400 localities, many in informal settlements and collective shelters. In response to the 2013 positive environmental samples in the region and due to the crisis in the Syrian Arab Republic, the ministry of health has vaccinated more than 300 000 children (Lebanese, Syrian and Palestinian) in high-risk areas. In response to the outbreak, mandatory polio

vaccination is provided to children aged under 5 years arriving at the four official border crossings. Ongoing immunization activities are also taking place at the five UNHCR registration centres, giving measles plus polio vaccinations in addition to vitamin A supplements.

Further response

In accordance with the WHO/UNICEF polio emergency response plan, the ministry of public health already carried out one NID in November 2013 and plans to carry out others in December 2013 and January 2014, to vaccinate all children aged between 0 and 5 years, irrespective of previous immunization history.

NID objectives are the vaccination of 95% of all Lebanese and non-Lebanese children aged under 5 years in the country.

WHO and UNICEF will support the ministry of public health financially and technically to conduct two further rounds of polio NIDs to immunize 560 000 Lebanese and non-Lebanese children aged under 5 years. To this end, 1.5 million doses of tOPV are under procurement through UNICEF.

A national communications campaign on the polio initiative is being launched that targets families, communities and practitioners. TV and radio spots have been developed, and a mobile phone SMS campaign that will reach every resident in Lebanon has been introduced.

Support is requested for:

- enhancement of AFP surveillance;
- procurement of 1.5 million doses of bOPV to immunize 560 000 Lebanese and non-Lebanese children aged under 5 years in two further NID rounds;
- operational costs for logistics to cover the training and transportation of vaccinators and the safe distribution and transport of vaccines;
- health worker training;
- communications, social mobilization and media campaign activities;
- independent monitoring to assure high quality NIDs; and
- coordination and technical support.

12.5 Turkey

Polio history

In 1998, an outbreak of WPV1 and WPV3 in Turkey caused 26 cases. Intensive mop-up immunization activities undertaken in October and November that year were able to reach populations not effectively reached in the past, stopping the transmission of WPV.

A 33-month-old unvaccinated child paralysed by poliomyelitis, whose case was reported on 26 November 1998, was the last confirmed case in Turkey due to indigenous WPV. On 1 June 2002, the WHO European Region was declared polio free.

Acute flaccid paralysis surveillance

While Turkey is considered at low risk of transmission following importation of WPV nationwide, its south-eastern provinces are considered at high risk. In 2013, the Regional Certification Commission considered Turkey's risk of transmission following importation to be intermediate, due to surveillance system performance (see AFP performance at http://www.euro.who.int/__data/assets/pdf_file/0017/231830/EpiData8-2013.pdf\)

Laboratory

Turkey has two accredited polio labs in Ankara and Izmir.

Routine immunization

Current vaccine schedules are DTaP-Hib-IPV at 2 months, 4 months, 6 months, 18 months; DTaP-IPV at 6 years; and tOPV at 6 months and 18 months. Vaccine coverage rates are high with POL-3 at 97% in 2012 (Annex 1).

National immunization days

The Ministry of Health of Turkey conducted synchronized SIAs within the Syrian Arab Republic for polio and MR in November 2012 and April 2013, targeting children in the refugee population.

Current situation, risk assessment and initial response

According to the Government of Turkey, to date the country has more than 600 000 refugees from the Syrian Arab Republic, of which about 202 000 are accommodated in camps and more than 400 000 are in host communities. UNHCR estimated that as of

12 November, 58% of these refugees are children. tOPV is administered at refugee registration points, after which the Syrian children participate in routine immunization, following the Turkish vaccination schedule.

In response to the 2013 positive environmental samples in the region, along with the crisis and outbreak of polio in the Syrian Arab Republic, the Turkey Polio National Certification Committee conducted a risk assessment on polio throughout the country, focusing on "high-risk/border zone provinces", and provided recommendations for the SIAs accordingly. Active and passive AFP surveillance has been strengthened.

