

# Meeting Report

## Twentieth Meeting of the Regional Commission for the Certification of Poliomyelitis Eradication in the Western Pacific



12–14 November 2014  
Kuala Lumpur, Malaysia



**REPORT**

**TWENTIETH MEETING OF THE REGIONAL COMMISSION  
FOR THE CERTIFICATION OF POLIOMYELITIS ERADICATION  
IN THE WESTERN PACIFIC**

Kuala Lumpur, Malaysia  
12–14 November 2014

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**NOTE**

The views expressed in this report are those of the participants of the Twentieth Meeting of the Regional Commission for the Certification of Poliomyelitis Eradication in the Western Pacific and do not necessarily reflect the policies of the Organization.

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## ABBREVIATIONS

AEFI	adverse events following immunization
AFP	acute flaccid paralysis
CDC	Centers for Disease Control and Prevention
EPI	Expanded Programme on Immunization
GPEI	Global Polio Eradication Initiative
IHR	International Health Regulations (2005)
IPV	inactivated poliovirus vaccine (Salk wild-type based)
NCC	National Certification Committee
NIID	National Institute for Infectious Diseases
NPAFP	non-polio acute flaccid paralysis
OPV	oral poliovirus vaccine
PHEIC	Public Health Emergency of International Concern
POSE	Polio Outbreak Simulation Exercises
bOPV	bivalent oral poliovirus vaccine (against types 1 and 3)
mOPV	monovalent oral poliovirus vaccine
tOPV	trivalent oral poliovirus vaccine
RCC	Regional Commission for the Certification of Poliomyelitis Eradication
RI	routine immunization
SAGE	Strategic Advisory Group of Experts on Immunization
SIA	supplementary immunization activity
SMS	short message service
SRCC	Subregional Commission for the Certification of Poliomyelitis Eradication
TAG	Technical Advisory Group on Immunization and Vaccine-Preventable Diseases
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VDPV	vaccine-derived poliovirus
aVDPV	ambiguous vaccine-derived poliovirus
iVDPV	immunodeficiency-associated vaccine-derived poliovirus
cVDPV	circulating vaccine-derived poliovirus
WPV	wild poliovirus (types 1 [WPV1], 2 [WPV2] and 3 [WPV3])
WHO	World Health Organization

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#### Keywords:

Poliomyelitis – prevention and control/ vaccination/ immunization
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## SUMMARY

The Twentieth Meeting of the Regional Commission for the Certification of Poliomyelitis Eradication (RCC) in the Western Pacific was held in Kuala Lumpur, Malaysia, from 12 to 14 November 2014. The RCC continues to meet on an annual basis to review country reports on the maintenance of polio-free status as part of its reporting mandate to the Global Certification Commission. The RCC also supports countries by providing feedback and recommendations to improve surveillance for polioviruses, respond to polio outbreaks and maintain adequate immunity against poliovirus.

The Sixty-sixth World Health Assembly endorsed the *Polio Eradication and Endgame Strategic Plan 2013–2018*. This plan outlines specific actions towards completing the last stage of polio eradication in all countries, both polio-affected and polio-free. The RCC reviewed the status of each Western Pacific country's polio eradication programme in the context of the polio endgame strategy. In addition, the RCC took note of each country's response to the Public Health Emergency of International Concern declaration by World Health Organization in May 2014.

The RCC conducted a thorough review of the National Certification Committee (NCC) reports, engaged in vigorous discussions with meeting participants, and through their deliberations, the RCC was able to conclude that the Western Pacific Region had maintained its polio-free status. However, they warned that the Region must remain vigilant to polio brought in from transmitting countries and that polio must be eradicated globally in order to completely eliminate risk to the Region.



## 1. INTRODUCTION

The Twentieth Meeting of the Regional Commission for the Certification of Poliomyelitis Eradication (RCC) in the Western Pacific was held from 12 to 14 November 2014 in Kuala Lumpur, Malaysia. The RCC meets annually to review the maintenance of poliomyelitis-free status, review the quality of surveillance to validate it against the standards set for certification, and fulfil its reporting mandate to the Global Certification Commission.

### 1.1 Meeting objectives

- 1) to update the RCC and NCCs on the global and regional status of poliomyelitis eradication and recent activities conducted in other regions;
- 2) to review and evaluate NCC progress reports including the status of implementation of 2013 RCC recommendations from all countries and areas on maintaining poliomyelitis-free status and to make recommendations on actions to be taken by countries in order to achieve high quality surveillance and immunization performance; and
- 3) to identify key activities to be undertaken by the RCC and NCCs between 2014–2018 to enhance their support to the *Polio Endgame in the Western Pacific Region Strategic Plan 2013–2018*.

### 1.2 Organization

The meeting was attended by five members of the RCC (two members were unable to attend), one temporary adviser, 19 NCC chairs and delegates, three representatives from partner agencies, and seven members of the World Health Organization (WHO) secretariat.

Professor Anthony Adams was appointed Chairperson, Dr Nobuhiko Okabe as Vice-Chairperson, and Dr Steven Wassilak as rapporteur. The meeting timetable is available at Annex 1. The list of participants is available at Annex 2.

### 1.3 Opening session

Dr Graham Harrison, the World Health Organization Representative to Malaysia, delivered the opening remarks on behalf of Dr Shin Young-soo, WHO Regional Director for the Western Pacific. The threat faced by polio-free countries was recently reinforced when several countries were re-infected during the 2014 low season for polio transmission. The international spread of wild poliovirus (WPV) in 2014 has been declared a Public Health Emergency of International Concern (PHEIC). Several Western Pacific Member States have implemented strategies to reduce the risk of imported poliovirus such as requiring proof of vaccination from individuals arriving from polio-affected countries.

Although global polio eradication has taken longer, and required more resources than anticipated in 1988, the end seems to be in sight. Of the three WPV strains, it has now been 15 years since the last type 2 WPV has been detected. As of 10 November 2014 it has been two years since the last case of type 3 WPV was detected globally. In 2014, important gains in limiting the geographic spread of type 1 WPV were made in Equatorial Guinea, Ethiopia, Iraq, Israel and Syria. In Nigeria, the total number of polio cases is at an all-time historical low. In

November 2014, the WHO Regional Office for the Western Pacific published the *Polio Endgame in the Western Pacific Region 2013–2018*. This plan describes the next steps to ensure countries and areas in the Region meet the global timelines for the introduction of inactivated polio vaccine and the plan for coordinated, simultaneous withdrawal of the type 2 component of oral polio vaccine. WHO will continue to support activities to increase the sensitivity of acute flaccid paralysis (AFP) surveillance and increase vaccination coverage to close immunity gaps.

Professor Adams, the RCC Chairperson, welcomed attendees to the 20th RCC. He emphasized achievements in the past 12 months. For example, in March 2014, the South-East Asian Region was declared polio-free. More than six months have passed without a polio case reported in Iraq and Syria despite intense turmoil. Unfortunately, in endemic countries, civil unrest continues and Pakistan continues to be a major reservoir of WPV.

Datuk Dr Lokman Hakim Sulaiman, Deputy Director General of Health, delivered the opening remarks on behalf of the Director of Health Malaysia. He highlighted that although the world is getting smaller, the interdependence of countries is increasing the importance of preventing and controlling infectious diseases. In our global community, each government must ensure that their people, especially those living at the borders, are protected through vaccination against vaccine-preventable diseases such as polio, measles and rubella. That the current polio situation was declared a PHEIC underscores those governments alone cannot address this issue. Clear guidance from international organizations, such as WHO is necessary to support countries in decision-making processes.

## 2. PROCEEDINGS

### 2.1 Progress towards polio eradication

#### 2.1.1 Global update on polio eradication

Dr Rudi Tangermann delivered the global update. In May 2014, the WHO Director-General declared the international spread of WPV a PHEIC and issued temporary recommendations to reduce the risk of international spread. Table 1 compares cases by country in 2013 and 2014.

**Table 1. Country comparison of reported cases due to WPV (WPV) 2013 and (end-October) 2014**

Cases		Reported cases due to WPV in 2013	Reported cases in 2014 (as of end of October)
Global		298	247
Pakistan		46	210
Afghanistan		8	12
Nigeria		49	6
Outbreak countries	Somalia	174	5
	Cameroon	1	5
	Equatorial Guinea	0	5
	Iraq	0	1
	Syria	0	1

WPV of Pakistani origin was detected in 14 environmental isolates in Israel (compared to 136 virus isolates in 2013) and in one environmental isolate in occupied Palestinian Territory

(compared to 7 in 2013). One environmental isolate of Equatorial Guinea origin was detected in Sao Paulo, Brazil.

All 2014 WPV cases and environmental isolates were caused by WPV type 1. The most recent case due to WPV type 3 occurred in 2012 in Nigeria. In 2014, there were 39 reported cases due to circulating vaccine-derived poliovirus type 2 (cVDPV2): 20 cases were reported in Nigeria (compared to 4 cases in 2013); and 19 cases were reported in Pakistan, (compared to 48 cases in 2013).

