Meeting Report

Nineteenth Meeting of the Regional Commission for the Certification of Poliomyelitis Eradication in the Western Pacific Region

Manila, Philippines
12-14 November 2013

World Health Organization
Western Pacific Region

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REPORT

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

Manila, Philippines
12–14 November 2013

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NOTE

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

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This report has been prepared by the World Health Organization Regional Office for the Western Pacific for the participants of the Nineteenth Meeting of the Regional Commission for the Certification of Poliomyelitis Eradication in the Western Pacific Region, which was held in which was held in Manila, Philippines, from 12 to 14 November 2013.

LIST OF ABBREVIATIONS

AFP	acute flaccid paralysis
CDC	Centers for Disease Control and Prevention
EPI	Expanded Programme on Immunization
FETP	Field Epidemiology Training Programme
GBS	Guillain–Barré Syndrome
GCC	Global Commission for the Certification of Poliomyelitis Eradication
GPLN	Global Polio Laboratory Network
GSL	global specialized laboratory
IEC	information, education and communication
IPV	inactivated poliovirus vaccine (Salk wild-type based)
ITD	intratypic differentiation
JE	Japanese encephalitis
JICA	Japan International Cooperation Agency
MR	measles–rubella (combined vaccine)
NCC	National Certification Committee
NPAFP	non-polio acute flaccid paralysis
NPEV	non-polio enterovirus
OPV	oral poliovirus vaccine
bOPV	bivalent oral poliovirus vaccine (against types 1 and 3)
mOPV	monovalent oral poliovirus vaccine
tOPV	trivalent oral poliovirus vaccine
PIPS	Pacific Immunization Programme Strengthening
RED	Reaching Every District
RCC	Regional Commission for the Certification of Poliomyelitis Eradication
RRL	regional reference laboratory
rRT-PCR	real-time reverse-transcriptase polymerase chain reaction
SAGE	Strategic Advisory Group of Experts on Immunization
SIA	supplementary immunization activities
SIAD	short interval additional dosing
sIPV	Sabin-based IPV
SMS	short message service
SRCC	Subregional Commission for the Certification of Poliomyelitis Eradication

TAG	Technical Advisory Group on Immunization and Vaccine-Preventable Diseases
TT	tetanus toxoid
UNICEF	United Nations Children's Fund
VAPP	vaccine-associated paralytic poliomyelitis
VDPV	vaccine-derived poliovirus
aVDPV	ambiguous vaccine-derived poliovirus
iVDPV	immunodeficiency-associated vaccine-derived poliovirus
cVDPV	circulating vaccine-derived poliovirus
VPD	vaccine-preventable disease
WPV	wild poliovirus (types 1 [WPV1], 2 [WPV2] and 3 [WPV3])
WHO	World Health Organization

SUMMARY

The Nineteenth Meeting of the Regional Commission for the Certification of Poliomyelitis Eradication (RCC) in the Western Pacific Region was held in Manila, Philippines, from 12 to 14 November 2013. The RCC continues to meet on an annual basis to review country reports on the maintenance of polio-free status and surveillance certification standards quality requirements as part of its reporting mandate to the Global Certification Commission (GCC). In addition, the RCC supports countries by providing feedback and recommendations on improving surveillance for polioviruses, responding to polio outbreaks, and maintaining adequate immunity against poliovirus.

In May 2013, the Sixty-sixth World Health Assembly endorsed the Polio Eradication and Endgame Strategic Plan 2013–2018. The resolution has implications for countries and areas in the Western Pacific Region because it outlines specific actions towards completing the last stage of polio eradication in all countries, both polio-affected and polio-free. This year, the RCC was additionally requested to review the status of each county's polio eradication programme in the context of the new polio endgame strategy.

The RCC meeting was overshadowed by the tragedy of Typhoon Haiyan, which struck the southern Philippines on 8 November 2013, less than a week before the meeting. The typhoon was the strongest storm to ever make landfall in the country, and at the time of writing, the total impact of the disaster was still unknown. Estimates from the Government of the Philippines included 4.4 million displaced persons, 4011 deaths, 18, 77 injuries and 1602 missing persons. Also, significant to the country's immunization programme were the substantial destruction of health facilities, damage to cold chain equipment, and loss of life among health-care workers in the affected areas.

The RCC and meeting participants expressed their deepest condolences to the people and Government of the Philippines, as well as the representatives of the Philippine NCC, Philippine Department of Health, the World Health Organization (WHO) Philippine Country Office, and WHO Regional Office for the Western Pacific who attended in the meeting. The RCC extended their sympathies to Dr Joyce Ducusin, EPI manager for the Philippine Department of Health, who lost her family in the disaster.

The RCC acknowledged the hard road ahead for the Department of Health in providing emergency medical relief to disaster survivors, as well as rebuilding the immunization programme and health-care system in the affected areas.

CONTENTS

Keywords:

Immunization/Regional health planning/Poliomyelitis – prevention and control/ Disease outbreaks – prevention and control

1. INTRODUCTION

The Nineteenth Meeting of the Regional Commission for the Certification of Poliomyelitis Eradication (RCC) in the Western Pacific Region was held from 12 to 14 November 2013 at the World Health Organization (WHO) Regional Office for the Western Pacific in Manila, Philippines. The RCC continues to meet on an annual basis in order to review maintenance of poliomyelitis-free status and surveillance certification standards quality requirements and to fulfil its reporting mandate to the Global Certification Commission (GCC).

1.1 Objectives

(1) To update the RCC and National Certification Committees (NCCs) on the global and regional status of poliomyelitis eradication and review the implications of the endorsement of the Sixty-sixth World Health Assembly resolution on the Polio Eradication and Endgame Strategic Plan 2013–2018.

(2) To review and evaluate progress reports from all countries and areas on maintaining the poliomyelitis-free status and make recommendations on required action for achieving high-quality surveillance and immunization performance.

(3) To identify future responsibilities of the RCC to support the country and regional efforts towards the Polio Eradication and Endgame Strategic Plan 2013–2018.

1.2 Organization

To show support for the Philippines in their efforts to retain polio-free status, the 19th meeting of the RCC was held at the WHO Western Pacific Regional Office in Manila, Philippines. A side event hosted by the Philippine Department of Health and consisting of a high-level advocacy meeting for Philippine polio eradication programme was scheduled for 15 November 2013. Due to the severe disaster caused by Typhoon Haiyan, the side event was cancelled.

The meeting was attended by the seven members of the RCC, two temporary advisers, 22 NCC chairs and delegates, two representatives of partner agencies, and eight WHO staff members from Headquarters, regional offices and the Philippines Country Office.

Dr Anthony Adams was appointed Chairperson Dr Nobuhiko Okabe as Vice-Chairperson and Dr Aida Salonga as Rapporteur. Annex 2 includes the meeting timetable, and Annex 3 contains a list of meeting participants and observers.

1.3 Opening remarks

Dr Shin Young-soo, WHO Regional Director for the Western Pacific, opened the meeting by recognizing the disaster presently affecting the Philippines. He expressed his condolences for the thousands of lives lost, including health-care workers and their families, and acknowledged the difficulties faced by the Government of the Philippines and public health colleagues in responding to the disaster over the short and long term.

Dr Shin welcomed the participants to the meeting and thanked the RCC members for their many years of selfless, dedicated, consistent and professional service. He expressed gratitude for the role the RCC has played in achieving and sustaining polio-free status by monitoring and providing timely and relevant guidance to countries and areas in the Western Pacific Region.

Dr Shin took the opportunity to express, on behalf of the Member States of the Western Pacific Region, their appreciation for the high-quality, efficient and rapid response led by the Government of China following the importation of wild poliovirus in 2011. At the most recent RCC meeting in Beijing in 2012, the RCC concluded that the Western Pacific Region had retained its polio-free status.

Dr Shin noted that major progress was made towards polio eradication in the remaining endemic countries in 2013. Globally, there was a 40% decrease in the number of reported polio cases in endemic countries compared to the same period from the previous year. This progress was achieved despite security threats directly affecting polio workers, including the killing of more than 30 vaccinators, supervisors or monitors during polio immunization campaigns in Nigeria and Pakistan. Customized strategies and special support helped make this progress in endemic countries possible.

Dr Shin noted that the South-East Asian Region expects to be certified as polio-free by February 2014. If successful, the South-East Asian Region will be the fourth region certified.

Dr Shin emphasized that despite the progress, clear challenges still remain. As long as polio circulates anywhere in the world, polio-free regions are still at risk of being exposed to the virus. The recent outbreaks in the Horn of Africa and Syrian Arab Republic should serve as a reminder of the need to remain vigilant and prioritize prevention. The Western Pacific Region should work to avoid complacency during the final stages of global polio eradication.

Dr Shin acknowledged that the Sixty-sixth World Health Assembly accepted the Polio Eradication and Endgame Strategic Plan 2013–2018 in May 2013. This comprehensive plan outlines key objectives that will impact all polio-free countries. As a result, it provides an opportunity for Western Pacific Region Member States to demonstrate leadership on the efforts needed in polio-free countries.

Dr Shin noted that the plan contains ongoing activities to improve the sensitivity of acute flaccid paralysis (AFP) surveillance and increase vaccination coverage to close immunity gaps. In addition, there are new efforts such as the introduction of a dose of inactivated polio vaccine (IPV) into routine immunization programmes by mid-2015, followed by the synchronized withdrawal of the type 2 component of oral poliovirus vaccine (OPV) in mid-2016. He acknowledged that the 17 countries and areas in the Western Pacific Region that are recommended to introduce IPV would be the most affected by the plan.

Dr Shin requested oversight by the RCC and NCCs in implementing the final phases of polio laboratory containment in all countries in the upcoming months. In addition, Dr Shin requested guidance from the RCC and NCCs on how to best to support Members States in this special effort to implement the polio endgame plan within the tight timeline allocated, in terms of advocacy, funding and technical support. In conclusion, Dr Shin wished everyone a successful meeting and noted he looked forward to seeing the decisions and recommendations of the meeting.

2. PROCEEDINGS

2.1 Progress towards polio eradication, worldwide

2.1.1 Global update on polio eradication

In 2012, the World Health Assembly declared the completion of poliovirus eradication a programmatic emergency for global public health and requested the WHO Director-General to rapidly finalize a comprehensive polio endgame plan. The World Health Assembly endorsed the plan in May 2013. This comprehensive five-year plan includes the introduction of IPV in all countries, the global switch from trivalent OPV (tOPV) to bivalent OPV (bOPV), plans for laboratory containment of poliovirus, and plans for the polio legacy. The first objective of the plan is to detect and interrupt transmission of endemic wild poliovirus (WPV), as well as outbreaks caused by WPVs and vaccine-derived polioviruses (VDPVs).

In 2013, significant progress was made in the endemic countries of Nigeria, Afghanistan and Pakistan. The number of cases from endemic countries declined by 40% in 2013 compared to the same period in the previous year. The number of cases in Nigeria in 2013 was nearly halved, while the number of cases in Afghanistan declined to less than one third of those reported in 2012. Three of the seven “polio reservoirs” did not report a case in 2013. Additionally, 12 months lapsed since the last polio case caused by WPV type 3 (WPV3) was detected globally, with the last case reported in Nigeria in November 2012. Despite progress, ongoing challenges with insecurity and campaign quality in Pakistan and Nigeria have resulted in large numbers of missed children, creating persistent reservoirs for poliovirus transmission that are responsible for international spread.

The annual number of WPV cases reported globally increased from 223 cases in 2012 to 328 cases as of 7 November 2013, due in large part to polio outbreaks in non-endemic countries. In 2012, the two non-endemic countries with WPV circulation were Chad and Niger. As of 6 November 2013, five non-endemic countries had reported WPV outbreaks: Somalia, Ethiopia, Kenya, the Syrian Arab Republic and Cameroon. Furthermore, non-endemic countries accounted for only six of 223 (3%) polio cases in 2012, but accounted for 213 of 328 (65%) polio cases in 2013.