Further response

In accordance with the WHO/UNICEF polio emergency response plan, the ministry of health is planning SIAs targeting around 1 million children aged under 5 years, in two rounds of vaccination one month apart. The first round was planned for 18 to 24 November 2013 and the second was planned for at least one month later. Following Turkey Polio National Certification Committee recommendations, the first round vaccination campaign aims to:

- vaccinate all children aged under 5 years (regardless of nationality) in seven provinces (neighbouring the Syrian Arab Republic: Sirnak, Mardin, Sanliurfa, Gaziantep, Kilis, Hatay and Adana), with a door-to-door mop-up strategy using tOPV;
- identify and vaccinate all Syrian children aged under 5 years living inside and outside refugee camps in the other 74 provinces; and
- identify and vaccinate all children aged under 5 years living in high-risk areas (with poor infrastructure such as sanitation; where immigrants, refugees, etc., live) against polio virus circulation.

WHO and UNICEF will support the ministry of health to conduct two rounds of polio NIDs to immunize around one million under-five Turkish as well as all under-five non-Turkish children (including Syrian children). Three million doses of tOPV are under procurement.

A communications plan, including social mobilization efforts, was put in place before the start of the campaign.

Support is requested for:

- procurement of 3 million doses of tOPV for the second vaccination round in December 2013;
- operational costs for surge capacity in the WHO Gaziantep field office to cover specific technical expertise in polio eradication, logistics and communications;
- communications, social mobilization and media campaign activities to be conducted by UNICEF;
- AFP surveillance support through funding for stool sample transport costs; and
- coordination and technical support by WHO and UNICEF.

12.6 Egypt

Polio history

Egypt has been polio free since 2004. The last case was reported from Assiut in May 2004. The last environmental sample with indigenous WPV was reported in January 2005 and Egypt was certified as polio free in 2006.

In late 2008, two environmental wild viruses were detected with virus imported from South Sudan and India, respectively. The most recent importation related to Sudan virus was detected in December 2010 from a sewage water sample collected from Aswan.

In 2010, positive samples of WPV were identified in environmental surveillance samples in Aswan and Greater Cairo. In January 2013, environmental surveillance detected a further positive sample of WPV in Al-Haggana district in Cairo. This sample was found to be genetically linked to the Pakistan virus.

Acute flaccid paralysis surveillance

Surveillance reporting started in Egypt in the early 1990s. In 1996, Egypt shifted to virological classification and has since maintained AFP surveillance indicators at WHO certification standards.

Laboratory

VACSERA, the national poliovirus laboratory in Cairo, Egypt, is a WHO-accredited laboratory in the Eastern Mediterranean Region poliovirus laboratories network. It is also a WHO-accredited laboratory to perform intratypic differentiation of polioviruses.

Phase 1 of laboratory containment of polioviruses has been completed and a report documenting the quality of containment activities has been submitted to WHO.

Routine immunization

Routine immunization against polio has been mandatory since 1968. OPV is used with a schedule of: 2 months, 4 months, 6 months, 12 months, 18 months. The coverage rates are high with POL-3 at 93% in 2012 (Annex 1).

National immunization days

National immunization days have been carried out since 1976, and on a yearly basis since 1989. A shift to the house-to-house strategy began in 2000 and became a national strategy in 2002. Multiple yearly NIDs were conducted between 2002 and 2005 until the eradication of wild virus circulation. Since then, an average of two NIDs have been conducted yearly.

Supplemental surveillance monitoring

Environmental surveillance for the detection of polioviruses was established in 2001. Samples are collected from 34 sites in 18 Governorates on a monthly basis. The frequency is increased if any WPV or vaccine-derived poliovirus is detected. The quality of its performance is checked in parallel with the national public health laboratory in Helsinki, Finland.

Current situation, risk assessment and initial response

In response to the 2013 positive environmental samples, the ministry of health and population conducted a mop-up campaign in Al-Haggana and Al-Salam in February 2013, followed by SNIDs in March for Greater Cairo, and NIDs in April where 12.8 million under-five children were immunized, achieving a coverage rate of more than 97%.

Currently between 250 000 and 300 000 Syrians have taken refuge in Egypt, 40% of whom are children. This is in addition to refugees from a number of other countries where WPV still circulates.