The global polio programme is strengthening international guidelines to respond to new polio outbreaks in polio-free countries, building on resolutions WHA59.1 and 65.5. New guidelines urge affected Member States to implement new and more aggressive outbreak response measures based on full engagement of government, application of outbreak response approaches based on risk assessments, and implementation of multiple, high-quality immunization campaigns, as appropriate, targeting older age groups, and activities to boost surveillance for AFP. Effectiveness of outbreak response activities and progress towards interruption of the outbreak are assessed one, three and six months after outbreak notification.

Interrupting WPV transmission in Africa is achievable by end of 2014. To succeed, eradication strategies are being intensified in known transmission areas of northern Nigeria, notably Kano state in north-central Nigeria; eradicating residual transmission in the Horn of Africa; and conducting comprehensive outbreak response in central Africa centred around Cameroon.

Interrupting WPV transmission in Asia by end-2014 is unlikely, given the high disease burden in Pakistan. The major challenges to interrupting transmission remain insecurity in parts of Khyber Pakhtunkhwa province, north-west Pakistan, and in Karachi city; inaccessibility with ongoing military operations in areas of the Federally Administered Tribal Areas; and chronically inadequate implementation of immunization rounds in some areas of Sindh province, including greater Karachi and Balochistan province, including in the greater Quetta city area. Transit vaccination of internally displaced people from North Waziristan and Khyber Agency continues.

The Independent Monitoring Board of the Global Polio Eradication Initiative (GPEI), in its October 2014 report, has urged the Government of Pakistan to establish a strong national emergency coordination and management system to ensure full implementation of the National Emergency Action Plan for polio eradication.

In Afghanistan, the focus remains on interrupting residual endemic circulation and responding to cross-border transmission with Pakistan. In Asia, the overriding programmatic priority is to ensure immunizations resume in all areas, notably in North Waziristan and Khyber Agency in Pakistan, and to urgently address operational challenges ahead of the upcoming low season for poliovirus transmission in the first half of 2015.

A major objective of the Endgame Plan is the withdrawal of oral polio vaccine (OPV) in a phased manner, starting with withdrawal of type 2-containing OPV, through a globally coordinated 'switch' from trivalent to bivalent OPV for routine immunization (RI) in OPV-using countries. To mitigate the continuing small but real risks associated with cVDP2, all OPV-using countries should also introduce at least one dose of inactivated poliovirus vaccine (IPV) into their RI programmes.

At its October 2014 meeting, the Strategic Advisory Group of Experts on immunization (SAGE) reviewed progress in implementing the readiness criteria for the withdrawal of type 2-containing OPV. The SAGE concluded that preparations are on track for withdrawal in early

2016, and recommended that Member States accelerate preparations and facilitate international coordination.

The trigger for the withdrawal of type 2-containing oral polio vaccine will be the absence of all persistent circulating vaccine-derived type 2 polioviruses for at least six months. SAGE recommended that Nigeria and Pakistan optimize vaccine mix during upcoming supplementary immunization activities (SIAs) to ensure elimination of circulating vaccine-derived type 2 polioviruses and to enable withdrawal of type 2-containing OPV. The Global Commission for the Certification of Poliomyelitis Eradication is scheduled to convene before the World Health Assembly 2015, to review all necessary data to determine if the global eradication of WPV type 2 can be verified.

### 2.1.2 Regional update on polio eradication

Dr William Schluter reviewed implementation of the recommendations of the 19th RCC. The RCC recommended that countries should take all necessary measures to reduce the risk of outbreaks by conducting regular (every 6 months in high risk, or annually in others) national (and subnational as appropriate) risk assessments. The region responded with 11 (65%) updated risk assessments in 2014; 2 (12%) in 2013; and 4 (24%) updated in 2012 or earlier. The RCC requests the WHO Secretariat to refine the risk assessment methodology across the Region, with guidance provided on the administrative level to use in regards to variation in population density across countries, which is an ongoing activity.

The RCC also recommended strengthening RI and SIAs to close gaps in population immunity. SIAs with other antigens, such as measles and rubella campaigns, should be used as opportunities to provide supplementary OPV doses in areas with low coverage, or considered to be of high-risk. In the last 12 months, SIAs have been conducted in China, Mongolia and the Philippines, and in high-risk areas in Cambodia, the Lao People's Democratic Republic, Malaysia and Viet Nam. The RCC also recommended:

- attaining quality AFP surveillance that meets all performance indicators at the subnational level to ensure that the surveillance system covers all populations, including those covered by private sector;
- re-engaging silent facilities and investigating silent reporting areas;
- ensuring active surveillance occurs;
- investigating reasons for inadequate stool specimen collection/transport and providing appropriate solutions;
- performing regular refresher training of staff;
- strengthening supervision of surveillance staff; and
- performing targeted surveillance reviews.

Staff training was conducted in Cambodia and China; an online surveillance reporting system was implemented in Hong Kong SAR (China); the Lao People's Democratic Republic is addressing silent areas; Mongolia is working to increase border supervision; and strategies in the Philippines included mechanisms to increase active surveillance and supervision.

The RCC recommended considering vaccination of travellers to and from polio-affected areas using WHO recommendations for polio vaccination of travellers as an advocacy tool for implementing national policies. Australia, Brunei Darussalam and China have adopted strategies to ensure immunity among travellers and migrants from polio-affected countries.

The RCC also recommended ensuring that (annually) updated importation preparedness plans are in place and remain current. Four (24%) countries/areas updated their outbreak response plans in 2014; 4 (24%) in 2013; 9 (53%) updated in 2012 or earlier.

In preparation for the polio endgame, the RCC recommended registering IPV, bivalent oral poliovirus vaccine (bOPV), monovalent oral poliovirus vaccine (mOPV1), and mOPV2 with national authorities and developing a provisional schedule and timeline for introduction of IPV. Registration of vaccines is ongoing in the Region and all countries and areas in the Region are on track to introduce IPV in 2015.

### 2.1.3 Recommendations of the 2014 TAG meeting

Dr Robert Hall, Chair of the WPR Technical Advisory Group (TAG) on Immunization and Vaccine-Preventable Diseases summarized the recommendations. The 23rd TAG meeting (Manila, 2014) reviewed the Sixty-fifth World Health Assembly endorsement of the *Global Vaccine Action Plan 2011–2020* (GVAP). To implement GVAP, the *Regional Framework for Implementation of GVAP in the Western Pacific* was developed and endorsed by the Regional Committee in October 2014. This framework contains eight immunization goals: sustain polio-free status, eliminate maternal and neonatal tetanus, eliminate measles, eliminate rubella, accelerate the control of Hepatitis B, accelerate the control of Japanese encephalitis, meet regional vaccination coverage targets, and introduce new vaccines.

The TAG acknowledged national and regional progress in implementing *Polio Eradication and Endgame Strategic Plan 2013-2018* while also noting that AFP surveillance indicators in some countries do not meet recommended standards in the first half of 2014, and raised concerns that based on current progress, some countries are at risk of missing the global deadlines for IPV introduction by the end of 2015. The TAG recommended that all countries: improve AFP surveillance at the subnational level; analyse polio vaccination coverage among non-polio acute flaccid paralysis (NPAP) cases to identify immunity gaps and undertake activities to maximize population immunity; ensure that any wild or vaccine-derived poliovirus is detected in a timely manner and that a rapid response is initiated following detection; and begin planning for the containment by reviewing their inventories and destroying unnecessary stool specimens.

The TAG also recommended that countries conducting environmental surveillance identify and characterize polioviruses using WHO-recommended methods and that the results be shared with the WHO Regional Office for the Western Pacific at least on a monthly basis. Finally, the TAG recommended that all countries develop national polio endgame plans in line with the global timeline (mid-2014 is suggested for tier 1 and 2 countries and end-2014 for tier 3 and 4 countries).<sup>1</sup> All exclusively OPV-using countries and areas should ensure they communicate a formal decision and date for IPV introduction to the WHO Regional Office.

### 2.1.4 Progress towards polio eradication in the Eastern Mediterranean Region

Progress towards polio eradication has deteriorated in the Eastern Mediterranean Region in 2014. Continuation of transmission in endemic countries (Pakistan and Afghanistan) and outbreaks in Horn of Africa countries (Somalia) and Middle East (Syria & Iraq) are putting all Member States at risk of importation and outbreaks and is also impeding the achievement of a polio-free world.

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<sup>1</sup> Definition and rationale of risk tiers for IPV introduction. Geneva: World Health Organization; 2013 [http://www.who.int/immunization\\_standards/vaccine\\_quality/4a\\_risk\\_tiers\\_for\\_ipv\\_introduction.pdf](http://www.who.int/immunization_standards/vaccine_quality/4a_risk_tiers_for_ipv_introduction.pdf)

This demands urgent action to stop poliovirus transmission. The 2013 Regional Committee for the Eastern Mediterranean declared polio a public health emergency in Member States; re-emphasized support to Pakistan and Afghanistan; and the International Health Regulations (IHR) Emergency Committee urged the polio exporting and infected countries to stop transmission within their borders. Unfortunately the completion of WPV eradication continues to be jeopardized by the lack of safe access to children to vaccinate in conflict and banned areas; an inconsistent rate of improvement in the quality and coverage of SIAs; as well as by weak RI programmes.