The largest ongoing outbreak, which is taking place in the Horn of Africa, accounted for 201 of 328 (62%) of all WPV cases in 2013. The WPV was first detected in Somalia in May 2013, and then spread to neighbouring countries of Kenya and Ethiopia. The outbreak was caused by the importation of a Nigerian virus into areas of poor immunity due to lack of access to vaccine. As of 6 November, there were 180 cases reported from Somalia, 14 from Kenya, and seven from Ethiopia. The countries affected by the outbreak are members of the African and Eastern Mediterranean regions. A cross-regional, multi-country emergency response plan was established with the support of WHO, the United Nations Children's Fund (UNICEF), and the United States Centers for Disease Control and Prevention (US CDC) to guide the activities through the end of 2013. The response is showing preliminary signs of impact.

An ongoing outbreak in the Middle East spans the Eastern Mediterranean and European regions. Though recently detected, the outbreak in the Syrian Arab Republic had its first related case in August 2013 and had 10 confirmed cases as of 6 November 2013. The outbreak was caused by the importation of a Pakistani virus into an area of poor immunity due to an ongoing conflict. Given the large-scale population movement out of the Syrian Arab Republic, the entire region is at risk. Preceding the detection of the outbreak in the Syrian Arab Republic, WPVs had been detected in environmental sewage in Egypt in December 2012, and in sewage from Israel and West Bank and Gaza Strip starting from February 2013. However, neither Egypt nor Israel has reported paralytic poliomyelitis cases. Israel has high coverage (>90%) with IPV, suggesting that the lack of gut immunity generated by the vaccine is allowing persistent, "silent" fecal–oral transmission among the population. A multi-country outbreak response has also been coordinated in the Middle East, but ongoing insecurity in the Syrian Arab Republic poses challenges for access. In Israel, catch-up IPV campaigns and a nationwide bOPV campaign targeting children under 10 years of age appear to be having an impact on the intensity of transmission.

In Central Africa, an outbreak of one WPV case was reported in a child with no previous vaccination history in Cameroon in October 2013 (as of 6 November 2013). Viral genetic sequencing revealed the WPV to be an orphan virus most closely related to a virus detected in Chad three years ago, which indicates long-term viral circulation that went undetected due to gaps in AFP surveillance. A multi-country investigation and response is being planned.

2.1.2 Eastern Mediterranean Region update on polio eradication

In the Eastern Mediterranean Region, the number of WPV cases increased from 95 in 2012, to 255 as of 6 November 2013. In 2013, to date, 78% of the global polio cases were reported from countries in this Region, including endemic countries (Pakistan and Afghanistan) and countries with outbreaks (Somalia and the Syrian Arab Republic). On 30 October 2013, the WHO Regional Committee for the Eastern Mediterranean declared "the new international spread of wild poliovirus an emergency for all Eastern Mediterranean members states". A series of special activities was coordinated from the regional level to respond to the crisis.

Pakistan is experiencing an explosive WPV outbreak in a reservoir area in the north-western part of the country. Overall, 86% of cases this year in Pakistan are from the north-west. However, bans on vaccination, military operations, as well as attacks on and intimidation of health workers in this area are preventing an estimated 500 000 children from being vaccinated.

In southern Afghanistan, a historical reservoir in the country, no WPV case has been reported since November 2012. All nine cases reported this year were from eastern Afghanistan, an area with low immunity due to lack of access, and cross-border transmission from Pakistan.

Since the outbreak started in Somalia in May 2013, nine campaigns have been conducted, beginning a week after the first case was detected and including a nationwide campaign targeting persons of all ages in October 2013. The robust multi-country response in the Horn of Africa is showing preliminary signs of impact. The outbreak appears to have peaked, and the number of cases is declining. In particular, no case has been reported from the original epicentre of the outbreak for eight weeks. However, more than 500 000 children were unreachable during vaccination campaigns due to insecurity.

Since the outbreak in the Syrian Arab Republic was detected in October 2013, a comprehensive, multi-country response has been implemented, with operation management hubs

established in three countries. From November to December 2013, six to eight rounds of OPV supplementary immunization activities (SIAs) have been occurring in the Syrian Arab Republic, and two to three rounds have been occurring in six neighbouring countries. While the limit of international spread may be aided by several factors, including the approaching low transmission season and high vaccine acceptability among Syrians, ongoing insecurity in the Syrian Arab Republic poses major challenges to access during the outbreak response.

Insecurity in the Eastern Mediterranean Region has necessitated innovations to enhance coverage in inaccessible areas, including: (1) negotiating access through governments, countries with influence, and relevant third parties such as the Islamic Advisory Group; (2) engaging communities through tailored communications with elders, religious leaders, and the PolioPlus campaign; (3) adopting strategies such as short interval additional dosing and more immunogenic vaccines (i.e. bOPV and mOPV1); (4) establishing new platforms to deliver vaccine such as transit point vaccinations and permanent polio teams at district/country borders; and (5) strengthening management by deploying outbreak/area managers and further optimizing staffing.

2.1.3 African Region update on polio eradication

In the African Region, the number of WPV cases decreased from 128 in 2012, to 71 as of 6 November 2013. In 2013, to date, 22% of the global polio cases were reported from countries in this Region, including the remaining endemic country (Nigeria) and countries with outbreaks (Cameroon, Ethiopia and Kenya).

In Nigeria, a historical reservoir in the north-western region has not reported a WPV case for a year. The genetic diversity of polioviruses isolated in Nigeria decreased substantially in 2013 compared to 2012. In addition, the number of cVDPVs in Nigeria has decreased from eight cases last year to only one case this year. Despite improvements, the country's two other reservoirs continue to experience outbreaks, due to insecurity in the north-east and gaps in SIA quality in the north-central part of the country. Furthermore, the explosive outbreak in the Horn of Africa and increasing numbers of cVDPV2s detected in Cameroon, Chad and Niger in the past year were both the result of importations of a Nigerian virus.

In 2013, there were two outbreaks in non-endemic areas in the African Region, namely: (1) the Central African outbreak, with one WPV case reported from Cameroon, and (2) the Horn of Africa outbreak, with 14 WPVs reported from Kenya and seven WPVs reported from Ethiopia, as of 6 November 2013.

Several major factors are contributing to continued poliovirus transmission in the African Region. Routine immunization performance is suboptimal, with 13 countries reporting national OPV3 coverage of <80% in 2012. SIA quality is variable, and many campaigns continue to miss children. Insecurity has also resulted in inaccessible areas with persistently low population immunity. Finally, although surveillance has improved significantly, gaps at the subnational level still exist. This is underscored by the recent detection of an orphan WPV that had been circulating undetected for two to three years.

2.1.4 South-East Asia Region update on polio-free certification process

January 2014 will mark three years since the last polio case was reported in India in the South-East Asia Region. The last WPV2 case was reported in 1999 in from Uttar Pradesh. The

last WPV3 was reported in October 2010 in from Jharkhand. The final case of WPV1 was reported from West Bengal in January 2011.

Despite this progress, some countries in the Region did not meet standards for quality AFP surveillance at the national level in 2012, including Sri Lanka, Thailand, Timor-Leste, Bhutan and Myanmar. At the subnational level, additional surveillance gaps were noted. Data for the polio vaccination history of AFP cases from 2009 to 2013 reveal that the biggest immunity gaps exist in Indonesia and Myanmar.

Given the proximity of the Region to two endemic countries (i.e. Pakistan and Afghanistan) and the presence of many migrant populations, border immunization posts are a major part of the strategy to maintain polio-free status in the South-East Asia Region. An estimated 4.5 million children were vaccinated at the border immunization posts in India over the past few years. Additionally, mobile teams in India vaccinated an estimated 1.2 million travelling and migrant children.

In addition, multiple polio risk-mitigation activities were conducted during 2012–2013. All countries implemented a year of intensified routine immunization in 2012. Five priority countries conducted polio SIAs. Also, five countries conducted national reviews of their vaccine-preventable disease (VPD) surveillance and EPI. Lastly, a regional workshop on VPD surveillance standards was conducted in September 2013.

The South-East Asia Region is in the final stages of performing activities, preparing documentation, and completing meetings necessary for polio-free certification, which is anticipated in February 2014. Ten of 11 countries have submitted their documentation on Phase I laboratory containment and other required documentation for certification of polio eradication, with India to complete theirs by the end of 2013.

Current work in the South-East Asia Region includes: (1) filling of immunity and surveillance gaps that make some Member States more vulnerable to poliovirus importation and undetected outbreaks; (2) completion of India's Phase I laboratory containment; (3) development of national policies for polio vaccination of travellers to and from polio-endemic countries; (4) vaccine procurement, funding and licensing of mOPV1, mOPV3, bOPV and IPV within countries; and (5) updating of national polio outbreak preparedness and response plans.

2.1.5 Western Pacific Region update on maintaining polio-free status

The Western Pacific Region was certified as polio-free in 2000, with the last indigenous WPV case reported in Cambodia in 1997. WPVs have been imported into the Region from endemic countries multiple times, with recent single cases detected in Singapore in 2006 and Australia in 2007, as well as an outbreak of 21 polio cases in China in 2011. At the 18th meeting of the RCC last year, the RCC commended China for its rapid and efficient outbreak response effort and concluded that the Region had retained its polio-free status.

In addition to WPV importations, the Western Pacific Region has experienced importations of VDPVs, as well as emergence and circulation of VDPVs, caused by immunity gaps. Detection and response to cVDPVs occurred in the Philippines in 2001, Cambodia in 2005–2006, and China in 2004 and 2011–2012. In 2012, China also detected a VDPV case from Myanmar.

During 2012–2013, some countries and areas did not achieve the WHO standard for AFP surveillance performance. Furthermore, suboptimal performance at the subnational level occurred

in many countries, which was sometimes masked by satisfactory performance at the national level. Despite relatively high reported national coverage with OPV3, an analysis of the proportion of AFP cases with at least three doses of OPV among countries in the Region shows significant immunity gaps in the Lao People's Democratic Republic, Papua New Guinea and the Philippines. A comparison of subnational risk assessments from 2012 and 2013 shows a decline in the number of high-risk areas in the three countries, but overall, the assessments highlight continued gaps in immunity and surveillance.

Many polio risk-mitigation activities were performed in the Region during 2012–2013. The Reaching Every District (RED) strategy was introduced in Mongolia and the Philippines. Polio SIAs were conducted in Cambodia, China, the Lao People's Democratic Republic, Papua New Guinea and Viet Nam. Also, national EPI reviews were performed in the Lao People's Democratic Republic and Papua New Guinea.

The existing regional programme was also strengthened and optimized by increased communication and advocacy. In 2013, the *Polio Bulletin* for Western Pacific Region was revitalized and reformatted with a focus on bimonthly reporting of surveillance data and indicators across countries, including reporting of VDPVs. Meetings of the Subregional Commission for the Certification of Polio Eradication (SRCC) and the Technical Advisory Group on Immunization and Vaccine-Preventable Diseases (TAG) for the Western Pacific Region helped coordinate efforts towards the polio endgame.

2.2 Country presentations

2.2.1 Cambodia

In Cambodia, vaccination coverage with OPV3 among children under one year of age remained high, reaching 95% in 2012. Immunity gaps among children in high-risk communities were addressed with SIAs in 2011 and 2013. Prior to 2010, the non-polio acute flaccid paralysis (NPAFP) rate had been declining, but following the AFP surveillance review in 2010, the NPAFP rate began to improve. Since 2011, the NPAFP rate has increased above the target to 2.4 in 2012 and 1.6 in 2013. However, six provinces were silent during 2012–2013, and no cases were reported by the National Pediatric Hospital in 2012 or 2013. In 2013, the adequate stool collection rate declined below the target to 75%. In addition, delays in 60-day follow-up investigations continued. Activities to improve surveillance during 2012–2013 included providing feedback surveillance on performance during biannual workshops, supervision visits and monthly emails, and targeting poorly performing provinces for retrospective reviews of AFP cases. A risk assessment conducted in 2013 identified only two provinces considered as high risk, and these provinces will be targeted for support in 2014.

Activities that will be undertaken in Cambodia in 2014 to maintain polio-free status include: (1) targeted site visits by immunization programme staff to underperforming provinces; (2) monthly updating of VPD surveillance performance, identification of gaps, and follow-up; (3) hanging of the AFP case definition in clinical settings as a reminder; (4) revision of the polio outbreak response plan with assistance from the Regional Office for the Western Pacific; and (5) inclusion of polio endgame strategy (e.g. IPV introduction) in an updated comprehensive multi-year immunization plan (cMYP).

