WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR THE WESTERN PACIFIC

REPORT

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

Hanoi, Viet Nam
14–19 November 2011

Manila, Philippines
October 2012
REPORT

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

Hanoi, Viet Nam
14–19 November 2011

Convened by:

WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR THE WESTERN PACIFIC

Not for sale

Printed and distributed by:

World Health Organization
Regional Office for the Western Pacific
Manila, Philippines

October 2012
NOTE

The views expressed in this report are those of the participants of the Seventeenth 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 World Health Organization.

This report has been printed by the World Health Organization Regional Office for the Western Pacific for the participants of the Seventeenth Meeting of the Regional Commission for the Certification of Poliomyelitis Eradication in the Western Pacific Region, which was held in Hanoi, Viet Nam, from 14 to 19 November 2011.
CONTENTS

1. INTRODUCTION ................................................................................................................... 1
   1.1 Objectives ..................................................................................................................... 1
   1.2 Organization ............................................................................................................... 1
   1.3 Opening ceremony ...................................................................................................... 1

2. PROCEEDINGS ..................................................................................................................... 3
   2.1 Global poliomyelitis status (as per Global Polio Eradication Initiative report to WHO Executive Board) .......................................................................................................... 3
   2.2 Regional status of maintaining poliomyelitis-free status ............................................ 5

3. CONCLUSIONS AND RECOMMENDATIONS .............................................................. 10
   3.1 General ....................................................................................................................... 10
   3.2 Country-specific conclusions and recommendations ................................................ 11

ANNEXES:

ANNEX 1 - POLIO IMMUNIZATION SCHEDULE
ANNEX 2 - TIMETABLE
ANNEX 3 - LIST OF PARTICIPANTS

Keywords:
Immunization / Poliomyelitis – prevention and control / Certification
1. INTRODUCTION

The Seventeenth Meeting of the Regional Commission for the Certification of Poliomyelitis Eradication (RCC) in the Western Pacific Region was held in Hanoi, Viet Nam, from 14 to 19 November 2011. The RCC continues to meet on an annual basis to review and support maintenance of poliomyelitis-free status and certification standard quality requirements and to fulfil its reporting mandate to the Global Certification Commission (GCC).

1.1 Objectives

(1) To review progress reports from all countries and areas on maintaining the poliomyelitis-free status and make recommendations on required action for maintaining the Region's poliomyelitis-free status.

(2) To help National Certification Committees (NCCs) and other relevant partners identify mechanisms for closing surveillance and immunization performance gaps and performing risk mitigation to keep the Region poliomyelitis-free.

(3) To advocate with traditional and new key partners to ensure the necessary resource requirements, as part of an interagency coordinating mechanism.

1.2 Organization

In order to have direct interactions with NCCs in key countries and allow RCC members to observe activities under way in Viet Nam for maintaining poliomyelitis-free status, the 17th RCC meeting was held in Hanoi. Meeting participants had the opportunity to observe and discuss programme implementation at health facilities in the area. The meeting also presented advocacy opportunities to garner support for maintaining the country's poliomyelitis-free status and subsequently for the National Immunization Programme (NIP).

The meeting was attended by seven RCC members, 18 NCC members and designates, 22 observers from NIPs and seven partner agencies, and eight WHO staff from Headquarters, regional offices and country offices. Annex 1 includes the meeting timetable, and Annex 2 contains a list of participants.

1.3 Opening ceremony

Dr Shin Young-soo, WHO Regional Director for the Western Pacific, conveyed his opening remarks through Dr Sergey Diorditsa, Team Leader of the Expanded Programme on Immunization (EPI), as he was unable to join due to previous commitments. Dr Shin extended his sincere thanks to the Government of Viet Nam for its hospitality and support for the meeting.

Dr Shin reminded meeting participants of the previous year’s commemoration of the Western Pacific Region being certified poliomyelitis-free for 10 years. While everyone had recognized the significance of this achievement, they were also aware that complacency could not be afforded. The recent emergence of poliomyelitis outbreaks in several previously poliomyelitis-free countries of the WHO European Region was a clear lesson.

Dr Shin noted that the Western Pacific Region had been reinfected in 2001. On 26 August, the Ministry of Health of China notified WHO about the detection of wild poliovirus cases in
southern Xinjiang. Genetic sequencing found the virus to be very closely related to the virus circulating in Pakistan. Once again, it was witnessed that infectious viruses, including wild poliovirus, do not recognize international borders. Anyone can be a carrier, spreading the virus along travel, trade and migration routes.

Dr Shin applauded the swift response of the Government of China, and noted how, under the leadership of Health Minister Chen Zhu, several large-scale response immunization activities had already been conducted. Surveillance had been heightened in the entire country, and supplemental immunization against poliomyelitis was done based on risk assessment. He noted that while the RCC meeting was taking place in Hanoi, another round of vaccination was being carried out for everyone under 40 years old in southern Xinjiang. Still, at the time of the meeting, the wild poliovirus had managed to paralyse 18 people. One person died, marking the first poliomyelitis death in the Region in more than 15 years.

Dr Shin highlighted that China’s very timely and rigorous response to the importation was largely based on a comprehensive national preparedness plan requiring the collaboration of different sectors of government and society. Subsequently, Dr Shin reminded the participants that readiness to tackle a wild poliovirus importation is essential. The nature of silent infections and subsequent spread of the virus from the time the first case of paralysis is seen does not allow delays in response measures.