There is significant progress in ending both the Horn of Africa and Middle East outbreaks as a result of joint coordinated efforts by the national governments and Regional leadership of WHO, United Nations Children's Fund (UNICEF) and partners. Unfortunately there is no such progress in Pakistan despite many efforts. Both Afghanistan and Pakistan have reiterated their political commitment and are in a process of re-organization of plans and resources for the coming low transmission season based on evaluation of initiatives. Important features include targeted use of IPV in outbreak settings, maximizing permanent transit teams in high risk areas, ensuring accountability to improve quality, and engagement of religious scholars through both the Islamic Advisory Group and National Islamic Advisory Group.

Polio laboratories are maintaining certification standard performance indicators and progress in preparing for OPV withdrawal is on track. Re-infected countries will re-submit Basic National Documentation after one year of the date of onset of the last WPV. The priority in polio-free countries is to maintain high population immunity, certification-standard AFP surveillance, and capacity to detect importation and continue conducting risk assessments.

#### 2.1.5 Common threats to maintaining polio-free status in the WHO European Region

Dr Tigran Avagyan reported progress from the European Region (53 Member States) in maintaining polio-free status since certification in 2002 after the last indigenous WPV case was reported in Turkey in 1998. At this time, OPV vaccine is exclusively used in 10 (19%) countries; IPV in 33 (62%) countries; and 10 (19%) countries use both OPV and IPV. By the end of 2015 all OPV using countries will introduce at least 1 dose of IPV into their RI schedules. There is also wide implementation of polio surveillance with 41 of 53 countries implementing case-based AFP surveillance; 39 countries implementing virologic-based enterovirus surveillance (with six countries exclusively conducting enterovirus surveillance); and 22 countries implementing environmental surveillance.

In 2010, WPV type 1 originating from India was imported into the Region (starting in Tajikistan) resulting in a large multi-country outbreak. The outbreak involved 480 laboratory-confirmed cases (461 in Tajikistan, 15 cases in Russian Federation, 3 cases in Turkmenistan, one case in Kazakhstan). Multiple rounds of polio SIAs were conducted (ranging from 2–6 rounds) and the outbreak ended in less than nine months.

In response to the recommendation by the European Region RCC at the 22nd meeting in 2009, a series of table top Polio Outbreak Simulation Exercises (POSEs) was conducted by the Regional Office for Europe with support from Public Health England, United Kingdom. The exercises strengthened planning in case of another polio importation. There is a plan to conduct POSE in 2015 jointly with the Regional Office for the Western Pacific. The most recent risk assessment revealed that countries and territories in the European Region are still at high risk of polio transmission in case of importation due to either low RI coverage with third dose polio vaccine coverage (Bosnia and Herzegovina, Ukraine), or WPV outbreaks in neighbouring countries (eastern Turkey).

## 2.2 Country presentations

### 2.2.1 Australia

The Australia polio eradication programme is supported by strong AFP surveillance with high completeness of reporting. The programme initiated regular monthly reporting of AFP surveillance data in February 2014. To increase reporting, clinicians have been reminded to maintain clinical suspicion for polio through multiple forms of advocacy. AFP surveillance is complemented by both enterovirus and environmental surveillance. One additional environmental surveillance site was recently added in Melbourne and environmental surveillance is planned for Perth. A polio serosurvey is in process now and results are expected by the end of 2014. Epidemiological surveillance is supported by a strong performing WHO-accredited laboratory that also serves as a regional reference laboratory.

Australia has a strong RI system that provides incentives for families and providers to improve coverage among high-risk and remote populations including indigenous populations, and geographically isolated people. From December 2014, the childhood immunization registry will generate reminder letters to parents of children who are overdue for vaccinations at 10, 21, and 54 months of age. In 2014, previously unreported WPV samples were reported from Queensland University of Technology and were destroyed. Australia conducts a subnational risk assessment annually and has revised its outbreak preparedness and response plan. In response to temporary recommendations, proof of vaccination is required from visa applicants who have spent more than four weeks in polio-affected countries. The programme has faced a few challenges since the last RCC report including a polio compatible case reported in 2013; a sub-target reporting rate of NPAFP cases among children less than 15 years of age; and a sub-target stool adequacy rate.

### 2.2.2 Brunei Darussalam

The national polio programme conducts well-functioning integrated measles and AFP surveillance. It also has achieved very high routine IPV3 coverage with high acceptability and accessibility as it is free to all children. A catch-up campaign covering children in school grades 4, 6 and 7 with incomplete vaccination status was successfully completed. The programme has introduced “BRUHIMS”, an health electronic system which provides reminders for child regular health visits. The Polio Points programme launched in October 2012, is an advocacy and awareness programme through children's schools which is highly supported by the Royal family, the local population and UNICEF. The programme conducts risk assessments annually.

### 2.2.3 Cambodia

The Cambodian polio programme faced multiple challenges since the last RCC meeting including a decrease in national OPV3 coverage during 2013 and 2014, with 11/24 provinces failing to meet targets; several subnational NPAFP rates which fell below targets with several silent provinces, and a prolonged stockout of OPV vaccine of five months duration during 2013. The duration of follow-up period on uncategorized AFP cases is below recommended targets and is a focus of programme improvement. A subnational risk assessment conducted in 2014 identified 2 high-risk and 9 medium-risk provinces.

In order to improve coverage with OPV, there are OPV campaigns underway in low coverage communities and plans developed to strengthen the RI programme. The programme has planned to conduct three routine catch-up campaigns in 2014; two have been completed and a third one is planned for November. There have been no stockouts to date in 2014 and the programme plans to introduce IPV in 2015 and switch to bOPV in 2016. A National Endgame Plan has been drafted for finalization in 2015.

#### 2.2.4 China

Between January 2013 and August 2014, the Chinese polio programme successfully sustained high routine polio vaccination coverage, met all thresholds for AFP surveillance at the subnational level, and continued to maintain a high standard in all areas for its polio programme since the 2011 WPV importation and outbreak.

In 2013, more than 18 million children were immunized with three doses of OPV, making the administrative coverage >100%. The cause of coverage exceeding 100% is that some children >1 year of age were immunized and some births were not officially registered, resulting in an inaccurate target population (denominator). Despite overall high coverage, there are some populations with low immunization coverage such as remote areas of western China and areas in middle/eastern China that have large migrant populations. To increase coverage in these high-risk communities, a national guideline was developed which required that immunization services to be delivered in 6 rounds each year in remote areas. In addition to strategies to improve routine coverage, at least two rounds of SIAs with OPV have been conducted annually since 1993. These campaigns are particularly important to boost immunity in areas bordering polio-endemic countries. The Expanded Programme on Immunization (EPI) programme plans to add a single dose of IPV via phased introduction over 2014–2015 as a top priority of RI programme and switch from trivalent oral poliovirus vaccine (tOPV) to bOPV in April 2016.

A robust laboratory network exists at the national and provincial levels. The polio laboratories continue to develop its containment strategy, especially for provincial laboratories. After phase I of containment, the National Containment Group will be responsible for managing all activities related to containment.

In response to the PHEIC declaration, there was issuance of a Joint Notice requesting government departments to strengthen measures to prevent WPV importation, requirement of proof of vaccination among all travelers entering China from the 10 countries with active polio transmission or travelers without proof of vaccination should be provided with one dose of OPV. Chinese travelers to the 10 countries were advised to take all necessary precautions including vaccination if previously unvaccinated.

Several challenges identified since the last RCC meeting, include detection of a polio compatible case, 35 vaccine-associated paralytic poliomyelitis cases and 4 vaccine-derived poliovirus (VDPV). Despite the high standards being maintained, the polio programme must remain vigilant to protect its sizable population under surveillance especially since it shares borders with two endemic countries.

The NCC advised to remain vigilant about polio eradication in China, (especially in border regions), and about WPV importations; to continue the dual strategy to strengthen RI and provide SIAs in remote western regions. The NCC requests WHO to increase support for polio eradication, for IPV usage and to strengthen international collaboration to eradicate polio.

#### 2.2.5 Hong Kong SAR (China)

The polio programme has a successful AFP surveillance programme based on regular communications with providers, and identification of all physician focal points in the 12 public hospitals who receive monthly feedback. Complete coverage with IPV3 starts at birth due to a 100% rate of facility births, free immunization at public centres, primary school immunization outreach and a very low dropout rate DTP#1-DTP#3 of less than 5%. The programme has strong laboratory capacity with free services from the national laboratory for both public and private hospitals. Importation threat exists due to the high volume of international flights arriving



to Hong Kong SAR (China) each year, a substantial population of whom are of Pakistani ethnicity.

#### 2.2.6 Macao SAR (China)

With fewer than 100 000 children less than 15 years of age, Macao SAR (China) is not expected to report an AFP case every year. Nevertheless, on average the NP/AFP reporting rate continues to meet target thresholds. No polio compatible cases have been reported with very high completeness of reporting. Macao SAR (China) maintains high RI coverage with annual IPV3 consistently meeting targets. School entry requirements help to achieve high coverage among immigrant and low income children. With more than 29 million visitors annually, Macao SAR (China) remains at risk for WPV importation.