2.2.2 Lao People's Democratic Republic

In the Lao People's Democratic Republic, vaccination coverage for OPV3 was reported as 78% in 2012. Supplementary vaccination with OPV was included in a Japanese encephalitis (JE) campaign in six northern provinces in 2013. AFP surveillance sensitivity exceeded the target NPAFP rate, at 1.7 (annualized rate as of 9 October 2013). The number of silent provinces decreased from four provinces in 2012 to only one province in 2013. However, to date in 2013, the Vientiane Capital province has not reported any cases (four cases expected annually), and there are more provinces not meeting the targets for the NPAFP rate and stool adequacy rate in 2013 than in 2012. Additionally, there was a decline in the national stool adequacy rate in both 2012 (67%) and 2013 (53%). During 2012–2013, activities to improve surveillance included active AFP case searches during campaigns and disease outbreak investigations, supervisory visits with retrospective record reviews, and VPD surveillance training for all provinces with support from the WHO Secretariat. A risk assessment identified six high-risk provinces in 2012 and seven in 2013, with most of the high-risk areas occurring in the southern part of the country.

The NCC met quarterly and recommended the following action should be taken: (1) train hospital clinicians and surveillance staff; (2) improve routine immunization to exceed targets and maintain good population immunity; (3) include OPV in SIAs in high-risk districts or outbreak settings; (4) improve cross-border collaboration and exchange of information; and (5) strengthen the network of surveillance focal points in the provincial hospitals and provide close supervision.

2.2.3 China

In China, an imported WPV1 from Pakistan caused an outbreak of 21 polio cases in 2011 in the southern part of Xinjiang province, but the exemplary response controlled the outbreak within three months (the first and last cases had paralysis onset dates of 3 July and 9 October, respectively). During October 2011–February 2012, an outbreak of three cVDPV2 cases among previously unvaccinated children occurred in Aba prefecture, Sichuan province (Table 1). This outbreak was also efficiently controlled through three rounds of response SIAs in Aba prefecture targeting children under 15 years of age, and two SIA rounds in children under five years of age in the rest of Sichuan province and the neighbouring counties in three other provinces, during February–May 2012. Challenges for the programme include China’s proximity to two polio-endemic countries, Pakistan and Afghanistan, and the dramatic increase in the migrant population since 2000, now comprising 20% of the total population.

Routine polio immunization remains high, with reported administrative OPV3 coverage of >100% in 2012. To close immunity gaps, two rounds of SIAs are performed yearly in high-risk areas, with a check of vaccination cards in some areas. In 2013, there was an upgrade of the web-based, real-time AFP reporting system established in 2011, resulting in additional functionalities, such as subregional indicator calculations, maps and alarms. The national NPAFP rate increased to >2.5 from 2011, and national stool adequacy rates were >90% during 2012–2013. However, four prefectures with large populations (more than 100 000) of children under 15 years of age were silent for reporting in 2012, and six were silent in 2013. In 2013, there were 23 prefectures under-reporting AFP cases and two prefectures with a <80% stool adequacy rate. A provincial-level risk assessment was performed following the 2011 outbreak in which six western and central provinces were identified as high risk.

The polio laboratory network in China consists of a national poliomyelitis laboratory, which is also a regional reference laboratory (RRL), and 31 provincial laboratories. In 2013, the

new real-time reverse transcriptase polymerase chain reaction (rRT-PCR)-based intratypic differentiation (ITD) testing method was introduced into 22 provincial laboratories. During 2012–2013, five confirmed VDPV cases were detected, including an imported aVDPV1 case from Myanmar, as well as and two iVDPV cases (from the provinces of Tianjin and Jiangxi), who were chronic excretors of virus (Table 1). Environmental surveillance detected Sabin-related strains and one VDPV2 each in Guangdong and Shangdong provinces (Table 1). One challenge for the laboratory has been the non-polio enterovirus (NPEV) isolation rate, which has declined since 2000, with 1.7% of samples positive in 2013.

China has taken steps towards preparing for the polio endgame, including: developing a national polio endgame plan and an outbreak preparedness plan; conducting an outbreak response practice exercise in 2012; updating in 2013 list of laboratories with potentially infectious materials with WPV; developing a schedule for IPV introduction to include one dose by the end of October 2015 and a switch to bOPV by the end of April 2016; preparing a forecast of IPV needed (16 million doses of IPV per year, and more than 72 million by the end of 2018 when an all-IPV schedule is adopted); and continuing with plans for domestic production of Sabin-based IPV (sIPV).

Activities planned during 2013–2014 include: (1) improving OPV3 vaccination by reaching migrant children and children in remote rural areas; (2) establishing vaccination strategies for IPV/OPV use; (3) reviewing AFP surveillance quality, including training clinicians and surveillance staff, carrying out environmental surveillance in selected provinces, and fine-tuning the online-reporting early alarm module; (4) analysing results of a national immunization coverage survey performed in 2013; (5) updating the national risk assessment in 2013; and (6) strengthening immunization and AFP surveillance in key areas based on the risk assessment.

Table 1. Confirmed VDPV cases,* China, 2011–2013

Year	Province	Source	Age	OPV doses	Onset date	Classification
2011	Ningxia	AFP	2 years	5	12 February 2011	iVDPV3 (18–27 bp)
2011	Guizhou	AFP	9 years	4	25 February 2011	iVDPV2 (16–17 bp)
2011	Shandong	AFP	15 months	1	23 April 2011	aVDPV1 (6–10 bp)
2011	Sichuan	AFP	13 months	0	15 October 2011	cVDPV2 (6 bp)
2012	Sichuan	AFP	10 months	0	7 January 2012	cVPDV2 (8 bp)
2012	Sichuan	AFP	8 months	0	6 February 2012	cVPDV2 (11–13 bp)
2012	Tianjin	AFP	10 months	3	17 February 2012	iVDPV2 (8–13 bp) and iVDPV3 (9–14 bp)
2012	Yunnan**	AFP	18 months	0	29 May 2012	aVDPV1 (21 bp) from Myanmar
2013	Jiangxi	AFP	7 months	3	19 May 2013	iVDPV3 (11–12 bp)

* In China, VDPVs were also detected in five discarded cases (two aVDPV2s and one cVPV2 from Sichuan in 2011; and two aVDPV2s in 2012) and five NPAFP sources (two aVDPV2s in 2011; one aVDPV2 and one cVDPV2 from Sichuan in 2012; and one aVDPV2 in 2013)

** AFP case from Myanmar

2.2.4 Philippines

In the Philippines, vaccination coverage for OPV3 was 86% in 2012, with wide variation at the subnational level (ranging from 35% to 178% at the province/city level). No SIA with OPV has been conducted in over a decade. The high performance of the national polio laboratory remains a good asset of the programme with the addition of molecular laboratory to perform ITD by rRT-PCR in 2013. However, the national NPAFP rate has steadily declined since 2007, reaching the lowest point in 2013 at 0.54 (annualized rate as of 31 August 2013). The national stool adequacy rate steadily declined to 71% in 2012, and 67% in 2013. Among a total of 17 regions, the number of regions with suboptimal NPAFP rates has doubled from 7 (41%) in 2012, to 14 (82%) in 2013. A continued challenge for the programme is inadequate staffing and high staff turnover. During 2012–2013, technical assistance visits, VPD surveillance training, a national surveillance coordination meeting, a local advocacy meeting, and retrospective record reviews in silent hospitals were conducted to address surveillance gaps. A risk analysis was conducted based on 2012 data, which will be used in planning 2014 measles–rubella (MR) and OPV SIAs.

The Philippines has been challenged in the last 12 months by a series of natural and man-made disasters that not only resulted in loss of life and displacement of residents, but also severely affected health staff and infrastructure. These disasters include Typhoon Bopha in eastern Mindanao, December 2012; insecurity and humanitarian crisis in Zamboanga City and Basilan Island, September 2013; earthquake in Bohol and neighbouring areas of the Visayas, October 2013; and most recently, Typhoon Haiyan, which is considered to be the worst typhoon in the Philippines' history.

Recent legislation that may aid future progress include Republic Act 10152 of 2011, which ensures the provision of mandatory basic immunization services for infants and children; the Universal Health Care plan; and the Rationalization Plan for Human Resources, which will start in 2014. Planned activities for the polio programme are as follows: (1) developing a national polio endgame plan and integrating the plan into the comprehensive multi-year plan 2014–2018; (2) strengthening routine immunization at all levels, through a "Reaching Every Purok" strategy and training of mid-level and cold chain managers, based on updated guidelines and manuals; (3) closing immunity gaps through two rounds of national SIAs with OPV in July and August 2014 (one round will be integrated with the MR vaccination campaign); (3) updating the WPV importation and cVDPV response plan; (4) updating the list of national laboratories in 2014; (5) conducting training on AFP surveillance and reactivation of weekly active surveillance in major hospitals; (6) performing a NPEV baseline study to provide recommendations on specimen handling conditions and a Guillain–Barré Syndrome (GBS) baseline study to compare with AFP surveillance; (7) preparing for IPV introduction in October 2014 and the switch to bOPV in 2016; and (8) convening a national advocacy meeting to engage stakeholders in efforts towards global polio eradication.

2.2.5 Viet Nam

In Viet Nam, OPV3 vaccination coverage remained high at 97% in 2012. Among a total of 697 districts, the number of districts with low OPV3 coverage (<80%) declined from 25 (4%) in 2011, to 13 (2%) in 2012; however, districts with suboptimal OPV3 coverage were concentrated in the southern (13%) and northern regions (10%). Two unlinked cases of aVDPV2 were detected in the southern region in April–May 2012, suggesting immunity gaps at the local level. In 2012, an OPV campaign in 79 high-risk southern districts was conducted. AFP surveillance system met

at national level a NPAFP rate of 2.3 and a stool adequacy rate of 97% in 2012. Active case searching detected 82 unreported AFP cases in 2012 and 46 unreported AFP cases in 2013; all cases detected in 2013 were in the southern region, suggesting AFP surveillance remains suboptimal in this area. The two national reference laboratories in Viet Nam continued to perform well, and various EPI and AFP surveillance trainings were conducted during 2012–2013. A risk assessment was conducted in 2013 to identify high-risk areas for further follow-up.

Areas of future focus include: (1) closing immunity gaps in high-risk districts and difficult-to-reach areas; (2) intensifying AFP surveillance in areas that are under-reporting or very populated, and at international entry points; (3) containing potentially infectious poliovirus laboratory materials; (4) preparing for IPV introduction in 2015 as part of the polio endgame plan; (5) planning for possible domestic bOPV production by the end of 2014 and domestic sIPV production after 2016.

2.2.6 Papua New Guinea

In Papua New Guinea, vaccination coverage for OPV3 has improved, increasing in 2012 to 70%, from 58% in 2011. However, many districts reported <50% coverage, and stock-outs in 2013 were reported due to breakdowns in communication. Immunity gaps were addressed through SIAs with OPV among children under five years of age in conjunction with tetanus toxoid (TT) campaigns during October–November 2012 (11 high-risk provinces) and July 2013 (10 high-risk provinces). The national NPAFP rate in 2012 was 0.5, with four provinces (Western, East Sepik, Manus and New Ireland) not reporting any AFP cases for last five years. However, there was an improvement the national NPAFP rate in 2013, increasing to 0.8 (annualized rate as of 10 September 2013), due to a new short message service (SMS)-based bimonthly reminder and reporting system established in September 2012. The proportion of cases with adequate stool samples remained low at 30% in 2012 and 33% in 2013. In 2012, two national-level positions, EPI manager and VPD surveillance focal point, were filled, and in April 2013, a provincial-level training for AFP surveillance was conducted. A risk assessment was conducted in 2013 to identify areas in which to focus efforts on filling gaps in polio immunity and AFP surveillance. An additional challenge for the programme is a new policy that will bring asylum-seekers, some of whom are from polio-endemic and/or infected areas, to Papua New Guinea; a policy calling for mandatory vaccination of refugees is currently under discussion.