Dr Shin said he was pleased that most countries in the Region had updated their wild poliovirus preparedness plans and conducted risk assessments to know where and how far an imported wild poliovirus could spread. Dr Shin reminded everyone to be on the alert, as progress towards global poliomyelitis eradication remained a mixed picture. While India had not reported any wild poliovirus since January 2011, Pakistan was seeing a surge of poliomyelitis cases. As of 2 November, 136 cases had been reported in 2011, a figure that was approaching the total number of cases in 2010, which was 144.

Dr Shin concluded that the poliomyelitis outbreak in China reaffirmed that control is not an option; the job of global poliomyelitis eradication must be finished and everyone must remain committed. Dr Shin recognized Australia’s commitment of AU$ 50 million to the Global Polio Eradication Initiative at the Commonwealth Heads of Government meeting in Perth in October 2011, which resulted in new pledges from Canada, Nigeria and the Bill and Melinda Gates Foundation. This new commitment came at a critical time.

Dr Shin expressed his hope that this meeting would allow the exchange of many ideas and experiences and reinforce partnerships to support national efforts to stay poliomyelitis-free. He extended his gratitude to all ministries of health – and those who continue to participate in poliomyelitis eradication activities – for their commitment and dedication. He included international partners, namely Rotary International, particularly its District 2650, the United Nations Children’s Fund (UNICEF), the Governments of Australia, Japan and the Republic of Korea, and Government of the United States of America through its Centers for Disease Control (US CDC) and Agency for International Development (USAID).
2. PROCEEDINGS

2.1 Global poliomyelitis status (as per Global Polio Eradication Initiative report to WHO Executive Board)

In 2008, the Sixty-first World Health Assembly adopted resolution WHA61.1, requesting the WHO Director-General to develop a new strategy to reinvigorate the fight to eradicate poliomyelitis. The ensuing Global Polio Eradication Initiative Strategic Plan 2010–2012 was subsequently launched in June 2010, and, in keeping with the guidance from the Executive Board, an Independent Monitoring Board (IMB) was established to monitor the situation by reference to the milestones in the Strategic Plan.

As of 8 November, cases of paralytic poliomyelitis due to wild polioviruses declined by 34% in 2011 compared with the same period in 2010 (505 cases compared with 767 cases). Cases due to the serotype 1 wild poliovirus (WPV1) declined by 35% (444 cases compared with 692), and cases due to the serotype 3 wild poliovirus (WPV3) declined by 18% (61 cases compared with 75 cases).

Among the four countries with endemic transmission of wild poliovirus, only India was on track to meet its end-2011 milestone of stopping virus circulation, with its most recent case having onset of paralysis on 13 January 2011. In Nigeria, 2011 saw a fourfold increase in cases (42 cases compared to 10 cases in the same period in 2010), with new cases in a number of northern states, especially Kano, Kebbi and Borno. Equally as alarmingly, Afghanistan and Pakistan suffered a 135% and 22% increase in cases, respectively, between the same periods in 2010 and 2011 (20 cases compared with 47 cases, and 111 cases compared with 136 cases, respectively). Of the four countries or areas with “re-established” poliovirus transmission, only southern Sudan was on track to meet the end-2010 goal, with its most recent case having onset of paralysis on 27 June 2009. Although Angola has seen a substantial decrease in new cases in 2011 compared with 2010, the country missed the end-2010 milestone and its most recent case had onset of paralysis on 7 July 2011. In Chad and the Democratic Republic of the Congo, however, intensive transmission continues, complicated by major outbreaks due to new importations of wild poliovirus in 2010.

Since January 2010, 19 countries have had outbreaks of poliomyelitis due to ongoing or new importations of wild poliovirus. One such outbreak, on the border between Kenya and Uganda, has continued for more than 12 months since confirmation of the index case. Twelve of the 19 outbreaks were stopped within six months of confirmation of the index case. Six outbreaks were continuing, but for less than six months at end-October 2011: the Central African Republic (2 cases), China (18), Côte d’Ivoire (35), Guinea (2), Mali (8) and Niger (1). All recent imported polioviruses in countries in the African Region were genetically linked to virus originating in northern Nigeria. The virus detected in China originated in Pakistan.

Since December 2010, the IMB has met quarterly and provided recommendations to the heads of the Global Polio Eradication Initiative’s spearheading partners and the Bill and Melinda Gates Foundation. In April 2011, the IMB assessed the goal of global eradication by end-2012 to be “at risk”, warning that “polio eradication will not be completed if it is in any sense a secondary priority”. The IMB underscored that the Global Polio Eradication Initiative needed greater priority focus of leaders.
Completing the eradication of polio is a global health emergency. It recommended that the World Health Assembly in May 2011 should consider “a resolution to declare the persistence of polio a global health emergency”. The Regional Committee for Africa in August 2011 adopted resolution AFR/RC61/R4, in which it urged Member States to declare any continued circulation of poliovirus or new infection a national public health emergency.

In October 2011, the IMB re-affirmed that “polio eradication needs to be treated as a global health emergency,” and that “polio simply will not be eradicated unless it receives a higher priority – in many of the polio-affected countries, and across the world”. Noting that the Global Polio Eradication Initiative faced a funding shortfall of US$ 535 million globally to the end of 2012, the IMB stated: “The funding gap needs to be filled, and polio eradication needs to achieve greater ownership and attention in the global political sphere.” The Board concluded: “We are convinced that polio can, and must be eradicated. We are equally convinced that it will not be eradicated on the current trajectory. Important changes in style, commitment and accountability are essential.” It highlighted issues at the global, cross-programme and country-specific levels that urgently needed to be addressed, and especially urged the Global Polio Eradication Initiative “to fundamentally examine accountability and its enforcement at all levels of the programme”.