Further response

In accordance with the WHO/UNICEF polio emergency response plan, the ministry of health and population plans to conduct two rounds of polio NIDs to immunize 12.7 million children aged under 5 years, instead of one NID and one SNID originally planned in November and December 2013. The date of the first round was set for 17 November, with the second provisionally scheduled around 23 December 2013.

NID objectives are the vaccination of 95% of all Egyptian and non-Egyptian children aged under 5 years in the country. WHO and UNICEF will support the ministry of health and population financially and technically to conduct one round of polio NIDs to immunize 12.8 million under-five Egyptian and non-Egyptian children. To this end, 18 million doses of tOPV are being procured to supplement existing national stocks.

A communications strategy has been drafted in cooperation with the ministry of health and population that includes mass media and complementary community awareness activities targeting caregivers through day-care centres, kindergartens, clinics and NGOs.

Support is requested for:

- procurement of 18 million tOPV doses required to immunize 12.7 million Egyptian and non-Egyptian children aged under 5 years during one NID and one SNID, with an additional 12 million needed for a second round of NIDs;
- logistics to cover the transportation of 100 000 vaccinators and 13 000 supervisors during the four NIDs;
- social mobilization and media campaign activities (TV and Radio advertisements;
- the appointment of independent monitors to assure high quality NIDs;
- printing and distribution of information, education and communications materials (registry books, posters and brochures); and
- procurement of 50 000 finger-markers.

12.7 West Bank and Gaza Strip

Polio history

The last reported case of polio among Palestinian children was in 1992. WPV closely related to the virus from Egypt was isolated from sewage collected from the Gaza Strip in February and August 2002 but no cases were reported.

Acute flaccid paralysis surveillance

National reporting started in 1995, and that year virological classification was introduced. AFP surveillance indictors of WHO certification standard have been achieved, but the timeliness of reporting from Gazan provinces poses problems.

Laboratory

There is no poliovirus laboratory in the West Bank and Gaza Strip; it is served by the Israeli Ministry of Health's Central Virology Laboratory. Supplementary surveillance through environmental monitoring is ongoing. Phase 1 of laboratory containment of polioviruses has been completed. A report documenting the quality of containment activities has not yet been submitted to WHO.

Routine immunization

Routine immunization against polio has been mandatory since 1965. The current immunization schedule is IPV: 1 month and 2 months; OPV 2 months, 4 months, 6 months,18 months and 6 years, with POL-3 at 98% (Annex 1).

National immunization days

National immunization days were carried out on a yearly basis from 1995 to 1999.

Current situation, risk assessment and initial response

In response to the 2013 positive environmental samples in Egypt, Israel and the West Bank and Gaza Strip, the ministry of health has planned two rounds of polio vaccination commencing in December 2013.

Further response

In accordance with the WHO/UNICEF polio emergency response plan, the ministry of health plans to conduct two rounds of polio NIDs, in December 2013 and January 2014, to immunize 600 000 children aged under 5 years.

WHO and UNICEF will support the ministry of health financially and technically to conduct the two rounds. To this end, 1.5 million doses of tOPV are under procurement through UNICEF.

A national communications plan will use a mass media campaign through all possible channels (schools, mosques, etc.).

Support is requested for:

- enhancement of AFP surveillance;
- procurement of 1.5 million doses of tOPV vaccine;
- operational costs of US$ 95 600 to cover needed logistics, transportation, cold chain and social mobilization;
- training;
- independent monitoring to assure high quality NIDs; and
- coordination and technical support.