Future plans include: (1) developing a comprehensive national polio endgame strategic plan in conjunction with the NCC and Child Health Advisory Committee; (2) filling immunity gaps by including OPV in any future campaigns in 2014; (3) continuing advocacy for compulsory polio-vaccination requirements for persons travelling to and from polio-endemic countries; (4) strengthening AFP surveillance with effective use of the SMS reminder system; and (5) reviewing AFP surveillance in East Sepik province during December 2013.

2.2.7 Australia

In Australia, IPV3 coverage remained high at 92% in 2012. During 2012–2013, several actions were implemented that are likely to result in further increase in population immunity, including: (1) linkage of government payments to families on the children's immunization status; (2) incentive payments to general practitioners based on immunization programme performance; and (3) funding for states and territories based on achievement of new immunization benchmarks.

In addition, although current legislation prohibits mandatory vaccination, dialogue about policies regarding migrants, travellers and asylum-seekers from polio-affected countries has begun.

AFP surveillance is supplemented with enterovirus surveillance and environmental surveillance, supported by the National Enterovirus Reference Laboratory at the Victorian Infectious Diseases Reference Laboratory (VIDRL), which serves as a reference laboratory for the Western Pacific Region. The national NPAFP rate has continued to exceed the target due to the success of the active surveillance programme established in 2007 in paediatric hospitals. One state (Queensland) did not meet the standard for the NPAFP rate during 2007–2013, so an additional active surveillance site was established at the state's major tertiary paediatric hospital in July 2012. Meeting the national standard for the adequate stool rate continues to be challenging; the reported stool adequacy rate was 30% for 2012 and 43% as of 31 August 2013. During 2012–2013, the NCC chair formed a working group to evaluate factors related to suboptimal adequate stool rates and make recommendations for improvement. In addition, an enhanced communication strategy for clinicians is being coordinated by the Polio Expert Panel in an effort to improve adequate stool rates. During April–November 2012, a national AFP surveillance review was performed. In 2013, the national inventory of potentially infectious WPV-containing materials was updated, with unnecessary stocks destroyed, and a review of biosecurity arrangements for laboratory containment of polio was conducted, resulting in direct oversight for importation of all polioviruses or polio-infective materials by the Department of Health.

Future programme activities include: (1) continuing efforts towards filling gaps in immunity and AFP surveillance; (2) expanding environmental surveillance to the metropolitan area of Perth by the end of 2013; (3) implementing the enhanced communication plan for physicians; (4) updating the polio outbreak response plan; (5) conducting a national polio serosurvey planned for early 2014; (6) publishing the results of a comprehensive national risk assessment conducted in 2012; and (7) continuing dialogue with the Department of Immigration and Border Protection on vaccination policies.

2.2.8 Brunei Darussalam

In Brunei Darussalam, high OPV3/IPV3 coverage has been achieved at >95% since 1990. In April 2012, IPV was introduced and fully replaced OPV in the schedule, with high coverage maintained during the transition. During 2012–2013, the national NPAFP rate was 1.0, with 100% of stool specimens adequately collected. In 2010, AFP surveillance was expanded and integrated with measles surveillance with monthly reporting from 31 sites. Additionally, children under five years of age who will make the Hajj are vaccinated against polio, and Pakistani workers in the country are required to present proof of polio vaccination in order to obtain a visa. In October 2012, the Polio Points programme was launched by Her Royal Highness Paduka Seri Pengiran Anak Isteri Pengiran Aak Sarah binti Pengiran Hj Salleh Ab Rahaman, the wife of the crown prince. An awareness-raising programme at the International School Brunei, in partnership with Standard Chartered Bank, the Global Poverty Project, WHO and UNICEF, raises students' awareness of global efforts towards polio eradication by rewarding students' achievements with "polio points" that are converted into money to buy vaccines in polio-endemic countries.

Future plans for the programme include: (1) maintaining AFP surveillance performance; (2) ensuring high IPV3 immunization coverage; (3) reviewing the polio risk assessment periodically; (4) reviewing the importation preparedness plan periodically; (5) reviewing the

laboratory-containment requirement; and (6) continued advocacy, communications and funding for the polio programme.

2.2.9 Japan

In Japan, IPV was introduced in September 2012 with a four-dose schedule of administration at 3, 4.5, 6 and 18 months. A standalone IPV product was used during September–November 2012, followed by two domestically produced Sabin IPV–DTP combination vaccines in November 2012. Prior to this time, two doses of OPV were administered to children between 3 and 18 months of age by mass vaccination in the spring and fall. Compared to OPV coverage in the 2010 vaccination activities (99% and 91% in the fall and spring, respectively), OPV coverage decreased in 2011 (84% and 76% in the fall and spring, respectively) because of public concerns regarding the risk of VAPP; OPV coverage in the spring of 2012 was even lower (67%). Vaccination coverage surveys and serosurveys conducted in 2012 also suggested coverage of <80% during the transition period, but vaccination data for the latter half of 2012 through 2013 have yet to be published. The NCC chair provided an informal report that children missed during 2011–2012 were effectively targeted by catch-up immunization with standalone IPV, and that evidence will be forthcoming after the close of the fiscal year (end of March 2013).

During 2012–2013, four suspected AFP cases were reported, with three discarded as NPAFP and one case diagnosed as VAPP. No WPV or VDPV strains were detected from AFP or NPAFP sources, including healthy child stool surveys and enterovirus surveillance by the global specialized laboratory (GSL), which also serves as an RRL for countries in the Western Pacific Region. In July 2013, environmental surveillance was introduced as a government initiative at 13 sites (with five of the sites already established as part of a research project prior to this date). With support from the Japan International Cooperation Agency (JICA), the GSL conducts training courses to countries in the Region and worldwide, along with ongoing technical support.

Future activities include: (1) improving IPV coverage; (2) monitoring IPV coverage through national surveys and serosurveys; (3) implementing environmental surveillance and reporting results; and (4) conducting an environmental surveillance demonstration project on the use of microbeads in raw sewage.

2.2.10 Republic of Korea

In the Republic of Korea, IPV3 coverage remains high at 99%, as estimated by a national immunization survey in 2012; a serosurvey in 2012 supports this finding. A programme for free or reduced-fee vaccinations, including IPV, was introduced at many private clinics and hospitals during 2012–2013 as part of the expansion project for the National Immunization Programme. In 2012, the vaccination history, checked as part of school-entry requirements, was expanded to include four vaccines administered at four to six years of age, including the IPV4 dose, which had 97% coverage in 2012. The national NPAFP rate was 1.2 in 2012, meeting the target for first time. Adequate stool rates were 97% and 98% in 2012 and 2013, respectively. AFP surveillance is supplemented by enterovirus surveillance, supported by the national polio laboratory.

Future areas of focus include: (1) updating the national outbreak preparedness and response plan; (2) continuing to train new physicians on AFP surveillance and engage in communication with hospital physicians to improve surveillance; and (3) implementing the final stage of the Project for Expansion of the National Immunization Program in 2014, during which free vaccines will be provided to all infants and children.

2.2.11 Macao (China)

In Macao (China), IPV3 coverage remained high at 93% in 2012. In 2013, one NPAFP case was reported, which is equivalent to a rate of 1.5; the stool specimen collection for the one case was adequate (100%). Surveillance reporting from nine sites was 100%. Since 1999, the target for the adequate stool rate has been met every year. AFP surveillance is supplemented by enterovirus surveillance. While the population of Macao (China) for 2012 was 582 000, the number of visitors in 2012 was over 28 million, representing a potential risk for poliovirus importation.

The future focus of the programme is on: (1) maintaining high coverage of polio immunization; (2) ensuring high-quality active AFP surveillance; and (3) conducting supplementary AFP surveillance methods such as retrospective record review if the NPAFP rate was zero.

2.2.12 Mongolia

In Mongolia, OPV3 coverage remained high at 97% in 2012. During 2011–2013, the RED strategy was implemented in underperforming provinces and districts, with 22 new immunization points established with cold-chain equipment and trained staff. The national NPAFP rate was 1.3 in 2012, but the rate in 2013, which was only 0.5 as of September, is unlikely to meet the target for the year. Completeness of AFP reporting was 100% in 2012 and 99% in September 2013, and the proportion of AFP cases with adequate stool specimens was 100% during 2011–2013. AFP surveillance is supplemented by healthy child stool surveys, with testing performed at the national polio laboratory. A major challenge for the programme is that 48% of provincial and 72% of district-level EPI staff have turned over in last two years. Actions taken to improve programme performance were supportive supervision and a refresher AFP surveillance training in underperforming provinces and districts; an information, education and communication (IEC) campaign for immunization; and distribution of comparative feedback on AFP surveillance. An additional challenge for the polio programme is the deployment of soldiers to polio-affected areas, namely Afghanistan and Chad, without an established policy mechanism to provide and/or require booster doses before and after deployment. Additionally, internal migration of workers seeking employment has created new logistical challenges for routine immunization.

Future plans include: (1) expanding and implementing the RED strategy; (2) strengthening AFP surveillance in silent areas; (3) conducting refresher training for health-care workers; (4) performing regular risk assessments for importation from endemic areas; (5) reviewing the national preparedness plan for wild polio virus importation; and (6) adapting policies to improve programme performance.

2.2.13 New Zealand

In New Zealand, reported IPV3 coverage remained high at 93% in 2012, with at least 90% coverage among ethnic minority groups. In 2012, the Government introduced new, progressive vaccination coverage targets, most notably, 95% coverage of children eight months of age with three doses of hexavalent vaccine (DTP-IPV-HepB-Hib) by December 2014. New Zealand has a system of active AFP surveillance, but prior to 2013, surveillance had not consistently met either performance indicator target. In 2012, re-engagement of paediatric neurology staff resulted in achievement of the target NPAFP rate, as of November 2013. The adequate stool rate remains

below target. AFP surveillance is supported by enterovirus surveillance, with testing for polioviruses performed at the national polio laboratory.

The focus of future programme activities will be: (1) maintaining high IPV coverage and current active AFP and environmental surveillance; (2) continued engagement of paediatricians and paediatric neurologists regarding active AFP surveillance; (3) reviewing retrospectively the AFP cases in major hospitals; and (4) revising the 2009 importation response plan with publication expected in 2014.

2.2.14 Singapore

In Singapore, OPV3 coverage continued to be high at 97% in 2012; serosurveys in 2008 and 2010 documented polio seropositivity at 92%. High population immunity is ensured through vaccination requirements for school entry and the provision of a booster dose through a school-based immunization programme. In June 2013, IPV replaced OPV in the primary immunization schedule, with OPV still provided as a booster dose at 10–11 years of age. Plans for an all-IPV schedule are under development. High-quality AFP surveillance continued with support of the national polio laboratory; the NPAFP rate was >1 and the stool adequacy rate was >80% during 2012–2013. Challenges for the programme are increased international travel, migrants, and medical tourism, including the imported poliovirus case from Nigeria in 2006.

Future programme activities will focus on: (1) ensuring high IPV coverage through the primary vaccination series and tightening the school-entry requirement; (2) engaging in discussions regarding development of vaccination requirements for children planning to reside in Singapore; (3) revisiting plans to move to a full IPV schedule in light of the Strategic Advisory Group of Experts on Immunization (SAGE) recommendation to retain an OPV dose; and (4) maintaining high-quality AFP surveillance.

2.2.15 Hong Kong (China)

In Hong Kong (China), IPV3 coverage remains high at >99%, as estimated by a national coverage survey in 2012. Coverage with two booster doses, given in grades 1 and 6, was also maintained at 99%. Periodic serosurveys suggest high population immunity; the last survey in 2010 demonstrated >95% polio seropositivity for all three types of poliovirus in children 10 years of age or younger. During 2012–2013, AFP surveillance met standards, with the support of the national polio laboratory. Challenges include high international travel with direct flights to and from Pakistan, and 550 000 visitors from polio-endemic countries in 2012. In addition, the fertility rate has doubled in the last three years.

Future activities include: (1) maintaining sensitive AFP surveillance and a fully accredited laboratory; (2) ensuring high immunization coverage across the population through regular monitoring; (3) researching the prevalence of primary immunodeficiencies towards identifying continuous VDPV excretors for possible treatment with a new antiviral agent called V-073, as part of a collaborative research protocol; and (4) reviewing and updating the polio importation plan with new information.