At country level, the IMB emphasized the need for Nigeria “to demonstrably regain the commitment of political and traditional leaders”, for Pakistan to undertake a “fundamental strategy review”, and for all three countries with re-established transmission to enhance their efforts. Noting the continued occurrence of “unexpected outbreaks”, the Board underscored the detection of a case in Kenya as “particularly alarming”.

In response to the IMB’s report in October 2011, the Global Polio Eradication Initiative immediately initiated an extensive programme of work to strengthen its accountability processes, promote innovation in managerial and tactical processes as well as eradication tools, ensure critical real-time evaluation of eradication plans in key infected areas, deepen stakeholder engagement, and reduce outbreak risks. Recognizing the IMB’s assessment that there remains a high risk of missing the end-2012 milestone for interrupting all wild poliovirus transmission globally, and particularly in Pakistan, planning and budgeting for an extension of the intensified eradication effort into 2013 is under way. The updated plan for 2012–2013 and beyond will be informed by an independent programme review drawing on the lessons learnt in 2010–2011, the findings of the IMB, and the potential impact of additional eradication tools and tactics. The Global Polio Eradication Initiative continues to engage with the international development community in efforts to mobilize rapidly the necessary financing and prevent the cancellation of essential eradication activities.

In its November 2011 report, the Strategic Advisory Group of Experts on immunization endorsed the findings of the IMB, and “[stated] unequivocally that the risk of failure to finish global polio eradication constitutes a programmatic emergency of global proportions for public health and is not acceptable under any circumstances. Failure would not only rapidly lead to a major resurgence of the disease with thousands of children crippled for life or killed every year, but would also be seen as the most expensive public health failure in history. It would have disastrous effects on overall global immunization efforts and primary health care by seriously undermining their credibility with donors and stakeholders.” The Strategic Advisory Group of Experts on immunization emphasized that polio eradication should be the concern of every individual, group or organization working on immunization.

To accelerate the overall eradication effort, a new, more efficient strategy is being examined, which would combine the eradication of residual wild poliovirus transmission with the polio “endgame” strategy that had been designed to deal with vaccine-derived polioviruses,
but only after certification of wild poliovirus eradication. The new strategy is based on new diagnostic tests for vaccine-derived polioviruses, the availability of bivalent oral poliovirus vaccine, and new low-cost approaches for the use of inactivated poliovirus vaccine. The Strategic Advisory Group of Experts on immunization endorsed the central premise of the new strategy: in summary, the removal of Sabin polioviruses from immunization programmes should be phased, beginning with the particularly problematic Sabin type 2 poliovirus in the near term, followed by the remaining serotypes after certification of wild poliovirus eradication globally. This approach could facilitate the eradication of the remaining wild polioviruses types 1 and 3 (by replacing all trivalent oral poliovirus vaccine with the more efficacious bivalent oral poliovirus vaccine) and allow action to be taken to control any new type 2 circulating vaccine-derived polioviruses while global surveillance and response capacity is highest. Substantial planning is required for a globally synchronized switch from trivalent to bivalent oral poliovirus vaccine for routine immunization and, potentially, the introduction of one or more doses of inactivated poliovirus vaccine. In 2012, the Strategic Advisory Group of Experts on immunization will provide recommendations on the actual implementation of this strategy based on broad-based consultations across a number of work streams.

2.2 Regional status of maintaining poliomyelitis-free status

2.2.1 Immunization strategies

While importations of wild poliovirus cannot be prevented, the spread of the virus can, with high population immunity. The minimum requirement, as agreed at the World Health Assembly in 2006, is at least 80% coverage, universally reached throughout a country. The goal set by Global Immunization Vision and Strategy is at least 90% national vaccination coverage and at least 80% vaccination coverage in every district or equivalent administrative unit by 2010.

In 2010, five countries reported less than 80% coverage with three doses of oral polio (OPV3) vaccine (the Lao People’s Democratic Republic, Palau, Papua New Guinea, the Philippines, Solomon Islands) and five countries reported less than 90% coverage (Fiji, the Federated States of Micronesia, Samoa, Tuvalu, Wallis and Futuna).

Analysis of groups of districts in some countries (the Lao People’s Democratic Republic, Papua New Guinea, the Philippines) revealed that less than 80% of districts achieved at least 80% coverage with three doses of diphtheria-pertussis-tetanus vaccine (DPT3), which was used as proxy for OPV3 coverage. Likewise, analysis of immunization status of acute flaccid paralysis (AFP) cases, which represent a decent sample of the general population, suggests coverage problems in some countries as well as incomplete case investigation, as no information about the immunization status is available.