#### 2.2.7 Japan

In Japan, the poliovirus surveillance system relies on enterovirus (virologic) surveillance, stool surveys from healthy children, and environmental surveillance. Since 2013, no polioviruses (neither wild nor vaccine-related) have been detected.

In September 2012, IPV replaced OPV in the national immunization schedule. A decline in RI coverage with OPV was observed in the months preceding the switch from OPV to IPV in 2011 and 2012. However, according to the results of serosurveys conducted in 2013, poliovirus immunity was >90% against Type 1 and 2 in children <5 years. Additionally, the administrative coverage rates of IPV immunization in 2013 were >100%. This suggests that some parents in 2011–2012 might have delayed polio vaccination until IPV was available; once the vaccine was available September 2012, they immunized their children with IPV.

The national programme includes a robust laboratory network including a national polio laboratory National Institute for Infectious Diseases (NIID) which serves as a national, regional and global reference laboratory. In order to intensify surveillance for polioviruses after IPV introduction in September 2012, the environmental surveillance network in Japan was expanded. Eight public health laboratories have begun conducting environmental surveillance at 18 sentinel waste water treatment plants in different geographical areas throughout Japan. The population estimated to be covered in these catchments is 4.5 million.

#### 2.2.8 The Lao People's Democratic Republic

The Lao People's Democratic Republic took steps to increase the quality of AFP surveillance by focusing on silent provinces. In 2014, however, there were three provinces with no AFP cases reported as of 4 November 2014 (silent provinces). There are three standard AFP surveillance indicators that remain below the target: per cent of cases notified within 48 hours after symptom onset; per cent of cases with adequate specimens within 14 days; and percent of cases with <3 days from collection to receipt of specimens at the national laboratory.

Polio vaccination coverage has shown steady improvement from 2007 to 2013. However, there is wide disparity in OPV coverage at provincial levels. To close immunity gaps, OPV was included in six high-risk provinces during planned measles-rubella campaigns. A 2014 risk assessment identified five provinces at high-risk, six at medium-risk and seven at low-risk.

The NCC recommended: continuation of periodic polio risk assessment; IPV introduction in RI in 2015; development of a communication strategy to address multiple injections; strengthening surveillance in border provinces and development of EPI strategies to fill subnational immunization gaps.

### 2.2.9 Malaysia

For ten years the national programme has maintained the national polio vaccination coverage at very high levels with free routine vaccination offered to children and SIAs targeted toward districts with less than 95% coverage. However, the AFP surveillance programme has seen declines between 2013 and 2014 with sub-target NP/AFP rates in 2014. In addition, non-polio enteroviral rates were also sub-target in both 2013 and 2014. Environmental surveillance started with sample collection from sewage treatment centres in 2012, three sites were added in 2013 and four sites were added in 2014. A risk assessment in 2014 identified eight medium-risk and two high-risk states. Malaysia remains at risk for importation of WPV due to the number of incoming travellers each year.

In response to the PHEIC declaration, there have been recommendations that travellers from the polio exporting countries must provide proof of vaccination against polio. If proof is not provided, the vaccine must be taken at point of entry. Failure to do so will result in denied entry to Malaysia.

The NCC recommended maintaining and strengthening: communication and information sharing especially on performance of AFP surveillance and vaccination coverage; the quality of AFP surveillance; sustaining IPV3 coverage >95% at all levels; continued use of IPV and discontinuing OPV use; follow-up with polio vaccine manufacturer registration for bivalent and monovalent vaccine; conducting clinical audits at hospital on AFP surveillance; continuous human resource development; investigating all poliovirus positive isolates in a timely and thorough manner; ensuring all health workers are well informed of National Contingency Plan for Detection and Response to Wild Poliovirus; training sessions for AFP surveillance; and focus on low coverage districts for SIAs; and support of WHO to achieve global polio eradication.

### 2.2.10 Mongolia

Nationally, AFP surveillance is complemented by a healthy child stool survey. The programme has struggled to meet AFP surveillance indicator targets. In response, supervision and feedback was provided to staff for AFP surveillance sites. Trainings are to be held to strengthen AFP surveillance in all silent areas including Ulan Bataar. RI coverage is very high both nationally and subnationally however a major shortcoming is the high turnover of EPI staff at subnational levels. IPV introduction is planned for 2016 with support of Gavi, the Vaccine Alliance. Border areas identified in the 2013 risk assessment as high-risk have received supportive supervision. Military troops are not required to provide proof of vaccination upon travel to or from countries with polio-transmission. The National Outbreak Response Plan was reviewed in 2014 and the National Endgame plan is in-development.

### 2.2.11 New Zealand

The national polio programme conducts robust outreach efforts and audits of AFP cases to augment AFP surveillance; this is done in order to evaluate the sensitivity of the surveillance system to detect AFP cases and determine the most common places of care for AFP cases in order to target efforts to improve the collection of adequate stools. The results demonstrated sufficient sensitivity of the surveillance system. The findings also showed that approximately 50% of all AFP cases were reported from a single hospital, Starship Children's Health. As a result, efforts were focused on improving stool adequacy at Starship, which entailed making the nurse responsible for stool collection at Starship an observing member of the NCC.

AFP surveillance is complemented by enterovirus (virologic) surveillance. The national programme continues to actively engage paediatricians on the importance of AFP surveillance.

The RI system performed well including excellent coverage of ethnic minority groups with IPV3 and including high rates of fully immunized children.

A laboratory quality improvement activity incidentally identified previously archived specimens of WPV which were destroyed per protocol in May 2014. As follow up, in September 2014, a letter was sent to all laboratories with storage facilities describing the incident and requesting a re-survey of all holdings. The incident is a reminder of the risk of containment and the importance of vigilance in updating surveys. Results of the new containment survey will be made available in 2015. The National Poliomyelitis Response Plan was updated in 2014.

#### 2.2.12 Pacific island countries and areas

The Subregional Commission for the Certification of Poliomyelitis Eradication (SRCC) concluded that the subregion maintained its polio-free status among the 21 countries and areas. AFP surveillance was adequate in the subregion however stool adequacy rates were sub-target. RI was sub-target in seven countries including Solomon Islands. IPV is in use for 11 of 21 Pacific island countries and areas while the other 10 use OPV. Outbreak response plans are in-development in Fiji, Solomon Islands and Vanuatu, awaiting government endorsement. A new challenge to maintaining polio-free status is the entry of refugees from polio-endemic countries arriving to Nauru.

The SRCC recommended: sustaining high RI coverage and conducting coverage surveys where the denominators are not well defined (Solomon Islands); more engagement with AFP surveillance focal points; conducting email reporting; SRCC visits to poor performing countries with low/no reporting and high population; validating low AFP reporting via record reviews; supporting Outbreak Response Plan development in Solomon Islands; circulating the generic plan to all countries for use as the basis for their own plans; checking immunization measures for refugees in Nauru; expanding membership of SRCC/SRVC to include members from priority countries; conducting integrated vaccine-preventable disease surveillance training for priority countries; and exploring technology supported mechanisms to increase sensitivity of surveillance.

#### 2.2.13 Papua New Guinea

The national polio programme experienced multiple challenges in 2013 including subtarget national OPV3 coverage with many districts reporting <50% coverage rates and subtarget national AFP surveillance indicators. A detailed surveillance review was conducted in East Sepik Province and Maprik District in December of 2013 which revealed communication gaps, procedural uncertainties, low sensitivity for AFP reporting among healthcare staff and active case searches conducted on an ad hoc basis.

In 2014 the programme faced stockout of tOPV vaccine, competing resources with activities to address a large measles outbreak and lack of adequate commitment to polio eradication. The “short message service (SMS) Alert” system for reporting AFP cases was not functional during reporting period as expected.

Multiple activities were undertaken by the national programme including addition of a surveillance officer in EPI, staff training in AFP surveillance and stool collection methods, reintroduction of the SMS system to report AFP cases, and development of a national polio end Game Plan. In 2014 the country applied to Gavi, the Vaccine Alliance for IPV vaccine introduction support.

The NCC recommended: implementation of IPV in the RI programme by 2015; considering bOPV supplementation in 2015/2016 SIAs; rectifying the OPV coverage gap;

conducting a detailed AFP surveillance review in a high-risk district in 2014/2015; organizing a briefing with the private sector on the national polio endgame plan; developing integrated AFP, measles, and maternal and neonatal tetanus surveillance and an outbreak implementation manual to implement the polio endgame; scaling up the mobile phone surveillance scheme; strengthening surveillance at each level and providing feedback to each province; scaling-up AFP sentinel surveillance sites to at least one high volume health centre in each province; conducting integrated surveillance /EPI review meetings biannually and preparing periodic regular supportive supervision.

#### 2.2.14 The Philippines

The national programme reported subtarget national AFP surveillance indicators and subnational rates were poor throughout the country. The National Demographic Health Survey indicates subnational routine OPV coverage <80%.