2.2.16 Malaysia

In Malaysia, high coverage of IPV3 was maintained at >99% in 2012. Districts with <95% IPV coverage regularly undergo periodic catch-up with all antigens. AFP surveillance met standards during 2012–2013. Testing of environmental samples for poliovirus by the national

reference laboratory was started in January 2012 in three sites, and expanded to another three sites in 2013; no WPV or VDPV has been detected to date. Challenges for AFP surveillance include a low proportion of stool specimens received ≤3 days (59% in 2012 and 60% in 2013) and a low NPEV isolation rate, though the NPEV isolation rate shows some improvement from 2.2% in 2012 to 4.8% as of August 2013. Current challenges for the programme include growing presence of anti-vaccine groups, a marginalized population, and immigrants.

Current and future programme activities include: (1) implementing a comprehensive communications strategy, including an IEC campaign called "Immunise4Life"; (2) conducting mobile immunization clinics to reach marginalized groups; (3) implementing a new vaccine schedule in early 2014, whereby the OPV5 dose at seven years of age is removed (four doses of IPV only); (4) identifying weaknesses in NPEV isolation through a laboratory-based study; (5) training staff; (6) conducting regular supervisory visits and retrospective reviews at hospitals; and (7) performing a risk assessment for importation polioviruses in 2014.

2.2.17 Pacific island countries and areas

There are 21 countries and areas in the Pacific islands subregion. Coverage with OPV3/IPV3 is generally high among the countries and areas; 12 (60%) report >90% coverage, four (20%) report 80–90% coverage, and two (10%) report <80% coverage (the Marshall Islands and the Commonwealth of the Northern Mariana Islands). It should be noted that American Samoa, Guam and the Pitcairn Islands do not report. OPV is used in 10 countries and areas, and IPV is used in the other 10; in July 2013, IPV was introduced in the Federated States of Micronesia. AFP surveillance performance remains suboptimal, with five of the larger countries not achieving the target NPAFP rate for the last decade, and a decreased rate reported from Solomon Islands during 2012–2013. The subregion accomplished a major achievement in reaching an adequate stool rate of 80% for first time in 2013.

During 2012–2013, a refresher training package was implemented in four countries with assistance from the WHO Secretariat. A Pacific Immunization Programme Strengthening (PIPS) meeting occurs annually with EPI programme managers from each country in attendance. A generic poliovirus importation and response plan for the subregion was updated in 2010, and Fiji completed a country-specific plan in November 2013. The SRCC expanded in 2013 to include three new members from countries and areas not previously involved, including French Polynesia, Solomon Islands and Guam; a meeting of the SRCC occurred in September 2013. Challenges for the subregion include high staff turnover, competing priorities, and many remote countries and areas with small populations and limited infrastructure. Additionally, there has been an increase in international travel and immigration to and from polio-affected countries, including soldiers travelling to the Middle East, and asylum-seekers in Nauru.

The future plan of activities includes: (1) continuing implementation of refresher training package; (2) reviewing the active AFP surveillance system in five large countries with under-reporting; (3) enhancing communication with surveillance focal points and using new technologies for reporting; (4) conducting the PIPs workshop in 2013, which includes orientation on the polio endgame strategy; (5) developing poliovirus importation and response plans for Solomon Islands (December 2013) and Vanuatu (2014); (6) conducting retrospective record reviews for AFP cases and increasing advocacy efforts by SRCC members; and (7) preparing for IPV introduction in 10 countries as part of the polio endgame plan.

2.3 Additional presentations

2.3.1 Enhancing AFP surveillance in Papua New Guinea

During 2006–2012, AFP surveillance sensitivity in Papua New Guinea remained chronically low and met the target NPAFP rate in only one year (2007). In 2011, the NPAFP rate dropped to 0.4, and by mid-2012, the annualized rate was even lower at 0.2. In August 2012, the NCC initiated a consultation with the national Paediatric Society to discuss the reasons for the decline in AFP sensitivity. The reasons identified included: (1) active surveillance was not being conducted by the provincial disease control officers; (2) new paediatricians were often not sensitized to AFP detection and reporting; (3) there was not a readily available contact number for reporting VPD cases; and (4) feedback was not being provided to medical officers on test results. In November 2012, the RCC expressed their concern over the chronically low AFP performance in Papua New Guinea and encouraged implementation of new activities to improve surveillance. As a result, multiple measures were taken including: (1) establishing a contact number for VPD surveillance; (2) piloting an SMS-based AFP reminder and reporting system with support from the WHO Country Office; (3) assigning the responsibility of follow-up, including investigation, and specimen collection and transport to the national surveillance unit; and (4) sharing AFP test results with paediatricians by SMS.

The mobile phone penetration rate in Papua New Guinea is very high. To take advantage of the substantial existing mobile phone infrastructure, an SMS-based AFP reminder and reporting system was launched. The system targeted 45 paediatricians in 2012, and was expanded to include 137 provincial and district disease control officers, Field Epidemiology Training Programme (FETP) officers and laboratory managers in 2013. Originally, SMS messages were sent manually, but this was soon replaced by a software package called Frontline SMS for ease of use. Twice monthly an automatic SMS is sent to paediatricians and public health officials asking them to report AFP cases. The SMS prompts the recipient to report a case or provide a nil report. If a case is reported through this system, it is forwarded to the national surveillance unit for follow-up.

The initial results have shown that there has been significant improvement in reporting of AFP cases since implementation. The NPAFP rate increased from 0.4 in 2012, to 0.7 as of the end of September 2013. As an additional achievement, provinces that were previously not reporting at all are now sending nil reports. One disadvantage to the system is that it relies on having accurate and up-to-date mobile phone numbers, which is a challenge in Papua New Guinea because of the high turnover in mobile numbers. Additional challenges for AFP surveillance in Papua New Guinea still remain. A surveillance review in Morobe province revealed missed AFP cases. Also, four provinces have still not reported an AFP case for over five years. The proportion of AFP cases with adequate stool specimens remains low. In 2014, the SMS programme is expected to continue, after a planned evaluation by an external expert to determine the impact of the SMS-based reporting and feasibility of extending it to other VPD surveillance.

2.3.2 Update on the Western Pacific and South-East Asian interregional and cross-border meeting on polio

Increased international travel and frequent unregulated travel between adjoining countries increases the potential risk of cross-border transmission and international spread of poliovirus. In 2012, 43 AFP cases were cross-notified between countries within the South-East Asia Region.

Because cross-border transmission can also occur between regions, strong interregional systems should also be established. For example, in 2012, a VDPV case from Myanmar was identified in China. In July 2013, the Cross-border Meeting on Polio was held in Bangkok, Thailand, to discuss opportunities for interregional collaboration between the Western Pacific and South-East Asian regions in six countries, collectively referred to as the Greater Mekong Subregion: Cambodia, China, the Lao People's Democratic Republic, Myanmar, Thailand and Viet Nam.

Key recommendations of the meeting to the regional-level programme were: (1) to include EPI managers and surveillance focal points from adjacent countries in different WHO regions on the distribution list for regional disease surveillance bulletins; (2) to map existing platforms and mechanisms for cross-border data sharing and provide technical assistance to strengthen these existing mechanisms; (3) to publish a Greater Mekong Subregion disease surveillance bulletin that includes district-level spot maps of recent VPD cases or outbreaks for countries that report case-based data; and (4) to facilitate cross-border data exchange between adjacent countries both within and across regions.

Key recommendations of the meeting to the country-level programme were: (1) to prepare a list of high-risk districts and update it regularly; (2) to support and strengthen existing cross-border data exchange mechanisms and advocate in-country with high-level officials for local cross-border data sharing; and (3) to include country-specific polio risk assessments, risk mitigation plans, and endgame strategic plans as part of cMYPs or integrated national immunization plans.

2.3.3 Role of the RCC and NCCs in the global Polio Eradication Endgame and Strategic Plan

The GCC oversees the certification process for polio eradication. At each of its meetings, the GCC receives and reviews RCC reports. The core members of the GCC are the chairpersons from each RCC. The RCC for the Region of the Americas is currently being re-established. To support global certification, the RCCs and NCCs will be responsible for meticulously reviewing and reporting on: (1) the quality and sensitivity of AFP surveillance; (2) the immunity levels of Member States; and (3) recommendations for mitigation activities. Additionally, the RCCs and NCCs will be requested to oversee the continued implementation of containment activities.

The RCCs and NCCs could also be asked play a role to advocating for and providing guidance for the introduction of IPV in the context of OPV2 cessation in their countries. Prior to OPV2 withdrawal, the GCC must formally “conclude” that WPV2 transmission has been interrupted globally. This determination will be based on formal statements from RCCs of uncertified and certified regions, with specific requirements established at the upcoming meeting of the GCC at the end of November 2013.

2.3.4 Update of the polio laboratory network and orientation on laboratory containment

There are 43 laboratories in the Global Polio Laboratory Network (GPLN) in the Western Pacific Region, including one GSL in Japan and two RRLs in China and Australia. The number of network laboratories performing ITD increased from 17 in 2012 to 29 in 2013 because of the introduction of a new ITD algorithm using rRT-PCR into provincial laboratories in China. Japan’s GSL and Australia’s RRL continue to provide excellent support for testing AFP samples from Brunei Darussalam, Cambodia, the Lao People’s Democratic Republic, Papua New Guinea, and Pacific island countries.

During 2012–2013, all GPLN laboratories in the Western Pacific Region maintained full accreditation status. All laboratories passed the virus isolation test. All laboratories also passed the ITD test, including 27 laboratories using the new rRT-PCR technique for ITD and VDPV screening and two laboratories using the conventional ITD technique. Five laboratories passed the genetic sequencing test. During 2012–2013, laboratory capacity was strengthened through training on rRT-PCR in seven countries and the fourth meeting of the VPD laboratory network. By 2014, 33 laboratories will be performing ITD by rRT-PCR, and seven laboratories will be performing genetic sequencing.

Overall, the GPLN laboratories in the Region performed highly in terms of the timeliness of reporting virus isolation results (within 14 days) and timeliness of reporting ITD results (within 7 days). It was highlighted that China continues to apply an 18-day standard for virus isolation, instead of 14 days. China performs highly under the 18-day standard for viral isolation, but would perform below the minimum standard if a 14-day standard were applied. It is recommended for China to consider adopting the WHO global standard timeliness indicator for viral isolation. In terms of the isolation of NPEVs, some countries did not meet the WHO-recommended standard of NPEV isolation in at least 10% of stool specimens from AFP patients in 2013. Several countries have conducted environmental surveillance or are testing water samples but are not regularly reporting results.

In 2009, WHO published a Global Vaccine Action Plan to minimize facility-associated risk after eradication of WPVs and cessation of routine OPV use. This document gives guidance on the containment of WPVs, as well as OPV/Sabin strains, in the post eradication era when OPV will no longer be used. The phased implementation of containment consists of four phases: Phase I, national surveys of WPV inventory; Phase II, national long-term poliovirus policy and regulation; Phase III, global destruction and containment of WPV; and Phase IV, global destruction and containment of Sabin polioviruses. Phase I was completed in the Western Pacific Region during 1999–2008, and national surveys revealed that 45 out of 77 260 facilities were retaining WPV materials. These facilities are located in Australia, China, Japan and the Republic of Korea. As part of their national polio action plans, all countries and areas are encouraged to update laboratory inventories annually and initiate Phase II of containment.

2.3.5 Update on progress of national polio endgame plans in the Western Pacific Region

At the Sixty-sixth session of the World Health Assembly, WHO Member States endorsed the Polio Eradication and Endgame Strategic Plan 2013–2018. This plan contains the strategic framework for the eradication and containment of all polioviruses – both wild and vaccine-related strains. The four main objectives of the plan are: (1) stop transmission of WPV; (2) strengthen immunization systems, introducing at least one dose of IPV and replacing tOPV with bOPV; (3) contain all polioviruses; and (4) plan and implement the polio legacy. In June 2013, the TAG for the Western Pacific Region endorsed the Polio Eradication and Endgame Strategic Plan 2013–2018 and recommended that countries should start developing national polio endgame plans.