Following the 2010 risk assessment conducted by the WHO Regional Office for the Western Pacific, a risk mitigation plan was developed. The plan called for supplementary immunization as a first step (see Table 1), followed by activities to strengthen surveillance capacities. The plan is also being used to enhance resource mobilization.
Table 1. Supplementary immunization activities in selected countries in the Western Pacific Region

<table>
<thead>
<tr>
<th>Country</th>
<th>Activity Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>Two rounds of oral poliovirus vaccine (OPV) supplementary immunization activities (SIAs) in 2010 in high-risk communities in combination with measles SIAs</td>
</tr>
<tr>
<td>China</td>
<td>Two rounds OPV SIAs in high-risk areas</td>
</tr>
<tr>
<td>Lao People's Democratic Republic</td>
<td>Completed two rounds of phased nationwide OPV SIAs, in combination with Child Health Days and tetanus toxoid (TT) SIAs</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Planned OPV SIA in unregistered populations in Sabah (Borneo), following subnational risk assessment</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>Added OPV to phased nationwide measles SIA in 2010 and will do again in 2011</td>
</tr>
<tr>
<td>Philippines</td>
<td>OPV added to two rounds of TT SIAs in high-risk areas in 2011</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Two rounds of OPV SIAs in high-risk areas based on subnational risk assessment</td>
</tr>
</tbody>
</table>

At the time of the RCC meeting, 16 countries were using inactivated poliovirus vaccine (IPV), and 22 countries offered a poliomyelitis vaccine booster. With the recent complete shift from OPV to IPV in Malaysia, a special study on persistence of poliovirus isolation in environmental sampling had been conceptualized as a study in Brunei Darussalam on waning of mucosal immunity to poliovirus in view of the anticipated shift to IPV.

Phase III clinical trials for Sabin-based IPV production continued in China, and work has been ongoing in Japan. WHO conducted several consultations with China's Ministry of Health and the Chinese Center for Disease Control and Prevention (China CDC) on future options for polio immunization. A project of the Bill and Melinda Gates Foundation has recently commenced to support vaccine manufacturers in China to strengthen their production capacities and compliance with good manufacturing practices to satisfy the new requirements of their functional national regulatory authority. For OPV, the Bill and Melinda Gates Foundation appears to promote the production of liquid OPV that can be supplied to the domestic market and prepared for export in quantity and price that can provide more flexibility in the supply.

2.2.2 AFP/poliomyelitis surveillance

Complete and timely investigation of AFP cases remains essential to reliably detect polioviruses. In terms of key aspects of AFP surveillance quality, five countries did not reach the minimum non-polio AFP rate of 1 per 100 000 children under 15 years old in 2010 (Cambodia, the Republic of Korea, New Zealand, Papua New Guinea and Singapore). Adequate stool specimen collection rates of at least 80% were not reached by several countries.

Reporting of AFP cases in 2011 (as of 1 August) was alarmingly low in Cambodia, Papua New Guinea and the Philippines. WHO provided specific support to all three countries, and the RCC performed targeted AFP surveillance reviews in Cambodia and the Philippines, leaving detailed sets of recommendations.
China and the Philippines continued to participate in the WHO-led multi-country study on the detection of immunodeficiency-associated vaccine-derived poliovirus (iVDPV) in persons with primary immune deficiency, while Australia was preparing its own study for detection of chronic poliovirus infection in persons with a primary immune deficiency. Environmental surveillance continues in Australia and China and will commence in Malaysia.

2.2.3 Poliomyelitis laboratory network

The performance of the poliomyelitis network laboratories continued to be monitored through a well-established WHO accreditation system. As of May 2011, all 43 polio network laboratories, including subnational laboratories in China, had been fully accredited by WHO.

Timely detection and identification of wild polioviruses and vaccine-derived polioviruses (VDPVs) among the network laboratories is crucial to the Global Polio Eradication Initiative, allowing rapid response and preventing further spread of viruses. In this context, the new WHO algorithm for poliovirus isolation and identification has been introduced into 10 network laboratories to provide results of primary isolation within 14 days of receipt of samples in the laboratory; the previous requirement was 28 days. Also, results of characterization as a wild type or vaccine strain poliovirus by intratypic differentiation (ITD) testing are now available within seven days; this time limit was reduced from 14 days.

Being a poliomyelitis-free region for more than 10 years, network laboratories in the Western Pacific Region have been actively involved in supplementary enterovirus surveillance. In particular, China has established a very extensive hand, foot and mouth disease laboratory network based on existing polio and measles/rubella laboratories.

2.2.4 Risk assessment

The IMB of the Global Polio Eradication Initiative, established by the World Health Assembly, has asked for strengthening and standardization of risk assessments conducted in the Region, as well as quarterly updates on the outcomes and risk mitigation activities being implemented.

Led by the US CDC, consultations have been held to share experiences in risk assessment, to indicate the weaknesses of and problems associated with the assessments, to share best practices and apply a weight to each one, and to discuss the possibility of harmonizing assessments across regions. A special meeting in Atlanta, United States of America, in June 2011 highlighted that the fundamental risk of substantial transmission after wild poliovirus importation is the accumulation of susceptible persons, compounded by limitations in timely detection and weaknesses in health systems and infrastructure that increase the risk of transmission. The risk of wild poliovirus importation by transit patterns has also been considered in some assessments to date.

This supports the approach used by the WHO Regional Office for the Western Pacific, which consists of four components – immunity, surveillance, systems performance and threat/probability. The meeting confirmed that immunity should be given a weight of at least 50% (factor used by the Regional Office for the Western Pacific), and other regions are similarly assigning 30% to surveillance (another factor used by the Regional Office for the Western Pacific). A major outcome of the meeting was a list of core variables for inclusion in all assessments of countries undertaken by regional offices that could lead to a harmonized approach in the future; participants made a commitment to reassess risk in 2011 based on harmonized and modified methods. Using 2010 data, the Philippines was ranked as high risk and Viet Nam as low risk.
Subnational risk assessments have already been conducted in Brunei Darussalam, the Lao People’s Democratic Republic, Malaysia, Papua New Guinea and Viet Nam. Further support is particularly required in China and the Philippines. A simplified approach is used for the Pacific island countries and areas due to their small populations. Using the polio and maternal and neonatal tetanus (MNTE) risk assessment models, a district-level EPI/vaccine-preventable diseases risk assessment tool is being developed.