The polio programme has undertaken activities to strengthen AFP surveillance including conducting active surveillance, monitoring visits to enforce importance of timely AFP reporting and specimen transport, record reviews, focusing on specimen transport and issuance of a memorandum on intensifying AFP surveillance. Advocacy and capacity-building efforts were also conducted. Materials were developed and special funds were allotted for specimen transport. Technical assistance visits were conducted by national surveillance officers in four regions identifying needs and gaps in staffing/training, logistics/supplies, and data management. Multiple efforts were undertaken to strengthen RI: a revised “Reaching Every Purok” strategy to link RI and SIAs, enhanced supervision and capacity building.

The Department of Health is supporting phased IPV introduction into the RI programme. This has started in three regions including the National Capital Region.

The National Polio Laboratory received ISO 9001:2008 certification in September 2014 and also received first time accreditation for intratypic differentiation testing. Laboratory experts convened to contribute to an expert panel review of cases and identified areas of improvement especially for specimen transport and shipping. Laboratory containment is an area of focus but activities have been delayed due to competing priorities. The reconstitution of the National Task Force for Containment of Poliovirus is also planned. The risk of polio importation through international visitors, foreign workers and students from polio-transmission countries continues. Recent natural disasters and the large measles outbreak are challenges to polio programme work.

The NCC recommends: including coordination meetings between the Bureau of Quarantine, the Food and Drug Administration, and the Aviation and Ports Authorities; and conducting a subnational polio risk assessment; updating the Outbreak Response Plan; an AFP surveillance strengthening demonstration project; a nationwide epidemiological study of Guillain-Barré Syndrome; and a non-polio enterovirus stool survey among healthy children.

The programme also hopes to finalize the national endgame strategy by the end of 2014 as part of a costed multi-year plan; pursue improvements to national and subnational AFP surveillance programmes; pursue a revised Reaching Every Purok strategy; pursue planned laboratory containment inventory activities; and complete the National Endgame Plan and phased introduction of IPV as part of RI.

#### 2.2.15 The Republic of Korea

National AFP surveillance is conducted via a sentinel network supplemented by active case-based surveillance and the programme has met all indicator targets. Since 2006, AFP

surveillance has been complemented by enterovirus (virologic) surveillance, which was expanded in 2014 to include 57 reporting hospitals.

Since a high proportion of vaccines are delivered through private providers there has been a system in place since 2012 which allows private providers to provide routine vaccinations included in the national schedule at the same fees charged by public providers thereby improving affordability. All immunizations provided are included in a national immunization registry. IPV3 vaccine coverage was found to be >98% among age-eligible children in immunization coverage surveys conducted in 2009, 2011, 2012, and 2013. School entry requirements were expanded in 2013 to include IPV4. In 2014, IPV4 coverage among children at school entry was also >98%. In response to the PHEIC declaration, notices were issued to the public that vaccination was recommended for travellers to the polio-affected countries following the release of the temporary recommendations.

#### 2.2.16 Singapore

The national polio programme continues to achieve NPAFP rate targets but stool adequacy rate is decreasing since 2012 and reached subtarget levels in 2014. The RI programme maintains polio third dose coverage consistently at a very high level and high immunity has been documented by a serosurvey conducted in 2008–2010 among children between 1 and 17 year of age. The country regularly updates risk assessments and according to the last assessment in 2014, the risk of importation of WPV is low therefore the NCC did not recommend any compulsory measures to check immunization status of the travellers from the endemic countries.

Future programme activities will focus on: reinforcing current recommendations on polio vaccination for travellers from Singapore to polio-affected countries; regularly communicating to healthcare providers results of performance of AFP surveillance and update on the global/regional situation; improving vaccination coverage among foreign children in Singapore; and continuing implementation of the sequential (IPV-OPV) schedule to maintain strong mucosal and gut immunity of the target population.

#### 2.2.17 Viet Nam

The AFP surveillance system achieved targets for indicators at the national level in 2013 however at the subnational level, there are still some provinces not achieving the targets including some silent provinces that haven't reported a case of AFP for multiple years. Targeted active records reviews were conducted in the silent areas.

Since October 2012, an increasing number of serious adverse events following immunization (AEFI) with the pentavalent vaccine were reported. Following the events, the government announced a temporary suspension of the pentavalent vaccine. An external investigation was conducted by WHO and the Global Advisory Committee on Vaccine Safety and concluded that there was no safety concern of the vaccine, and vaccination was resumed. However, public concerns about the safety of the vaccine have lingered and negatively impacted vaccine coverage. As a result the administrative coverage for pentavalent third dose dropped from 97% in 2012 to 59% in 2013. Although the routine coverage for OPV3 was not as dramatically impacted, OPV3 coverage dropped from 97% in 2012 to 93% in 2013. More importantly, there was a significant impact on OPV3 coverage at the district level. In 2012, only 1.9% of districts reported coverage <80%, but in 2013 this increased to 14.2% of districts reporting coverage <80%. Major efforts are being made by the government to respond to AEFIs and to improve routine coverage. Additionally, an OPV campaign is planned for the end of 2014 and early 2015 for select high-risk districts.

Viet Nam plans to introduce one dose of IPV into the RI schedule in October 2015. In September 2014, the Government applied for financial support from Gavi, the Vaccine Alliance to help support the cost of the vaccine introduction. Additionally, the government is developing a national polio endgame plan including activities to improve AFP surveillance, plans to fill immunity gaps in hard-to-reach groups, and plans to develop domestic Sabin-IPV.

The NCC recommended achievement of >80% OPV coverage by subnational levels; continuing to raise awareness of AFP detection and reporting; maintaining high levels of EPI staff training; and strengthening support for domestic production of bOPV and IPV.

### 2.3 Temporary recommendations on the international spread of wild poliovirus

In May 2014, on the advice of an Emergency Committee under the IHR (2005) convened at the request of the Executive Board, the Director-General declared the international spread of WPV to be a PHEIC and issued temporary recommendations for "States currently exporting wild poliovirus" and "States infected with wild poliovirus but not currently exporting". The Emergency Committee has met every three months since then to recommend an extension of the temporary recommendations, most recently in October, at which time Pakistan was the only country actively continuing to export WPV.

The temporary recommendations continue to be implemented, however the status of implementation varies. Noting challenges that Member States had reported in implementing the temporary recommendations, the Emergency Committee emphasized the importance of continued support by WHO and GPEI partners. In Pakistan, vaccination of international travellers continues on major exit routes. In Equatorial Guinea, a plan is being finalized for the vaccination of travellers, including printing of international vaccination cards. In Cameroon, vaccination of travellers continues at major international airports and specifically-established international vaccination centres. In Syria, 10 vaccination sites have been established in six provinces and at four key border crossings to neighbouring countries.

The Director-General, based on the assessment of the Emergency Committee in October, declared that the international spread of WPV in 2014 continues to constitute a PHEIC, and extended the temporary recommendations for 3 months, from 13 November 2014. The Emergency Committee is scheduled to convene next in January 2015 to review the situation.

Polio-free countries are taking additional steps to minimize the risk and consequences of a potential virus importation including requirement of travellers from polio-affected countries to show proof of vaccination as a visa requirement and/or administering an additional dose of polio vaccine upon arrival. In the Western Pacific Region, countries linking the approval of entry visas to documentation of polio vaccination are Australia and Brunei Darussalam, while China and Malaysia screens travellers for documented polio vaccination upon entry, providing a dose of vaccine to incoming travellers who cannot provide documentation of vaccination.

Following a systematic risk analysis, GPEI has identified a number of countries in West and Central Africa, Horn of Africa and the Middle East that are at of risk for importation and spread of poliovirus. These countries are conducting multiple synchronized national and subnational immunization campaigns to enhance population immunity to polio and reduce the risk of outbreaks, with financial and technical support from GPEI.

#### 2.3.2 Country response – Australia

Australia reported a proactive response to the issuance of the PHEIC declaration. Australia's first response was to communicate to stakeholders including the Ministry of Health,

the Chief Medical Officer, the Australian Health Protection Principal Committee (composed of all state and territory chief health officers), border agencies, and the Communicable Disease Network of Australia. Clinicians including medical colleges and their presidents, general practitioners (GP round table), travel medicine and vaccination clinics were also briefed along with the Australian Federation of Travel Agents and the public. Information was posted on a polio-specific website linked to the temporary recommendations, the global polio eradication website, and to the international certificate of vaccination. There was also implementation of a public health information line and "Smart traveler".

A new policy was adopted by the Government of Australia in which visa applicants who had spent more than four weeks in polio-affected countries were required to show proof of vaccination. The visa policy applies to most visa applicants, including permanent and temporary visitors as well as refugees and humanitarian entrants. The certificate of vaccination is supplied by panel clinicians who examine the visa applicant and either vaccinate or verify vaccination. There are a few limited exceptions to this requirement, which include diplomatic, transit and maritime crew visas, returning residents and eligible New Zealand citizens.