When developing the plans, countries are encouraged to consider the regulatory, operational and financial implications of the polio endgame. In terms of regulatory requirements, each country should register both bOPV and IPV with the appropriate national regulatory authority in their countries. From an operational perspective, countries should prepare the cold chain, train health-care workers, coordinate with other planned vaccine introductions, and improve routine immunization coverage in high-risk areas. From a financial perspective, seven countries in the Region will be eligible for financial support from the GAVI Alliance to pay for

the cost of IPV (Cambodia, Kiribati, the Lao People's Democratic Republic, Mongolia, Papua New Guinea, Solomon Islands and Viet Nam), while the remaining 10 countries will need to secure funding as soon as possible. Furthermore, it was emphasized that all countries should secure financing for the additional costs of the polio endgame beyond the cost of IPV including the cost of supplementary OPV campaigns, activities to improve surveillance, training of health-care workers, and expansion of the cold chain.

The Western Pacific Regional Office will be supporting countries as they prepare for the polio endgame. This includes sharing key policy documents (e.g. SAGE recommendations), supporting the registration of bOPV and IPV, supporting cold chain assessments when requested, developing guidelines and training materials, supporting the initiation of Phase II containment, and assisting countries in identifying and securing funding when needed.

In terms of the regional implementation of the plan, all countries have completed Phase I laboratory containment and have prepared importation and outbreak response plans. During 2012–2013, Brunei Darussalam, Japan and Singapore introduced IPV into their vaccination schedules. Of the 37 countries and areas in the Western Pacific Region, 16 countries and areas have IPV-only schedules, four countries have sequential schedules with IPV and OPV, and 17 countries and areas have yet to introduce IPV (refer to Annex 1 for the current polio schedules in each country and area in the Region). Japan has domestically produced and introduced sIPV, and China and Viet Nam are preparing for production of their own domestic sIPV. To date, no country has registered bOPV or mOPV. Some countries have not submitted a provisional schedule and timeline for the introduction of IPV. Additionally, the outbreak response plans and laboratory containment inventories have not been regularly reviewed and updated in some countries.

3. CONCLUSIONS AND RECOMMENDATIONS

3.1 Overall conclusions

The RCC commends all countries and areas for submitting comprehensive, objective and timely reports, which were accompanied by informative presentations from each country. Based on the information reviewed, the RCC was able to conclude that the Western Pacific Region remained free of poliomyelitis during the period covered by the reports, despite the persistent risk of importation of WPV and emerging VDPVs.

The RCC found that, even 13 years after polio-free certification, the NCCs have maintained their commitment to supporting countries in retaining their polio-free status. Reports accurately identified risks and generally addressed previous recommendations from the RCC. Overall, country programmes have maintained focus on identifying problems and potential solutions. The RCC commended all country programmes that are struggling to maintain targets for NPAFP rates years after polio-free certification, and acknowledged that maintaining quality syndromic surveillance in developed countries is challenging.

Nonetheless, the RCC highlighted that increased efforts are still needed to address the remaining immunity and surveillance gaps, which make countries vulnerable to poliovirus importations and the emergence of VDPVs, and which threaten the polio-free status of the Region. These gaps need to be addressed as a matter of priority as part of the first step of the

polio endgame plan and fulfilment of regional TAG recommendations for 2013. Although priority countries have conducted risk assessments, the results or findings have not been consistently utilized for effective action in target areas. Additionally, differences in the way the risk assessments are conducted within the Region hinder comparisons between countries.

While the RCC gratefully acknowledged that the majority of countries managed to maintain surveillance performance at certification levels, the RCC is deeply concerned about continued under-performance in some countries and recent declines or variable performance in others. Generally, challenges for AFP surveillance were related to incomplete adherence to WHO surveillance guidelines, with more than one country reporting the following: (1) silent geographic areas and some major hospitals not reporting; (2) private sector (and some public sector) not always included in reporting; (3) high health staff turnover resulting in lack of awareness; (4) declining interest in AFP surveillance; (5) lack of active surveillance by district surveillance officers; (6) finding of unreported AFP cases during retrospective reviews and SIAs; (7) inadequate case investigation and follow-up, including specimens not consistently collected, delays in stool collection and/or transport, and 60-day follow-up exams not consistently performed.

The RCC acknowledged that threats to retaining the polio-free status of the Region are as tangible today as they were 13 years ago. Despite the recent achievements in the global polio eradication effort, polio outbreaks that occurred in the Middle East and the Horn of Africa in 2013, as a result of long-distance importations from polio-endemic countries, were responsible for the majority of WPV cases this year. In the modern global community, there is increasing contact between persons from polio-free countries and persons from polio-affected countries. This finding was exemplified by the numbers of persons reported to be part of the following groups: foreign workers, overseas workers, international travellers, asylum-seekers, soldiers/peace-keeping forces, medical tourists, and religious pilgrims.

The RCC noted that the threat of poliovirus importation into the Western Pacific Region is not a theoretical risk but a demonstrated reality, as illustrated by the importation of WPV1 from Pakistan that resulted in an outbreak of 21 cases in China in 2011, and other recently detected importation events, including a WPV1 case-patient from Nigeria who sought medical care in Singapore in 2006, a WPV1 case-patient from Pakistan who travelled to Australia for studies in 2007, and the VDPV1 case-patient from Myanmar who sought medical care in China in 2012. In addition to WPV importations, there is also the potential for emergence and circulation of VDPVs caused by immunity gaps in the Western Pacific region. For example, the Philippines detected cVDPV1s in 2001, Cambodia detected cVDPV3s in 2005-2006, and China detected cVDPV1s in 2004 and cVDPV2s in 2011-2012. The continued detection of aVDPVs in the Region also represents a special concern because of the potential for circulation in low-coverage areas.

The RCC congratulated member countries for presenting innovative solutions to the challenges they face, which may, in some cases, have broader applicability in other regions and countries. Some examples of the innovations presented during the RCC meeting are as follows:

- In China, in response to the 2011 outbreak, improvements have been made in AFP surveillance, including refinement of the real-time online reporting system and mechanisms to allow more rapid specimen transport.
- In Papua New Guinea, an SMS system of active AFP reporting is utilizing the existing cell phone infrastructure and yielding promising increases in surveillance sensitivity.

- In Australia, an AFP surveillance review was successful not only in generating recommendations for improvements to the system, but also in engaging and promoting ownership among the medical community, as well as generating continued funding. Additionally, incentive programmes at the family, medical-provider and state levels demonstrate a commitment to equitable provision of immunization services and creativity in efforts to increase vaccination coverage.

- In Japan, the first Sabin-IPV, which was made from attenuated viral strains, was introduced into the national immunization programme, which is significant for future development of domestic vaccine in other countries and WPV-containment efforts.

- In the Pacific, extension of the SRCC to include new members from countries and areas not previously involved is paving the way towards an improvement in subregional performance.

- In Hong Kong (China) and collaborating countries, research was initiated to identify chronic iVDPV-shedding individuals with primary immunodeficiencies who may be candidates for treatment with an antiviral drug (V-073).

- In Brunei Darussalam, vaccination requirements for Hajj pilgrims and travellers to and from Pakistan were put into national policy. Additionally, the Polio Points programme has raised awareness of the global polio effort and has resulted in vaccine donations to polio-endemic countries, setting an example for the regional and global programmes.

Several topics were raised during the RCC meeting for which countries were seeking guidance as a result of the changing landscape of the global polio eradication programme. While the RCC provided initial guidance during the meeting, global partners were asked to note the questions and clarify current guidance and/or policy in the following areas:

(1) Role of environmental surveillance

Several countries commented on the necessity, utility and rationale for establishing an environmental surveillance system. The detection of WPVs in environmental sewage samples in Israel, despite no detected polio cases, generated increased interest in the subject.

The RCC concluded the following:

- environmental surveillance is a *supplement* to AFP surveillance;
- due to the high resource costs, increased burden on the laboratory, and low risk of undetected transmission of WPVs in the Western Pacific Region, expansion of environmental surveillance is considered a low priority for the Region; and
- for countries considering initiating environmental surveillance, the potential increase in sensitivity should be balanced against the cost in light of other programme priorities.

The RCC noted that countries would benefit from having more concrete information regarding the resource requirement and data yielded by existing environmental surveillance programmes to assist them in their decision-making process. The RCC requested the development by experts of specific considerations and guidance for countries interested in potentially starting an environmental surveillance programme.

(2) Maintaining OPV doses in the national immunization schedule during the endgame

The Polio Eradication and Endgame Strategic Plan 2013–2018, as endorsed by SAGE, encourages all OPV-using countries to: (1) introduce one dose of IPV into existing OPV schedules in 2014-2015; (2) replace tOPV with bOPV in 2016; and (3) switch to an IPV-only schedule around 2018. However, many countries either have switched completely to IPV recently or are considering a full switch to IPV. This includes countries with sequential schedules that are considering eliminating OPV booster doses from their schedule. In light of the recent experience from Israel, the potential risks of moving to an IPV-only schedule should be carefully considered when making vaccine policy decisions for the polio endgame plan.

The RCC supported the current SAGE guidance for the pre-eradication era and concluded the following:

- countries using only IPV should keep using IPV;
- countries using only OPV should prepare to add at least one dose of IPV into the primary OPV series; and
- countries using a combination of OPV and IPV should continue to use a sequential schedule.

However, the RCC requested that WHO guidance be prepared for countries that are seriously considering removing OPV doses from their current IPV schedule or switching directly to IPV, based on lessons learnt from the sustained environmental circulation of WPVs among a population with high IPV coverage in Israel. Further, the RCC requested the existing WHO position paper on polio vaccination be updated to reflect new endgame policies.

(3) Vaccination of travellers

Several NCC representatives expressed concern that while travel to and from polio-endemic countries posed a risk to the respective populations, current legislation in their countries did not mandate polio vaccination for travellers. It was expressed that global recommendations and policies would be helpful in advocating for country-specific policies. The RCC noted that recommendations for polio vaccination of travellers already exist in the WHO position paper on "Polio vaccines and polio immunization in the pre-eradication era" (*Weekly Epidemiological Record*, 2010, 23(85):213–228) and in the *International Travel and Health* (12th edition). Specifically, WHO recommends:

- vaccination of travellers to polio-endemic countries; and
- full vaccination of travellers from polio-endemic countries, with booster doses before each trip.

The WHO position paper also highlights that some polio-free countries may require travellers from polio-endemic countries to be immunized against polio in order to obtain an entry visa, or they may require travellers to receive an additional dose on arrival, or both. Within the Western Pacific Region, Brunei Darussalam requires proof of vaccination from travellers from Pakistan requesting a visa. In light of the tight timeline for the polio endgame strategy and potential confusion created by the development of many country-specific protocols for documenting polio vaccination, the RCC urgently requests the formulation of a global policy.

(4) OPV stockpile for outbreak response

There is some confusion on the part of country programmes over the potential use of OPV vaccines for outbreak response after the cessation of tOPV and eventual cessation of all OPVs in

the post-eradication era (estimated 2018). Specifically, countries are concerned about the need for a national stockpile and regulatory issues related to using mOPV-vaccines during response campaigns.

The RCC clarified that:

- stockpiles of mOPV1, mOPV2 and mOPV3 are being established by WHO and will be managed at the global level; countries without their own OPV stockpile will have access to these global stockpiles in the case of an emergency outbreak response; and
- after the global switch from tOPV to bOPV, any WPV2 or VDPV2 outbreak response should be conducted in accordance with guidelines currently under development by SAGE;
- Global guidance to respond to any type 2 outbreak is under development which will outline the specific mechanism and procedures for the release of mOPV2 from the global stockpile if.

The RCC requested the WHO Secretariat to provide communication on how the global stockpile will be coordinated.

3.2 General recommendations

The RCC encouraged all countries and areas to take action on necessary measures to reduce the risk of outbreaks caused by imported WPVs or emergence of cVDPVs.

(1) Conduct regular risk assessments, including at subnational levels, as appropriate

The RCC recommended identification of high-risk areas through periodic risk assessments, with actions taken to maintain sensitive surveillance and close immunity gaps. Risk assessments should be performed every six months in high-risk countries, and yearly in other countries, to inform priority activities for the programme. The RCC requests the WHO Secretariat to refine the risk assessment methodology across the Region, with guidance provided on the different administrative geographic subdivision level to use in regards to variation in population density across countries.