Updated importation preparedness plans were still to be finalized in China, Fiji, Malaysia, Solomon Islands, Vanuatu and Viet Nam. The Regional Office for the Western Pacific has developed a tool for systematic review and feedback.

2.2.5 Certification process

Since regional certification in 2000, the RCC has conducted annual meetings to review the situation and requirements in each Member State to stay polio-free. The RCC considers regular reviews of the polio component of NIPs and active oversight and advocacy of NCCs as equally important.

The RCC appreciated the attention given by the IMB to polio-free regions. In its April 2011 report, the IMB commented that, although maintaining polio-free areas has no global milestone to be monitored, it is critical that these areas maintain their polio-free status.

In this context, it is very necessary for polio-free neighbouring countries and countries with frequent population movements to collaborate jointly on mitigating the risk of wild poliovirus importation and subsequent transmission. In addition to regular information sharing, the WHO Regional Office for the Western Pacific coordinated with regional offices for the Eastern Mediterranean Region, the European Region and the South-East Asia Region on the conduct of an international workshop on polio eradication, co-hosted by China CDC, from 21 to 22 July 2011 in Urumqi, Xinjiang, China.

The objectives of the workshop were (1) to understand the recent epidemiology of poliovirus transmission in polio-affected countries, (2) to discuss experiences with preparedness for and response to wild poliovirus importation and aspects of risk mitigation, and (3) to identify areas of future collaboration in terms of information sharing, and immunization and surveillance activities. Participants came from polio-affected countries (China, India, Kazakhstan, Kyrgyzstan, Mongolia, Myanmar, Nepal, Pakistan, the Russian Federation, Tajikistan, Uzbekistan and Viet Nam); WHO Headquarters and regional offices for the Eastern Mediterranean, Europe, South-East Asia and the Western Pacific; and partner agencies (US CDC and USAID).

Recognizing that polio eradication is a global activity and that certification of polio-free status is not a guarantee, meeting participants summarized six major lessons learnt in 2010.

(1) Importations occur all the time and will continue to occur until polio eradication is achieved.

(2) The most vulnerable populations will be affected the most. Reported immunization coverage may not always represent true childhood population immunity. Even if accurate, subnational variation is what matters – “the weakest link” defines risk.
Rapid response is vital. Delays mean any outbreak could become catastrophic and fatal. It requires sensitive surveillance at all critical subnational levels. Every step in AFP surveillance needs to be timely. Early notification of suspicion is best.

Response to threats requires full political support. Cross-border coordination and cooperation are critical.

Outbreaks are much less expensive to prevent than to control and interrupt. Risk assessment should be undertaken by countries and provinces and should lead to risk reduction. Funding prevention requires local mobilization.

In a time of increasing globalization, infectious disease control efforts cannot focus just on the domestic situation. Working together to optimize early detection and response capacities is the key to protecting those areas that are poliomyelitis-free and to prevent the risk of a major outbreak.

Meeting participants agreed that it is important to define and develop mechanisms for timely sharing of information and data – for example, national and subnational coverage and surveillance data, subnational risk assessments in “bordering” geographic areas, and plans for immunization campaigns.

Workshop participants realized that strategies to immunize cross-border migrant populations are needed. It is critical to support each other with emergency vaccine needs, where possible. And where appropriate and feasible, it is good to combine risk assessments and use them for joint advocacy and resource-mobilization efforts.

Meeting participants also discussed cross-regional collaboration through professional exchanges of staff, delivery of training workshops, online collaboration, and resource sharing. Future meetings for polio-infected countries and workshops with all countries are also anticipated.

2.2.6 Poliomyelitis outbreak in China

The Ministry of Health, China, informed WHO on 26 August 2011 that WPV1 had been isolated from four young children, aged between four months and two years, in the Xinjiang Uyghur Autonomous Region in western China, with onset of paralysis between 3 and 19 July 2011. Since then, 14 further cases have been reported, including nine adult cases (19–31 years old), for a total of 18 cases.

The Ministry of Health reported the first disease-related death (during the current outbreak) at a press conference on 9 September; it occurred in one of the adult cases.

Twelve of the 18 cases are from Hotan Prefecture, five from Kashgar Prefecture and one from Bazhou Prefecture, all in southern Xinjiang Uyghur Autonomous Region. In terms of counties, in Hotan prefecture, three cases were reported from Hotan City, four cases from Moyu county, three cases from Lop county, and one case each from Hotan county and Yutian county. In Kashgar Prefecture, three cases were reported from Shache county, one case from Yingjisha county and one case from Bachuxian county. The case in Bazhou prefecture was reported from Qiemo county.

Genetic sequencing has determined that the WPV1 cases found in China are most closely related to virus circulating in Pakistan. The last wild poliovirus case in China was reported in
1999 and was due to an importation from India. The last indigenous poliomyelitis case occurred in China in 1994.