### 2.3.3 Country response – Brunei Darussalam

Brunei Darussalam actively responded to the PHEIC declaration. The rationale for Brunei Darussalam's traveller and immigrant health screening programme is: to minimize importation of WPV; to provide protection to travellers potentially exposed to WPV; and to maintain herd immunity as part of an overall preparedness strategy. Foreign workers from and travellers to the polio-affected countries are included in the health screening programme.

The foreign workers screening programme was established in 1967 with the objective of early detection of disease, to minimize disease importation and subsequent transmission, to ensure that foreign workers are medically fit for employment in Brunei Darussalam, and to improve foreign worker's productivity.

The foreign workers health screening programme includes pre-departure screening for employment visas, employment permits upon arrival, and requirement of employment permits for contract renewals. The programme is administered through the close cooperation between the departments of Health, Immigration and National Registration, and Foreign Affairs. Before departure, all new contract foreign workers (from the Association of Southeast Asian Nations and the Indian subcontinent) undergo a pre-departure medical examination by accredited health facilities prior to obtaining an employment entry visa. The medical examination process includes medical history, physical examination, investigation and administration of required vaccinations including typhoid for restaurant workers, rubella for nannies and domestic helpers, hepatitis B for acupuncturists and massage therapists, and polio for workers from polio-affected countries. In addition to foreign workers and travellers, children performing Haj and Umrah are required to have medical examinations and receive polio vaccination pre-departure.

## 2.4 Update on laboratory containment

The sequential rather than synchronous planned cessation of OPV strains, starting with type 2 OPV (OPV2), will result in the rapid increase of susceptibility to type 2 poliovirus infection (PV2) soon after global OPV2 cessation. The corresponding measures to adapt the management of the risks associated with OPV cessation include: the introduction of 1 IPV dose in OPV-using countries; preparing for possible post-cessation cVDPV2-associated outbreaks which includes conducting high quality surveillance, stockpiling mOPV2, and developing outbreak response protocols; assurance that all persistent PV2 circulation is interrupted (both

WPV2 and cVDPV2); and the assurance that all live type 2 polioviruses (both wild and Sabin-derived) are safely contained in laboratories and facilities that should still hold such viruses.

One important pre-condition to assure the containment of type 2 polioviruses in time for the planned tOPV-bOPV switch is the finalization of the global laboratory and facility survey and inventory (previous 'Phase 1' of containment) in all countries. All WHO regions have finalized their inventory of facilities holding WPV infectious and potentially infectious material, except for the African Region, where 36 of 46 Members States are finalizing their inventories.

The 'Global Action Plan III' (GAP III) for poliovirus containment (final draft 2014) has been adapted to align with the new containment timelines required by the necessary containment of type 2 polioviruses in advance of containment of types 1 and 3. The new version of 'GAP III' proposes three phases of poliovirus containment:

- Phase I: global coordination of readiness for OPV2 cessation (now to end of 2015);
- Phase II: global poliovirus type 2 containment period (2016–2018); and
- Phase III: long-term containment of all residual polioviruses in facilities (2019 onwards).

The new Phase 1 will require all Member States to complete inventories of facilities holding live polioviruses, both wild and Sabin-derived viruses, and including both known infectious and potentially infectious materials. National regulatory agencies or oversight bodies will need to encourage facilities to either destroy all retained polio material, or to indicate that they want or need (i.e. especially vaccine manufacturers) to retain such material. It is hoped that the 'containment timeline' of activities, from 2016 onwards, will pertain to only a small number of laboratories and facilities. These facilities will need to undergo a thorough process of validation, which, for facilities with residual type 2 material should be finalized by the end of 2015, to assess and confirm their capacity to provide the necessary level of biosafety to continue to keep poliovirus infectious or potentially infectious material.

GAP III is being finalized, with input from international advisory boards and other stakeholders. WHO will provide a high-level alert as to the requirements for action at the national level to all Member States, followed by proposed World Health Assembly endorsement of GAP III implementation in 2015.

## 2.5 New guidelines on environmental surveillance

Although environmental surveillance has been used since as early as the 1940s, it has attracted increasing attention in recent years. Environmental surveillance is a powerful supplementary tool to increase surveillance sensitivity; however, it is critical that it is seen as a supplement to—and not a replacement for—AFP surveillance. The main strengths of environmental surveillance are its potential: for increased surveillance sensitivity; to sample a large population from a small numbers of samples (i.e. one sewage catchment represents stools from hundreds of thousands of people); to detect an importation that might otherwise not be detected; and to detect “silent” outbreaks (WPV circulation without any detected paralytic cases).

Environmental surveillance is valuable in generating additional scientific evidence for important technical questions such as: evidence that OPV strains fade-out after a country transitions from using OPV to exclusively using IPV; evidence supporting the likely eradication of two of the three WPV serotypes (type 2 and 3); and useful epidemiologic information when isolates are sequenced. Limitations include: lack of information on the identity or location of the infected individual; difficulty in determining the prevalence of infections (one person can excrete many isolates); limitation to selected sites; a requirement for sampling from structured sewage systems which may not exist in the high-risk areas, difficulty in implementing in insecure areas.



In the majority of cases, environmental surveillance only confirms what is already known from AFP surveillance, and it is expensive and labour-intensive. As a result, testing of environmental surveillance samples could delay processing of AFP specimens which should be a priority. In contrast, AFP surveillance is broad, continuous, and potentially less biased. Additionally, finding one AFP case with a positive stool samples implies there is a large number of undetected infections and a broad immunization response is needed.

In conclusion, while environmental surveillance can increase surveillance sensitivity, it is not needed in every country. Three WHO regions (Americas, Europe and Western Pacific) were certified polio-free primarily on the basis of sensitive AFP surveillance. Because environmental surveillance requires a strong laboratory infrastructure, and substantial human and financial resources, any country considering environmental surveillance should ensure they have sufficient laboratory capacity and carefully weigh the cost-benefits before initiating a programme.

### 2.5.1 Expansion of environmental surveillance

Environmental surveillance for programmatically relevant polioviruses has been used for many years to supplement AFP surveillance and has played a key role in documenting the elimination of WPV in Egypt and India, and in detecting VDPV's in several polio-free countries, including China, Egypt, Estonia, Finland, Israel and Mexico. *The Polio Eradication and Endgame Strategic Plan 2013-2018* is a comprehensive, long-term strategy to achieve a polio-free world by 2018. The plan calls for the enhancement and expansion of environmental surveillance to help identify any residual transmission in endemic areas and to provide early indication of new importations into recurrently re-infected areas.

Expansion will consist of establishing additional sites in high-risk areas along routes of WPV importation and also in selected areas where low immunization coverage places populations at a particular risk of a VDPV emergence. Environmental surveillance may also assist in documenting the elimination of Sabin viruses following the tOPV-bOPV switch and the eventual cessation of all live poliovirus vaccine use. Consequently, environmental sampling sites in at least 15–20 additional locations will be added globally, prior to the planned tOPV-bOPV switch which is expected to occur at the earliest in 2016. Data from systematic environmental surveillance is expected to provide important supportive documentation for the certification of polio eradication.

Environmental surveillance broadly supports the endgame plan by: supplementing AFP surveillance in monitoring progress towards interruption of transmission of WPV and VDPVs (Objective 1); early detection of the emergence of new VDPV2 viruses following the switch from tOPV to bOPV planned in 2016 (Objective 2); and supporting documentation for the certification of polio eradication (Objective 3) and monitoring the effectiveness of type 2 containment in accredited facilities after the switch.

The monitoring framework of the endgame plan calls for establishment of 10 new environmental sampling sites in countries at risk of cVDPV and WPV outbreaks by 2014, and a further 10 sites in 2015 in countries with national OPV facilities. Some expansion in endemic and other countries has occurred in 2013 and 2014 (e.g. implementation sites in Kenya, expansion in Nigeria). Countries selected by the GPEI for expansion of environmental surveillance in the two remaining endemic WHO regions are:

### *African Region 2014*

In the African Region, five polio laboratories have been assessed as suitable to carry out testing of environmental samples in Cameroon, Kenya, Nigeria, Senegal and South Africa. These laboratories will support expanded environmental surveillance across the African Region.

Proposed additional countries and rationale for expansion:

- 1) Cameroon; a high priority due to recurrent importations and persistence of circulating cVPDP type 2 (cVDPV).
- 2) Niger and Chad: Chad and Niger are particular priorities because of geographical proximity to poliovirus reservoirs in northern Nigeria, recurrent importations and type 2 cVDPV.
- 3) Additional sites in Nigeria where AFP surveillance is difficult might be considered.

### *Eastern Mediterranean Region 2014*

- 4) DR Congo and eastern Mali (Gao), which have histories of recurrent importations, and Republic of Congo due to a history of VDPV emergence.
- 5) Consideration of adding Burkina Faso (risk of importation).

### *Eastern Mediterranean Region 2015*

- 6) Pakistan: further expansion into provinces or districts not currently implementing environmental surveillance will be considered.
- 7) Iraq (Baghdad), because of current infection.
- 8) Yemen, which has a history of importations and emergence of cVDPV.