(2) Strengthen routine immunization and supplementary activities to close gaps in population immunity

The RCC recommended identifying areas of with low vaccination coverage and performing specific activities in these areas to strengthen routine immunization, as well as conduct SIAs, if necessary. 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.

(3) Attain quality surveillance that meets all performance indicators at the subnational level

The RCC made the following general recommendations for countries towards improving AFP surveillance performance: (a) ensure the surveillance system covers all populations, including those covered by private sector; (2) re-engage silent facilities and investigate silent reporting areas; (3) ensure active surveillance occurs; (4) investigate reasons for inadequate stool specimen collection/transport and provide appropriate solutions; (5) perform regular refresher

training of staff; (6) strengthen supervision of surveillance staff; and (7) perform targeted surveillance reviews.

(4) Consider vaccination of travellers to and from polio-affected areas

The RCC recommended countries to use existing WHO recommendations for polio vaccination of travellers as an advocacy tool for implementing national policies, where necessary.

(5) Ensure that updated importation preparedness plans are in place and remain current

The RCC recommended countries to review importation preparedness plans on a yearly basis and update with current information, as needed.

(6) Prepare for the polio endgame

The RCC concurred with the 2013 TAG recommendations, and recommended all countries and areas to: (a) register IPV, bOPV, mOPV1 and mOPV2 with national authorities; (b) update the laboratory inventory on yearly basis; and (c) develop a provisional schedule and timeline for introduction of IPV, which is requested at the WHO Regional Office for the Western Pacific by early 2014.

3.3 Country-specific recommendations

3.3.1 Cambodia

The RCC commended Cambodia for the efforts taken to maintain its polio-free status and the quality of its written report and presentation. The RCC highlighted that despite high coverage and adequate AFP surveillance, there were discrepancies in the performance of provinces, including under-reporting and silent provinces, and administrative coverage rates ranging from 60% to 198%. The RCC expressed concern for the declining stool adequacy rate in 2013. Also, the RCC noted that the two paediatric hospitals funded by nongovernmental organizations reported 25% of the cases, while the national public paediatric hospital did not report any AFP cases.

The RCC recommended addressing immunity and surveillance gaps in high-risk areas. The RCC welcomed the inclusion of OPV in the MR campaign in high-risk communities in late 2013. The RCC suggested performing targeted surveillance reviews in under-performing and silent areas. In addition, the RCC recommended further review and/or active case search at the national paediatric hospital to investigate the lower rates of AFP reporting. The RCC requested the next annual report to include further details on the vaccination of children in the floating population along the Mekong River, as well as a plan for the introduction of IPV.

3.3.2 Lao People’s Democratic Republic

The RCC applauded the active role of the NCC in retaining the country’s polio-free status. The RCC noted that silent areas had been on the decline since 2012 and that routine coverage was improving, but it also pointed out that coverage was still relatively low (78%), with 50% of districts below 80% and five districts not reaching 50%. While inclusion of OPV in JE campaigns in 2013 was helpful in boosting immunity, the RCC noted that further improvement of routine immunization was essential and that the national EPI review conducted in 2012 was a good first step. The RCC expressed concern that the stool adequacy rate for AFP cases had declined to 53%

and that no AFP case was reported from the capital area in 2013. Additionally, the RCC noted that AFP surveillance does not currently incorporate private clinics in urban areas.

The RCC recommended addressing immunity gaps and surveillance gaps in high-risk areas. The RCC suggested actions to improve AFP surveillance, including increasing reporting from the capital area, expanding the surveillance network to include private providers, and investigating the reasons for the low stool adequacy rate to identify where the most significant delays are taking place (such as patient care-seeking delays, physician reporting delays and/or incomplete investigation). The RCC encouraged national surveillance programme to conduct a national AFP surveillance review.

3.3.3 China

The RCC applauded the clear improvement in the annual progress report from year to year and the tremendous improvement in AFP surveillance motivated by the WPV outbreak, including refinement of the real-time, online AFP reporting system and improvement in the NPAFP rate. The RCC noted the cVDPV2 outbreak in 2011-2012 in Sichuan province and the detection of VDPVs in AFP cases that were not fully immunized, indicating the existence of pockets of low immunity; however, the RCC was satisfied that VDPV surveillance was sensitive and timely. The RCC appreciated the inclusion of an analysis of VAPP cases in the progress report for first time. The RCC also noted that 19% of reported AFP cases were excluded as non-AFP because they did not meet the case definition. The RCC acknowledged that the updated outbreak response plan had been finalized and commended initiation of actions in regards to IPV introduction.

The RCC recommended addressing immunity gaps and surveillance gaps in high-risk areas. For the next progress report, the RCC requested the inclusion of VAPP and AFP case definitions and a summary of the types of AFP cases reported that are not meeting the case definition. The RCC acknowledged the substantial effort put forth to perform a subnational coverage survey in 2012 and a national coverage survey in 2013. The RCC looks forward to the survey findings being included in the next progress report and considered in the development of the national endgame strategic plan. The RCC noted the publication of a *New England Journal of Medicine* article on the 2011 outbreak response, but encouraged the writing of additional articles on the 2011 outbreak for scientific literature, as well as an outbreak response reference document (manual) to be shared with other countries. The RCC acknowledged recent changes in laboratory definitions and indicators to conform to WHO standards, and encouraged complete implementation. The RCC encouraged regular sharing of environmental surveillance results with the WHO Regional Office.

3.3.4 Philippines

The RCC appreciated the honest and frank report that depicted the challenges faced by the Philippines. The RCC noted with empathy the severity of the devastation caused by Typhoon Yolanda (Haiyan), including severe loss of life, serious injuries and displacement of populations, as well as destruction of health facilities and other infrastructure, damage to cold chain equipment, and loss of health-care workers. The RCC acknowledged that programme challenges existed in both typhoon-affected and unaffected areas prior to the disaster, including a significant drop in immunization and AFP surveillance performance in 2013. The RCC highlighted that the disaster will have immediate and long-term implications for routine immunization, the upcoming MR campaign, and other activities in the polio endgame plan. The RCC noted the challenges of high staff turnover and competing priorities, and that there may be an additional temporary

decline in programme performance in the future. The RCC commended the continued high performance of the laboratory and efforts to introduce molecular ITD techniques in 2013.

The RCC welcomed the plan of the Philippines Department of Health to hold a special polio awareness event to update health leaders and stakeholders on the global polio situation and regional efforts to maintain its polio-free status and demonstrate the importance of immediately addressing immunity and surveillance gaps as part of the country's risk mitigation plan, with the support of partners. The RCC fully appreciated that the event had to be postponed due to the current disaster-response requirements.

The RCC recommended adopting creative solutions in this time of crisis to ensure that every opportunity is taken to maintain and increase the immunity of affected areas, including periodic, intensive campaigns with all EPI antigens occurring every three months in areas where health infrastructure was destroyed, and the use of volunteers. The RCC stressed that performance in the upcoming MR and OPV campaign is critical, and that the campaign should be made a point of emphasis for the programme, including planning, logistics, supervision and monitoring. The RCC encouraged targeted mitigation of immunization and AFP surveillance issues in high-risk areas, as determined by risk assessment. The RCC welcomed the preparation of a national polio endgame plan, as indicated in the NCC report, which should also reflect the current challenges faced after the typhoon.

3.3.5 Viet Nam

The RCC commended the actions taken in Viet Nam to address the previous recommendations of the RCC to improve programme performance. The RCC noted the decrease in the number of areas with <80% immunization coverage and the employment of active case searches in areas with low reporting in the south. The RCC noted with concern that some communities still have very low immunization coverage and AFP reporting. It was also noted that AFP cases found during the active case searches were excluded from surveillance reporting because they lacked residual paralysis, resulting in an elevated stool adequacy rate.

The RCC recommended addressing immunity gaps and surveillance gaps in high-risk areas. In consultation with WHO guidelines for AFP surveillance, the RCC advised re-examining the classification of AFP cases discovered through active AFP case searches as non-AFP due to no residual paralysis. Further, the RCC advised investigating the reasons clinicians were not initiating AFP cases reports. The RCC suggested considering coverage surveys or other supplementary approaches to verify the reported administrative coverage data. The RCC welcomed preparations for implementation of the national polio endgame plan, including steps towards domestic sIPV production.

3.3.6 Papua New Guinea

The RCC congratulated Papua New Guinea on increasing OPV coverage and NPAFP rates. The RCC appreciated other efforts as well, such as the EPI review conducted in October 2013, and the AFP surveillance review planned for December 2013. The RCC noted that the SMS project had encouraging results and could be a potential solution for other countries and areas. The RCC commended the initiation of discussions regarding compulsory vaccination requirements for people arriving by boat from polio-infected countries. The RCC noted concern about the continuing low OPV3 coverage at subnational level and decreasing proportion of AFP cases with adequate specimens. The RCC also expressed concern about the vaccination status of

migrants on the island of Manus, which has been silent for AFP reporting for five years. The RCC noted that the outbreak preparedness and response plan was last updated in 2007.

The RCC recommended addressing immunity gaps and surveillance gaps in high-risk areas. The RCC suggested conducting a review to identify reasons for high rates of inadequate specimens and to develop potential solutions. The RCC recommended using tOPV for OPV campaigns conducted before the switch to bOPV (April 2016) in order to increase and maintain type 2 immunity prior to the switch. The RCC recommended updating the outbreak preparedness plan and reviewing/updating it on an annual basis. The RCC wished to receive the detailed evaluation of the review of the impact of the SMS project on AFP surveillance, as it has potential applicability to other countries and areas. The RCC looked forward to receiving the results of 2012 and 2013 OPV campaigns.

3.3.7 Australia

The RCC commended the high-quality report and supplementary document, *Polio Surveillance System Review*, for their contributive value, informative details and major conclusions. The RCC applauded the programme for meeting all performance targets for vaccination coverage and surveillance. The RCC acknowledged the vigilance of the NCC and the establishment of working groups to overcome challenges. The RCC recognized the AFP surveillance review for its ability to engage physicians and inspire them to get involved in in the programme, which could be used as an example for other countries and areas. The RCC noted the expansion of environmental surveillance sites to include Perth.

The RCC supported the NCC recommendation of undertaking efforts to improve stool adequacy to meet WHO standards. The RCC requested regular reporting of AFP data to the WHO Regional Office, on at least a monthly basis.

3.3.8 Brunei Darussalam

The RCC commended Brunei Darussalam for its efforts remain polio-free through high polio immunization and high-quality AFP surveillance. The RCC was impressed by the Polio Points programme and acknowledged its value as a strategy for promoting student awareness of polio eradication. The RCC noted the switch to IPV in April 2012. The RCC commended measures taken to prevent polio importations, including requiring proof of polio vaccination for travellers coming to and from Pakistan.

The RCC supported continued vigilance towards immunization and AFP surveillance performance, as well as attention to potential sources of importation. The RCC suggested a yearly review of the polio outbreak response plan, and updating as needed. The RCC requested regular reporting of AFP data to the WHO Regional Office, on at least a monthly basis.

3.3.9 Japan

The RCC appreciated the comprehensive report from Japan. The RCC acknowledged the addition of environmental surveillance for polioviruses in July 2013. The RCC highlighted the drops in vaccination coverage prior to the switch to IPV and recognized an initial, informal positive report on IPV coverage by the NCC chair.

The RCC asked the NCC to share the formal results of catch-up activities that targeted children who missed OPV vaccination during 2011–2012, before the switch to IPV. Given

concerns of an immunity gap, the RCC asked to review the results of additional evaluations performed to document polio vaccine coverage during the transition period of 2011–2013, such as coverage surveys and serosurveys. The RCC requested the NCC to share, in the next report, the details of the poliovirus environmental surveillance, including the rationale, methodology, site selection, and schedule of specimen collection, as well as results. The RCC suggested reporting environmental surveillance results to the WHO Regional Office on regular basis.

3.3.10 Republic of Korea

The RCC commended the Republic of Korea on the excellent, concise report and the maintenance of a strong polio programme that met all performance targets for vaccination coverage and surveillance in 2012-2013. The RCC highlighted the immunization law for school entry implemented after the measles outbreak in 2000, which has encouraged stable coverage, as an example to other countries. The RCC noted that AFP surveillance reporting is from selected hospitals and is supplemented by enterovirus surveillance and environmental surveillance. The RCC noted that the importation response plan had been recently revised in 2012.