An outbreak response team has been formed, headed by the Minister of Health and involving senior representatives of the Ministry of Health, China CDC, provincial and prefecture governments and health departments. Extensive work has been conducted by the outbreak response team to identify the extent of circulation, and almost 150 health professionals from around China have been deployed to assist in improving immunization activities and to conduct a systematic active case search, contact sampling, healthy child sampling, and environmental sampling. In the early stages of the outbreak, AFP case and other samples from Xinjiang Uyghur Autonomous Region were sent directly to the national laboratory in Beijing for testing. Since early October, however, testing has been resumed at the provincial poliomyelitis laboratory, which is fully accredited under WHO standards. The laboratory is applying real-time reverse-transcriptase polymerase chain reaction (rRT-PCR), with confirmation by cell culture.

At the request of the Chinese Government, WHO has been providing technical support to the outbreak response team through its country office in China and by sending representatives from WHO Headquarters and the Western Pacific Regional Office. WHO has been asked to provide support to the outbreak response team specifically on conducting risk assessments and implementing high-quality response immunization. Representatives from WHO Headquarters and the Regional Office visited the affected region in September and October and returned in November to monitor the next round of vaccination. The WHO Regional Office representative stayed in China for several weeks.

The Ministry of Health conducted an initial province-wide response vaccination campaign from 8 to 12 September, vaccinating more than 4 million children. Six of the 14 prefectures in the province, including the provincial capital of Urumqi, targeted children under 15 years of age, while the other prefectures targeted children under five years of age. A further round of vaccination for the same age groups was carried out from 8 to 12 October. Vaccination campaigns observed by WHO representatives were of high quality.

An additional vaccination round, this time targeting around 1 million people aged 15–39 years old, has been carried out in Hotan since 13 September. Vaccination targeting approximately 4.5 million people aged 15–39 years old in other prefectures in southern Xinjiang (Aksu, Bazhou, Kashgar and Kezhou prefectures) was held from 23 September onwards.

A third round of immunization, aiming to vaccinate all persons previously targeted and using domestically produced monovalent OPV, will be conducted from 15 to 22 November 2011 in Xinjiang Uyghur Autonomous Region.

3. CONCLUSIONS AND RECOMMENDATIONS

3.1 General

The RCC expressed its concern about the global poliomyelitis eradication situation and the mixed progress, and generally concurred with recent conclusions of the IMB of the Global Polio Eradication Initiative. The RCC emphasized how further delays in reaching global goals would have significant implications for the Western Pacific Region in terms of resource mobilization (money, staff, commitment), advocacy and communication, and development and implementation of mid-term plans. The RCC therefore requested the WHO Secretariat to update
the Regional Strategic Plan 2008–2012, in close consultation with Member States and ideally for review at the next RCC meeting.

Based on country reports, the RCC concluded that the Western Pacific Region (outside China) had remained free of circulating poliovirus. However, maintenance of the status could not be taken for granted, mainly due to the alarming situation in Pakistan, further delays in global eradication, continued immunization coverage gaps in several countries and areas in the Region, decreasing awareness of objectives and requirements of AFP surveillance, alarmingly low AFP surveillance performance in some countries and vulnerability in older age groups.

The RCC commended the risk assessments conducted by EPI of the WHO Regional Office for the Western Pacific and countries as well as the activities conducted and/or planned to reduce immunity gaps, but it also stressed that comprehensive action needs to be taken to improve surveillance quality. Plans for supplementary immunization appear comprehensive, but integrating OPV in other SIAs and health interventions should continue. Successful approaches for reliable identification of high-risk communities as well as failures and achievements should be widely shared. Plans to address surveillance challenges are urgently required; this should include performance desk reviews and in-country field reviews, as appropriate.

As the RCC considers preparedness for wild poliovirus importation to be essential, it appreciated that most countries had updated their preparedness plans but also noted the great diversity among them. The RCC therefore requested the WHO Secretariat to conduct a systematic review of all plans using a template and provide detailed feedback to all countries.

In terms of the poliomyelitis outbreak in China, the RCC concluded a serious poliomyelitis (WPV1) outbreak in the southern Xinjiang Uyghur Autonomous Region, with extensive transmission in Hotan, Kashgar and Bazhou prefectures among younger age groups (<15 years) and adults (>15 years). The RCC commended the comprehensive investigation and vigorous, extensive response activities as well as the strong leadership demonstrated by the Chinese Government. The RCC considered it too early to determine if the outbreak was under control, as consideration for interruption of transmission requires at least six months of sensitive surveillance after the most recently confirmed case. Consideration for poliomyelitis-free status requires 12 months of sensitive surveillance after the most recently confirmed case.

After having discussed the risk for many years, the vulnerability of the Western Pacific Region was confirmed by China’s poliomyelitis outbreak, following wild poliovirus importation from Pakistan. The outbreak provided important lessons on consequences of poliovirus importations into countries that have been poliomyelitis-free for a long time. Due to the epidemiology changing over time, it could be observed – as was the case in poliomyelitis outbreaks following importations in Tajikistan and Congo in 2010 – that adolescents and adults are also affected. Outbreaks affecting larger age groups are more difficult to control and have higher resource requirements. Also, due to increased disease severity in adults, fatality rates are higher.

3.2 Country-specific conclusions and recommendations

The RCC sincerely thanked all NCCs and the Subregional Certification Committee (SRCC) for the Pacific island countries and areas for their continued oversight of and active involvement in keeping their respective countries poliomyelitis-free. The RCC considered NCC and SRCC efforts as crucial and significantly contributing to the overall goal of ridding the world from poliomyelitis.