XIII. ANNEXES

ANNEX 1: Current immunization schedules and recent coverage

Country or area	*Total populations* *<5 years old* *<15 years old*	*Polio immunization schedules*	*POL3-2012 WHO-UNICEF (Official) %*	*POL3-2011 WHO-UNICEF (Official) %*	*POL3-2010 WHO-UNICEF (Official) %*	*POL3-2009 WHO-UNICEF (Official) %*
Egypt	80 722 000 9 237 000 25 272 000	OPV: 2m, 4m, 6m, 12m, 18m IPV: 2m, 4m, 6m, 9m, 12m, 18m	93 (93)	96 (97)	97 (97)	97 (97)
Iraq	32 778 000 4 824 000 13 262 000	OPV: B, 2m, 4m, 6m, 18m, 4y DTwP-Hib-HepB-IPV: 2m, 4m, 6m	70 (79)	80 (89)	74 (83)	78 (86)
Jordan	7 009 000 937 000 2 413 000	OPV: 4m, 5m, 9m, 18m, 6y DTaP-Hib-IPV: 3m, 4m, 5m	98 (98)	98 (98)	98 (98)	98 (98)
Lebanon	4 647 000 281 000 1 003 000	OPV: 4m, 6m IPV: 2m	77 (96)	77 (96)	76 (94)	76 (93)
Syrian Arab Republic	21 890 000 2 624 000 7 738 000	OPV: 6m, 12m, 18m IPV: 2m, 4m	52 (68)	75 (91)	83 (99)	83 (99)
West Bank and Gaza Strip	4 357 000 916 000 1 752 000	OPV: 2m, 4m, 6m, 18m, 6y IPV: 1m, 2m	98	100	100	100
Turkey	73 997 000 6 362 000 19 249 000	OPV: 6m, 18m DTaP-Hib-IPV: 2m, 4m, 6m, 18m DTaP-IPV: 6y	97 (97)	97 (97)	97 (96)	96 (96)

ANNEX 2: Proposed OPV supplementary immunization activities, 2013–2014

	Oct/Nov-13	*Dec-13*	*Jan-14*	*Feb-14*	*Mar-14*	*Apr-14*	*Total SIAs*	*Total NIDs*	*Total SNIDs*
Zone 1									
Syrian Arab Republic	NID	NID	NID	NID	NID	NID	6	6	0
Zone 2									
Iraq	NID	SNID & NID	SNID	SNID	SNID		6	2	4
Lebanon	NID	NID	NID				3	3	0
Turkey		SNID	SNID				2	0	2
Jordan	NID	NID	NID				3	3	0
Zone 3									
Egypt	NID	NID			NID	NID	4	4	0
West Bank and Gaza Strip		NID	NID				2	2	0

Note: SIA plans are indicative. Dates, vaccine type, number, and scale of campaigns can change due to the evolving outbreak progression, global vaccine priorities, or other factors

tOPV
bOPV

NID = National Immunization Day
SNID = Subnational Immunization Day

ANNEX 3: GPEI costing framework for response to polio outbreak in the Syrian Arab Republic

in US dollars	OPV	Ops cost/ Soc mob	Ops costs	Surge (technical assistance, surveillance, etc.)		Total costs	Total costs - WHO (PSC 7%)	Total costs - UNICEF (PSC - 8%)	Total Costs with PSC
Country or Area	*UNICEF*	*UNICEF*	*WHO*	*UNICEF*	*WHO, Others**				
Syrian Arab Republic	2 100 000	1 500 000	4 000 000		460 000	8 060 000	4 772 200	3 888 000	8 660 200
Iraq	2 100 000	1 500 000	1 300 000		0	4 900 000	1 391 000	3 888 000	5 279 000
Lebanon	470 000	470 454	1 177 600		0	2 118 054	1 260 032	1 015 690	2 275 722
Turkey	469 000	254 640	210 000		200 000	1 133 640	438 700	781 531	1 220 231
West Bank and Gaza Strip	210 000	95 600	0		74 600	380 200	79 822	330 048	409 870
Jordan	350 000	300 000	2 000 000		898 000	3 548 000	3 100 860	702 000	3 802 860
Egypt	6 530 000	935 000	6 195 000		0	13 660 000	6 628 650	8 062 200	14 690 850
Regional resources	0	0	0	900 000	2 100 000	3 000 000	2 247 000	972 000	3 219 000
Total activities for areas impacted by outbreak response	12 229 000	5 055 694	14 882 600	900 000	3 732 600	36 799 894	19 918 264	19 639 470	39 557 734

Note: Planned vaccination activities for the initial period of the outbreak response are well defined; the scope, nature and timing of activities beyond the initial three-month-response will need to be reassessed in light of the evolving epidemiology and global vaccine supplies.
**Others include UNHCR, UNRWA, IOM*

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