Further discussions in 2015 will optimize environmental surveillance in non-endemic regions and ensure results of surveillance are consistently and promptly reported to the global level. Outside the endemic regions, only China and India are considered Tier 1 for cVDPV risk (per *Polio Eradication and Endgame Strategic Plan 2013-2018*). Both countries have some environmental surveillance in place. Any further expansion within China and India should be guided according to the risk of WPV1 importation and the emergence or importation of cVDPV. Outside of these two countries, priority for expansion of environmental surveillance in non-endemic regions prior to the switch should be limited to tier 2 countries, depending on the regional resources available. It is not proposed that GPEI resources will be used.

#### 2.5.2 Country experience – China

The objectives of environmental surveillance in China are: early detection of WPVs or VDPVs in high-risk areas; to monitor VDPV emergence in low-coverage areas; to establish sites that can be specifically used to monitor the die-out of Sabin viruses after the switch from tOPV to bOPV; and to establish a laboratory network for non-polio enteroviruses.

In 2008, environmental surveillance was initiated in China with the first sentinel site in the province of Shandong where 552 vaccine-related polioviruses were isolated between June 2011 and August 2014. Of these, none were WPV, one was a VDPV (Type 2), and the remaining were Sabin viruses. In 2010, environmental surveillance was initiated in five prefectures of Xinjiang province due to the risk of importation from Pakistan. In specimens from August 2011, two WPVs were detected in Heitan and an emergency response was initiated. Since January 2012, 295 vaccine-related polioviruses were detected. Of these, none were WPV, one was a Type 2 VDPV, all others were Sabin viruses.

In China, 10 provinces conduct environmental surveillance. Detection of a young (i.e. few nucleotide substitutions) VDPV triggers an immediate public health response. First, the reported vaccination coverage and AFP surveillance data in the area of detection are reviewed. A rapid coverage assessment is also conducted in the field. Based on the assessment results, a decision is made on whether a response OPV campaign is necessary. Environmental surveillance has provided useful complementary data to inform responsive action to detection of WPVs and VDPVs. Additional funds and human resources are needed to sustain the programme.

### 3. CONCLUSIONS AND RECOMMENDATIONS

#### 3.1 Conclusions

The RCC congratulates the NCCs' on their comprehensive reports. The RCC notes that 14 years after certification, the Western Pacific Region remains at risk for polio outbreaks while WPV remains in circulation anywhere in the world, particularly Pakistan. The RCC concludes that the Western Pacific Region has maintained its polio-free status.

#### 3.2 Recommendations

The RCC encourages maintaining the high standard of programme performance and quality of reports exhibited during RCC 20. The RCC will request reports for RCC 21 by 1 September 2015, one month earlier than in previous years. The RCC recommends performing active surveillance especially in underperforming areas. The RCC recommends that countries ensure travellers to polio-affected countries are fully vaccinated per WHO recommendations. The RCC recommends that countries work with WHO and partners to develop vaccine security policies and strategies to reduce the risk of vaccine stockouts. The RCC recommends that all countries update surveys for laboratory containment noting the experience of identification of previously unknown WPV materials in laboratories in the Region. The RCC recommends that countries conducting environmental surveillance: identify and characterize polioviruses using WHO-recommended methods; and share results with WHO Regional Office for the Western Pacific at least on a monthly basis.

#### 3.3 Country-specific recommendations

##### 3.3.1 Australia

The RCC applauds the efforts of the Australian Ministry of Health to secure the cooperation of paediatricians in private practice to participate in AFP surveillance. The RCC notes Australia's updated and complete importation and response plan. The RCC appreciates Australia's proactive strategy to require proof of polio vaccination included with the visa requirements for citizens traveling from polio-affected countries. The RCC acknowledges the support of the Victorian Infectious Diseases Reference Laboratory. The RCC recommends considering additional strategies to improve stool adequacy rates and that the Australia Laboratory Polio Containment Committee re-survey and update the polio laboratory containment inventory.

##### 3.3.2 Brunei Darussalam

The RCC commends the innovation demonstrated in raising awareness on global polio issues (Polio Points Programme). The RCC notes the comprehensive requirements to document

adequate vaccination of travellers from polio-affected countries. The RCC supports introduction of health electronic information system reminders for routine child visits.

### 3.3.3 Cambodia

The RCC is encouraged by the increased reporting of AFP cases from the Kontha Bopha and Angkor Siem Reap hospitals. The RCC commends the efforts to address subnational surveillance gaps and to strengthen RI to improve national and subnational OPV3 coverage. The RCC notes challenges due to ongoing vaccine stockouts. The RCC commends plans to introduce IPV in Cambodia in 2015. The RCC recommends addressing low RI OPV3 coverage as a programmatic urgency, addressing AFP silent reporting areas, active participation by the national paediatric hospital in the surveillance system, and updating the national outbreak preparedness and response plan and submitting it with the 2015 NCC report.

### 3.3.4 China

The RCC compliments NCC's extensive and comprehensive report. The RCC applauds the implementation of WHO recommendation on timely shipment and testing, and the consistent performance of AFP surveillance system since the outbreak in 2011. The RCC appreciates the rigorous risk assessment conducted by Chinese Center for Disease Control and Prevention and the usefulness of this exercise to programme activities such as preventive SIAs. The RCC commends China's Ministry of Health for establishing vaccination requirements for travellers from polio-affected countries. The RCC recommends continuing to conduct preventive SIAs in high-risk provinces, especially those bordering polio-endemic countries, as guided by their risk assessment.

### 3.3.5 Hong Kong SAR (China)

The RCC commends the strong performance of the polio programme. The RCC notes the ongoing potential for polio importation due to the high number of arriving travellers. The RCC encourages maintaining the high standards achieved by the programme.

### 3.3.6 Macao SAR (China)

The RCC appreciates the Government's efforts to maintain a strong surveillance system and to achieve high immunization coverage especially among immigrants and low-income children. The RCC encourages maintaining the high standards achieved by the programme.

### 3.3.7 Japan

The RCC congratulates the Ministry of Health and NIID on the successful transition from OPV to IPV and the efforts made to monitor immunity during and after the transition. The RCC notes the results of the surveys and serosurveys which demonstrated sufficient immunity in children <5 years age. The RCC commends the nationwide expansion of the environmental surveillance system. The RCC thanks the NIID and Japan Polio Research Institute for their significant research contributions to polio and for their ongoing support to other countries in the Region. The RCC requests the NCC to report more details on the enterovirus surveillance programme as in previous reports. The RCC encourages the Ministry of Health to look at risk and immunization coverage results at the subnational level.

### 3.3.8 The Lao People's Democratic Republic

The RCC congratulates the Ministry of Health for the improving immunization coverage. However, the RCC notes that some provinces have shown decreased coverage and NPAPF and stool adequacy surveillance indicators have also declined in recent years. The RCC recommends efforts to improve surveillance performance indicators that are below the target, and considering

strategies to maintain high coverage in remote and border provinces. The RCC requests that the Lao People's Democratic Republic updates their preparedness and outbreak response plan and submit it with the 2015 NCC report.

### 3.3.9 Malaysia

The RCC acknowledges Malaysia's efforts to sustain high population immunity with national polio coverage at >95% during the last ten years. The RCC commends the planned screening of travellers' vaccination status. The RCC encourages the national programme to achieve uniformly sensitive AFP surveillance to meet performance indicators. The RCC recommends ensuring an adequate level of preparedness against possible importation of WPV (considering contacts of the population with Pakistan).

### 3.3.10 Mongolia

The RCC takes note that despite capacity-building activities, significant staffing challenges exist. The RCC recommends addressing the turnover of local EPI staff and continuing to strengthen surveillance with a focus on silent areas.

### 3.3.11 New Zealand

The RCC notes the strong engagement of paediatricians through the New Zealand Paediatric Surveillance network. The RCC commends the retrospective analysis of the national hospital register database which validates the sensitivity of the current surveillance system. The RCC applauds the ongoing government support and commitment. The RCC commends the immediate and thorough response undertaken upon the incidental finding of poliovirus at the animal health laboratory. The RCC recommends continuing to improve stool adequacy. The RCC recommends continuing to encourage physicians to focus on AFP as a syndrome instead of a specific diagnosis.

### 3.3.12 Pacific island countries and areas

The RCC notes the completeness of the SRCC report summarizing 21 Pacific islands and the high complexity to implement polio programmes in many countries. The RCC acknowledges the positive impact of surveillance officers in the subregion. The RCC requests continued efforts for collaboration with the United States Centers for Disease Control and Prevention (US CDC) for American territories and affiliated islands. The RCC requests that countries, with support of WHO, clarify arrangements for shipment to and testing of AFP specimens in WHO accredited laboratories in a timely manner for public health action. The RCC requests continued advocacy by the SRCC for implementation of the polio endgame plan with 10 remaining countries using only OPV.

### 3.3.13 Papua New Guinea

The RCC notes the challenges faced by the polio programme which include insecurity, vaccine stockouts and recent measles outbreaks.

The RCC strongly urges full government commitment and engagement at all levels to address serious programmatic challenges. The RCC recommends: urgently developing strategies to address population immunity gaps in OPV3 coverage including both RI and SIAs; developing strategies to close surveillance gaps; and ensuring appropriate well-trained human resources for programmatic activities.