3.2.1 Australia
The RCC commended Australia for its continued efforts to maintain sensitive poliomyelitis surveillance. While AFP surveillance generally remains the gold standard, the RCC recommends combining it with enterovirus and environmental surveillance as a realistic approach to address chronic issues with AFP surveillance.

The RCC applauded Australia for its continued financial support to the Global Polio Eradication Initiative and the special contribution made in 2011.

3.2.2 Brunei Darussalam

The RCC commended Brunei Darussalam for its policy on poliomyelitis immunization requirements for persons arriving from poliomyelitis-affected areas.

The RCC strongly endorsed such approaches in compliance with the recent World Health Assembly resolution.

The RCC applauded Brunei Darussalam for its continued financial support to the Global Polio Eradication Initiative.

3.2.3 Cambodia

The RCC concurred with the conclusions and recommendations made by the NCC in the 2011 annual progress report and shared the NCC’s concerns about the country’s high-risk status.

The RCC appreciated the report’s inclusion of a subnational risk assessment but noted concern over the low performance levels in Phnom Penh, specifically for AFP surveillance in 2010 and 2011 and reported OPV3 coverage in 2010, given the history of circulating vaccine-derived poliovirus (cVDPV) in the past.

While the RCC welcomed the integration of OPV in the 2012 measles SIAs, it believed that efforts must continue to close subnational routine immunization gaps focusing on risk analysis results.

The RCC recognized that AFP reporting has begun to stabilize, but it considered performance levels still too low. It remained concerned about performance variance among provinces, as it appears the system would not necessarily identify imported wild poliovirus importation or VDPV emergence in a reliable and timely fashion.

3.2.4 China

The RCC thanked the NCC and the China CDC for the comprehensive report on poliomyelitis eradication activities, including the wild poliovirus outbreak investigation and response activities.

The RCC commended China for demonstrating strong leadership and expending extensive and prompt efforts in investigation and response – including at the China and provincial CDC laboratories – and for involving WHO Regional Office and country office staff and WHO consultants in these activities.

The RCC also commended China for the continued risk mitigation activities undertaken since certification, which limited the size and extent of the poliomyelitis outbreak, and the subsequent risk assessments and actions taken since the outbreak was identified to further contain it.
The RCC highly appreciated the NCC for its direct, intensive consultation with the Ministry of Health and China CDC on the management of the outbreak investigation and response activities.

3.2.5 Hong Kong (China)

The RCC commended Hong Kong (China) for updating the preparedness plan for imported wild poliovirus or cVDPV and having a respective contingency plan in place.

In this context, the RCC also appreciated the conduct of comprehensive risk assessment.

3.2.6 Japan

Until recently, OPV coverage and population immunity to poliomyelitis have remained high, but the RCC viewed with serious concern the recent emergence of gaps in OPV coverage in some communities in Japan. The immunity gaps, which first appeared in some populations in Japan during the period before licensure of an IPV developed in the country, may continue to widen until IPV becomes available. This situation, for the first time in 40 years, places growing numbers of unimmunized Japanese children at risk from poliomyelitis.

The RCC therefore strongly encouraged the national programme to carefully analyse the occurrence and magnitude of polio immunization coverage gaps, and to provide rapid and comprehensive catch-up vaccination to ensure that all eligible children are fully and timely protected against poliomyelitis.

The RCC stressed the importance of finalizing the draft preparedness plan for detection of and response to wild poliovirus importation and cVDPV in Japan and asked to receive a copy at its next meeting.

3.2.7 Lao People’s Democratic Republic

The RCC considered the recommendations made by the NCC in the 2011 annual progress report as appropriate to support risk mitigation but considered it still necessary for the NIP to formulate more specific actions.

The RCC welcomed the integration of OPV in the November 2012 measles SIAs and noted the plan for polio National Immunization Days in 2014. At the same time, efforts should continue to close subnational routine immunization gaps focusing on risk analysis results.

The RCC noted a declining trend in AFP reporting and performance variance among provinces; further attempts should be made to reverse the situation and focus on high-risk provinces first.

The RCC noted the updated national plan of action on preparedness and response to wild poliovirus importation and cVDPV but still recommended official approval by the Ministry of Health.

3.2.8 Malaysia

The RCC commended Malaysia for updating the preparedness plan for imported wild poliovirus or cVDPV and having a respective contingency plan in place.
The RCC also appreciated in this context the conduct of a comprehensive subnational risk assessment and subsequent mitigation activities to address areas of risk identified.

The RCC noted the plan of introducing environmental surveillance in key areas and is interested in further developments.

3.2.9 Mongolia

The RCC applauded the many actions, trainings and awareness campaigns undertaken for strengthening AFP surveillance.

The RCC commended Mongolia for closely monitoring the implementation of its national preparedness plan for imported wild poliovirus and having a comprehensive contingency plan in place.

3.2.10 New Zealand

The RCC noted the ongoing discussions on the viability of AFP surveillance and the plan to continue surveillance until the end 2012, when a review of the system would be conducted. The RCC looked forward to updates on the developments.

The RCC commended New Zealand for introducing “improving immunization coverage” as one of the health targets and noted that 95% FIC for two-years-olds should be achieved by July 2012. The RCC would appreciate an update on the achievements in the next report.