The RCC requested the NCC to share information on the hospital inpatient visits and catchment population in the next progress report so that the representativeness of AFP surveillance system would be understood.

3.3.11 Macao (China)

The RCC commended Macao (China) on maintaining high coverage and meeting performance targets for AFP surveillance. The RCC noted that Macao (China) is a hub for international travel, with 26 million visitors every year, and a potential risk of polio-importation due to this travel. The RCC noted with concern that only 10% of AFP cases reported were diagnosed as GBS, suggesting that other AFP cases may have been missed. Additionally, the RCC noted that other reported AFP cases were diagnosed as diseases that might not be AFP-compatible (e.g. viral encephalitis and synovitis).

The RCC recommended performing a retrospective review for AFP cases to assure that the cases being reported are true AFP cases, according to the WHO case definition. The RCC requested the next progress report to include additional information on travellers coming from endemic countries, if available.

3.3.12 Mongolia

The RCC commended Mongolia on the quality of the written report and presentation. The RCC recognized the efforts of the programme to maintain high standards for polio surveillance. The RCC commended its implementation of the RED strategy. The RCC noted a decline in AFP surveillance in 2013 that appears to be related to high staff turnover. The RCC noted with concern that Ulaanbaatar represents one third of population and is silent for reporting. Additionally, the RCC noted that some provinces have reported zero cases in the past four years.

The RCC supported conducting refresher training for staff as planned. The RCC recommended conducting targeted surveillance reviews in silent areas, such as Ulaanbaatar. The RCC requested clarification on the policy for polio vaccination of soldiers travelling to polio-endemic countries. If vaccination is not in place, the RCC encouraged Mongolia to adopt the WHO recommendation regarding vaccination of travellers to and from endemic countries.

3.3.13 New Zealand

The RCC commended New Zealand on the clearly written report and soundd presentation. The RCC appreciated that satisfactory immunization coverage was maintained, with no evidence of socioeconomic disparity. The RCC commended New Zealand on its efforts to achieve the target NPAFP rate. The RCC noted that AFP surveillance is improving with good cooperation between the paediatric surveillance unit and hospital paediatric neurology unit. The RCC noted the well-performing national laboratory network with an expected regional reference laboratory in Wellington. The RCC commended the engagement of the paediatricians and recognized the "NZ Pediatric Surveillance Unit" as a practical and useful solution for increasing NPAFP rates.

The RCC supported exploring additional ways to engage paediatricians and paediatric neurologists in surveillance reporting towards improving AFP surveillance performance. The RCC suggested conducting targeted AFP surveillance reviews in silent and under-performing areas.

3.3.14 Singapore

The RCC commended Singapore for the excellent report and for maintaining high coverage and AFP surveillance that met WHO standards. The RCC noted that OPV was changed to IPV in 2013 as part of a sequential schedule. The RCC also noted that Singapore welcomed an average of more than 5000 visitors from polio-endemic countries with no existing requirement for polio vaccination every year, which is a potential risk of importation.

The RCC recommended exploring the possibility of vaccination requirements for travellers from endemic countries, as supported by current recommendations in the 2010 *WHO Position Paper* and *International Travel and Health.* Given the recent evidence of WPV circulation among a highly IPV-vaccinated population in Israel, the RCC proposed considering continuation of the existing polio vaccination policy and schedule.

3.3.15 Hong Kong (China)

The RCC commended the thorough work done to maintain polio-free status in Hong Kong (China). IPV coverage has remained high and the WHO standard for AFP surveillance has been maintained. The RCC noted that a risk assessment for outbreaks following importation, which was conducted in 2011, found the risk to be low. The RCC also noted that the response plan was updated in 2011. The RCC highlighted that more than 550 000 persons from polio-endemic countries visit Hong Kong (China) each year. The RCC acknowledged that because Hong Kong (China) is adjacent to an OPV-using province and has massive international travel, environmental surveillance might provide new information.

The RCC recommended reviewing and updating the polio outbreak response plan. The RCC noted that, at this point, environmental surveillance is not a regional priority.

3.3.16 Malaysia

The RCC applauded Malaysia for its efforts to maintain polio-free status through high national immunization coverage and AFP surveillance that continued to meet performance standards. The RCC commended the NCC for the completeness and timeliness of AFP reporting. The RCC pointed out that despite meeting the coverage targets, Malaysia is still exposed to risk of polio importation due to the presence of foreign workers and students from polio-endemic

countries. The RCC noted with concern that Malaysia is considering dropping the OPV booster dose from the immunization schedule and moving to an IPV-only schedule. The RCC noted that the last response plan was updated in 2009-2010 (approved in 2011). The RCC acknowledged the challenge that the emerging anti-vaccine movement in Malaysia presents to the programme.

The RCC proposed continuing the existing polio vaccination policy and schedule, given the recent evidence of WPV circulation among a highly IPV-vaccinated population in Israel. The RCC recommended updating the importation preparedness and response plan.

3.3.17 Pacific island countries and areas

The RCC commended the excellent presentation and written report from the SRCC. The RCC recognized the challenges faced by the subregion due to the existence of scattered populations with competing priorities. The RCC noted high polio vaccine coverage but a decline in AFP surveillance following certification. The RCC encouraged advocating for continued support from health ministers. The RCC also acknowledged and supported the five reasons given for the challenges and the nine recommendations. The RCC noted the strategic addition of SRCC members from countries and areas that have had difficult situations and recognized that their involvement will be helpful in terms of fostering engagement and advocacy for those programmes. The RCC noted with concern some anecdotal evidence indicating that Phase I containment was not fully completed in every country and area of the subregion.

The RCC recommended addressing immunity gaps and surveillance gaps in high-risk areas. The RCC suggested exploring the possibility of videoconferences to allow a mid-year meeting of the SRCC. The RCC recommended comprehensive updating of the laboratory containment inventory. The RCC supported the current plans to introduce an IPV dose into vaccination schedules in 10 countries and areas. The RCC encouraged examining Papua New Guinea's experience with SMS-based AFP reporting and considering a demonstration project in the subregion.

3.4 Closing remarks

Dr Mark Jacobs, Director, Division of Combating Communicable Diseases at the WHO Regional Office, delivered the closing remarks on behalf of Dr Shin, WHO Regional Director, who had a necessary absence.

Dr Shin noted that he had been kept informed on the progression and discussions of the meeting. He congratulated the participants for their dedication while reviewing national surveillance programmes at this critical time for polio eradication.

Dr Shin took the opportunity to commend China again for its exceptional response to the 2011 polio outbreak, which resulted in 21 confirmed cases. He highlighted that the human and financial resources allocated to control this outbreak were massive. In the current environment with limited funds for public health interventions, this example served as an important reminder about the cost-effectiveness of prevention rather than outbreak response.

Dr Shin noted that the polio eradication programme made progress in the three endemic countries this year. The endgame strategic plan is a promising new strategy for the programme, but the poliovirus continues to show how countries and regions, even if polio-free for many years, remain vulnerable to importations. Dr Shin noted that the Horn of Africa countries, Israel, and

other parts of the Middle East are currently facing intense polio transmission that is consuming public health resources.

Dr Shin highlighted that countries and areas in the Western Pacific Region are at risk of a polio importation associated with population movements from infected countries. He pointed out that only vigilance demonstrated by certification-standard surveillance would ensure the timely detection of importations that will make a real difference in outbreak control. Dr Shin noted that it is crucial that polio eradication remain a national priority, regardless of the current polio-free status in the Region.

Dr Shin acknowledged that the world is entering the last stage of the polio eradication programme. Despite the ongoing risk of polio re-importation, he said that it is important to secure regional achievements and implement the endgame strategy. Dr Shin congratulated many countries that had already taken concrete steps towards implementation of this strategy.

Dr Shin committed the technical support of the Regional Office for Member States introducing IPV and subsequently transitioning to bivalent oral polio vaccine. Dr Shin hoped that NCC chairs would also play active roles in advocating for implementation of the endgame strategy. Dr Shin said he believed the Western Pacific Region would lead the successful implementation of the endgame strategy and provide an example to other regions.

Dr Shin extended his gratitude to all the ministries of health supporting polio eradication activities in this Region. In addition, he acknowledged important international partners, namely Rotary International, US CDC, UNICEF, the Government of Brunei Darussalam, the Government of Australia, the Government of Japan, and the Korean Foundation for International Healthcare for their continued support. Lastly, Dr Shin recognized the exceptional contributions of the RCC Chairperson, Professor Tony Adams, the Vice-Chairperson, Dr Nobuhiko Okabe, and the Rapporteur, Dr Aida Salonga.

ANNEX 1

NINETEENTH MEETING OF THE REGIONAL COMMISSION FOR THE CERTIFICATION OF POLIOMYELITIS ERADICATION IN THE WESTERN PACIFIC REGION
Manila, Philippines, 12-14 November 2013

TIMETABLE

Time	Tuesday, 12 November 2013	Time	Wednesday, 13 November 2013	Time	Thursday, 14 November 2013
08:30–09:00 09:00–09:30	REGISTRATION Opening • Welcome remarks by the Responsible Officer • Opening remarks by the Regional Director • Self-introduction, Election of Officers (Chair, Vice-Chair, Rapporteur) • Remarks by the Regional Certification Commission (RCC) Chairperson • Administrative announcements	09:00–10:30	6. 2 Group 2 presentation (10 minutes each and 10 minutes discussion) • Australia • Brunei Darussalam • Japan • Republic of Korea	09:30–10:00 10:00–10:20 10:20–10:40	7. Update of the polio laboratory network and orientation on laboratory containment in the Region 8. Preliminary findings on experience on enhancing acute flaccid paralysis surveillance in Papua New Guinea 9. Role of Regional Certification Commission (RCC) and National Certification Committee in the Endgame Strategic Plan
09:30–10:00	*GROUP PHOTO AND COFFEE BREAK*	10:30–11:00	*COFFEE BREAK*	10:40–11:10	*COFFEE BREAK*
10:00–10:20 10:20–10:40 10:40–10:50 10:50–11:10 11:10–11:30 11:30–11:50 11:50–12:00	1. Global update 2. Regional update Discussion 3. African Region: Update on key reservoir transmission 4. Eastern Mediterranean Region: Update on key reservoir transmission 5. South-East Asia Region: Update on certification process Discussion	11:00–12:00	Group 2 presentation (10 minutes each and 10 minutes discussion) *continuation* • Macao • Mongolia • New Zealand	11:10–11:30 11:30–12:00	10. Update on the Interregional Cross-border Meeting on Polio 11. Update on status of progress for country Endgame Strategic Plan of Action
12:00–13:00	*LUNCH BREAK*	12:00–13:30	*LUNCH BREAK*	12:00–13:00	*LUNCH BREAK*
13:00–15:00	6. Group presentations 6.1 Group 1 presentation (20 minutes each and 20 minutes discussion) • Cambodia • Lao People's Democratic Republic • China	13:30–14:40	Group 2 presentation (10 minutes each and 10 minutes discussion) *continuation* • Singapore • Hong Kong 6.3 Group 3 presentation (15 minutes each and 15 minutes discussion) • Malaysia	13:00–15:15 15:15–16:15 16:15–16:30	Closed working session 12. RCC conclusions and recommendations Closing
15:00-15:30	*COFFEE BREAK*	14:40–15:10	*COFFEE BREAK*		
15:30–17:30	Group 1 presentation (20 minutes each and 20 minutes discussion) *continuation* • Philippines • Viet Nam • Papua New Guinea	15:10–15:40	Group 3 presentation (15 minutes each and 15 minutes discussion) *continuation* • Pacific island countries and areas		

ANNEX 2

W O R L D H E A L T H ORGANIZATION | **ORGANISATION MONDIALE DE LA SANTE**

REGIONAL OFFICE FOR THE WESTERN PACIFIC
BUREAU REGIONAL DU PACIFIQUE OCCIDENTAL

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

Manila, Philippines
12–14 November 2013

LIST OF REGIONAL CERTIFICATION COMMISSION MEMBERS, TEMPORARY ADVISERS, PARTICIPANTS (NATIONAL CERTIFICATION COMMITTEE MEMBERS), OBSERVERS/REPRESENTATIVES AND SECRETARIAT

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