The RCC supports the initiative to re-activate the SMS reminder and reporting system in a more sustainable way. The RCC recommends ensuring appropriate well-trained human resources for programmatic activities.

#### 3.3.14 The Philippines

The RCC commends the NCC on a detailed and comprehensive report and programme assessment. The RCC appreciates the creative approaches to address programmatic challenges.

The RCC notes: the challenges to the national polio programme including a struggling AFP surveillance system, low routine OPV3 coverage, all complicated by natural disasters; the multiple performance indicators showing declines with increasing numbers of underperforming subnational areas; that despite efforts, no measurable progress is being seen; and significant challenges including a chronic lack of experienced personnel in EPI, and insufficient resources for EPI staff transportation costs.

The RCC strongly urges full government commitment and engagement to address serious programmatic challenges. The RCC recommends: addressing surveillance and immunity gaps as a programmatic urgency; annually reviewing the reporting network specifically to ensure that private hospitals are participating; ensuring Department of Health staff at all levels are committed and accountable for conduct of active surveillance particularly at large hospitals; continuing to advocate for more resources to avoid EPI staff turnover; and carefully monitoring polio vaccination status among returning workers and their children.

#### 3.3.15 The Republic of Korea

The RCC congratulates the Republic of Korea on its high level of performance on epidemiological and laboratory surveillance and immunization coverage. The RCC recommends a formal polio risk assessment be completed and that the laboratory survey for containment be updated. Information on both should be included the 2015 NCC report.

#### 3.3.16 Singapore

The RCC commends the polio programme for high quality performance. The RCC recommends maintaining the high standards achieved by programme.

#### 3.3.17 Viet Nam

The RCC thanks Viet Nam for their efforts to address and implement the RCC 19 recommendations in their report. The RCC notes the multiple activities planned for polio endgame including IPV introduction by end of 2015; and with concern notes the ongoing issues with public perception following AEFI and the detrimental effect on OPV coverage. The RCC supports the full implementation of the national polio endgame Plan with special emphasis on improving OPV3 coverage especially at the district and commune levels and border and high-risk areas. The RCC recommends focusing on improving AFP surveillance reporting in provinces which are chronically underperforming. The RCC emphasizes that the SIA planned in early-2015 should focus on hard-to-reach communities with low coverage.

### 3.4 Closing remarks

A representative from United States Agency for International Development (USAID) said USAID remains committed to eradication, and continues to receive bipartisan support from Congress in pursuit of this goal. USAID remains interested in the “Red List” and remains supportive of these countries. USAID encourages the exercise of plans in the form of cross-border POSE, and hopes the Region will maintain cross-border vigilance and regional

coordination while scaling up and expanding environmental sampling and surveillance especially targeting priority countries in the Western Pacific Region.

A representative from Rotary International ensured that as a long-standing partner of polio eradication, Rotary International is committed to supporting countries in the final stage of polio eradication, based on their historic commitment. In 1978, the Rotary Foundation of Rotary International launched the 3H Program to improve health, alleviate hunger, and promote human and social development. A proposal from the Philippines to provide oral polio vaccine to six million children over a five-year period was selected as the first pilot 3H Program. On 29 September 1979, Philippine Rotarians and delegates of the Philippine Ministry of Health administered the first drops of polio vaccine to a Filipino child. In 1986, Rotary launched PolioPlus, the first and largest internationally coordinated private-sector support of a public health initiative. The focus went beyond protection to eradication.

The representative from the United States Centers for Disease Control and Prevention (USCDC) stressed the Organization's continued commitment to maintaining a polio-free status Western Pacific Region. To help this effort, USCDC is seeking additional funding to support personnel, staff, and other crucial polio-related activities for the upcoming years.

The Team Leader, Expanded Programme on Immunization delivered the closing remarks on behalf of Dr Shin Young-soo, WHO Regional Director for the Western Pacific. Polio eradication requires global coordination for the introduction of at least one dose of IPV worldwide, as well as the synchronized withdrawal of Type 2 OPV by 2016. Until global eradication is achieved, everyone risks losing ground unless a well-functioning RI programme is ensured. As such Member States should continue: to identify and close immunity gaps through SIAs; to develop surveillance systems; and to update national risk assessments and outbreak response plans.

The commitment of ministries of health and generous support of international partners, namely, Rotary International PolioPlus Committee, the Bill and Melinda Gates Foundation, Gavi, the Vaccine Alliance, UNICEF, and the governments of Australia, Brunei Darussalam, Japan, Norway, the Republic of Korea, the United Kingdom of Great Britain and Northern Ireland, and the United States of America has and will continue to be essential to achieving polio eradication.

**TWENTIETH MEETING OF THE REGIONAL COMMISSION FOR THE CERTIFICATION OF  
POLIOMYELITIS ERADICATION IN THE WESTERN PACIFIC  
Kuala Lumpur, Malaysia, 12–14 November 2014**

English only

**TENTATIVE TIMETABLE**

Time	Wednesday, 12 November 2014	Time	Thursday, 13 November 2014	Time	Friday, 14 November 2014
08:00–08:30 08:30–09:00	REGISTRATION Opening Session <ul style="list-style-type: none"> <li>Welcome remarks by the Responsible Officer</li> <li>Opening remarks by the Regional Director</li> <li>Opening remarks of the Government of Malaysia</li> <li>Self-introduction, Election of Officers (Chair, Vice-Chair, Rapporteur)</li> <li>Remarks by the Regional Certification Commission (RCC) Chairperson</li> <li>Administrative announcements</li> </ul>	08:30–10:00	Country presentations ( <i>continuation</i> ) <ul style="list-style-type: none"> <li>Australia</li> <li>Brunei Darussalam</li> <li>Hong Kong SAR (China)</li> </ul>	08:30–08:50 08:50–09:10 09:10–09:30 09:30–09:50	6. Temporary recommendations of the International Health Regulations Emergency Committee on the international spread of wild poliovirus 7. Country response to the temporary recommendations-Australia 8. Country response to the temporary recommendations-Brunei Darussalam Discussion
09:00–09:30	<i>GROUP PHOTO AND COFFEE BREAK</i>	10:00–10:30	<i>COFFEE BREAK</i>	09:50–10:20	<i>COFFEE BREAK</i>
09:30–09:50 09:50–10:10 10:10–10:30 10:30–10:55 10:55–11:15 11:15–11:35 11:35–12:00	1. Global update 2. Regional update 3. Recommendations of the 2014 Technical Advisory Group on Immunization and Vaccine-preventable Diseases Discussion 4. Progress towards polio eradication in the Eastern Mediterranean Region 5. Common threats to maintaining polio-free status Discussion	10:30–12:00	Country presentations ( <i>continuation</i> ) <ul style="list-style-type: none"> <li>Japan</li> <li>Macao SAR (China)</li> <li>Malaysia</li> </ul>	10:20–10:40 10:40–11:00 11:00–11:20 11:20–11:40 11:40–12:00	9. Update on laboratory containment 10. New guidelines on environmental surveillance 11. Expansion of environmental surveillance 12. Country experience with environmental surveillance – China Discussion
12:00–13:00	<i>LUNCH BREAK</i>	12:00–13:30	<i>LUNCH BREAK</i>	12:00–13:00	<i>LUNCH BREAK</i>
13:00–15:00	Country presentations <ul style="list-style-type: none"> <li>Cambodia</li> <li>China</li> <li>The Lao People's Democratic Republic</li> </ul>	13:30–15:00	Country presentations ( <i>continuation</i> ) <ul style="list-style-type: none"> <li>Mongolia</li> <li>New Zealand</li> <li>The Republic of Korea</li> </ul>	13:00–15:00	Closed working session
15:00–15:30	<i>COFFEE BREAK</i>	15:00–15:30	<i>COFFEE BREAK</i>	15:00–15:30	<i>COFFEE BREAK</i>
15:30–17:30	Country presentations ( <i>continuation</i> ) <ul style="list-style-type: none"> <li>Papua New Guinea</li> <li>The Philippines</li> <li>Viet Nam</li> </ul>	15:30–16:30	Country presentations ( <i>continuation</i> ) <ul style="list-style-type: none"> <li>Singapore</li> <li>Pacific island countries and areas</li> </ul>	15:30–16:15 16:15–16:30	13. Regional Certification Commission conclusions and recommendations Closing Session



WORLD HEALTH  
ORGANIZATION



ORGANISATION MONDIALE  
DE LA SANTE

REGIONAL OFFICE FOR THE WESTERN PACIFIC  
BUREAU REGIONAL DU PACIFIQUE OCCIDENTAL

TWENTIETH MEETING OF THE REGIONAL  
COMMISSION FOR THE CERTIFICATION  
OF POLIOMYELITIS ERADICATION  
IN THE WESTERN PACIFIC

WPR/DCD/EPI(07)/2014/IB/2

Kuala Lumpur, Malaysia  
12–14 November 2014

ENGLISH ONLY

INFORMATION BULLETIN NO. 2

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**World Health  
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