3.2.11 Pacific island countries and areas

The RCC concurred with the conclusions and recommendations of the SRCC. The RCC concluded that as it is unlikely that AFP surveillance quality will significantly improve in the near future, universally high population immunity is particularly critical to protect against the spread of an imported wild poliovirus; therefore, every SIA opportunity to add poliomyelitis vaccine should be used if coverage with three doses is below 90% and should be supported by all partners concerned.

3.2.12 Papua New Guinea

The RCC concurred with the NCC’s conclusions and concerns about the continued problems with AFP reporting and investigations and the wide inter-provincial and inter-district variation in polio routine immunization coverage.

In this context, the RCC appreciated the conduct of a comprehensive subnational risk assessment but stressed that it must lead to subsequent mitigation activities to address areas of risk identified.

Thus, the RCC fully endorsed the plans of integrating OPV in other SIAs as much as possible and asked to receive updates in the next annual progress reports.

The RCC supported the NCC recommendation to review and update the national action plan for detection of and response to wild poliovirus importation.
3.2.13 Philippines

The RCC remained very concerned about the real risk of the Philippines suffering a large polio outbreak should wild poliovirus be imported or cVDPV re-emerge. This concern is due to continued subnational immunization coverage gaps, which in some areas are substantial, as indicated in the report’s listing of provinces with the most un-/under-immunized infants.

Therefore, the RCC recommended expanding the laudable subnational risk assessment to include numbers and accumulation of susceptible populations, estimates of unregistered populations, e.g. in urban slum areas, travel links with polio-affected countries and visitor analysis for such places.

While the RCC appreciated the integration of OPV in the tetanus toxoid SIAs in 10 high-risk areas, further SIAs in other areas at particular risk for polio should be considered. Due to large birth cohorts and absence of a polio SIA since 2002, vulnerability among children may be greater than coverage figures suggest. Experience in other poliomyelitis-free countries has demonstrated that wild poliovirus transmission is primarily sustained in unprotected children before also infecting adults.

The RCC remained very concerned that the findings and recommendations made at the end of the targeted AFP surveillance review, which it had been jointly conducted with the Department of Health and WHO in November 2010, had not led to significant performance improvements. This further increases the threat of a large polio outbreak in the Philippines as wild poliovirus or cVDPV could circulate widely before being detected.

3.2.14 Singapore

The RCC commended Singapore for updating the preparedness plan for imported wild poliovirus or cVDPV and having a comprehensive contingency plan in place.

The RCC noted the relatively low non-polio AFP rate in 2011 and encouraged the programme to assure through the various validation mechanisms in place that no under-reporting is occurring.

3.2.15 Viet Nam

The RCC concurred with the NCC’s conclusions about the challenges of generating continued awareness on complete and timely AFP reporting and investigation requirements. It also noted that several provinces did not reach the minimum AFP rate in 2010 and for the first nine months of 2011. This is a concern, particularly in large population centres like Hanoi and Ho Chi Minh City, and needs to be rapidly addressed.

The RCC welcomed the goal of achieving universally high OPV coverage at subnational levels and noted the recommendations on coverage variance in different regions of the country, which should be addressed by aiming at achieving district coverage levels as established in the a Global Immunization Vision and Strategy.

The RCC expressed sincere gratitude to the Government of Viet Nam for generously having hosted the 17th RCC meeting. The RCC equally appreciated the opportunities to observe immunization sessions at local health centres and have detailed discussions with health staff.
### TENTATIVE TIMETABLE

<table>
<thead>
<tr>
<th>Time</th>
<th>Wednesday, 16 November 2011</th>
<th>Time</th>
<th>Thursday, 17 November 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30–09:00</td>
<td>REGISTRATION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>09:00–10:00</td>
<td>Opening</td>
<td>08:00–08:15</td>
<td>Recap of day 1</td>
</tr>
<tr>
<td></td>
<td>Opening remarks by the Responsible Officer</td>
<td>08:15–08:00</td>
<td>5.1 2011 polio outbreak in China following importation and response measures taken</td>
</tr>
<tr>
<td></td>
<td>Opening remarks by the Regional Director (to be delivered by Team Leader, Expanded Programme on Immunization)</td>
<td>09:00–09:15</td>
<td>5.2 Tracing the movements of the virus — sequence analysis</td>
</tr>
<tr>
<td></td>
<td>Welcome remarks by the Government of Viet Nam</td>
<td>09:15–09:45</td>
<td>5.3 Discussion and round table on responses of other Western Pacific Region countries</td>
</tr>
<tr>
<td></td>
<td>Self-introduction, Election of Officers (Chair, Vice-Chair, Rapporteur)</td>
<td>09:45–09:55</td>
<td>5.4 Response activities in neighbouring European Region countries</td>
</tr>
<tr>
<td></td>
<td>Remarks by the Regional Certification Commission (RCC) Chairperson</td>
<td>09:55–10:15</td>
<td>5.5 Activities in maintenance phase after 2010 importation related polio outbreaks in the European Region</td>
</tr>
<tr>
<td></td>
<td>Administrative announcements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00–10:30</td>
<td>GROUP PHOTO AND COFFEE BREAK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30–10:45</td>
<td></td>
<td>10:15–10:45</td>
<td></td>
</tr>
<tr>
<td>10:45–11:05</td>
<td></td>
<td>10:45–11:15</td>
<td>6.1 Latest global developments and implications for the Western Pacific</td>
</tr>
<tr>
<td>11:05–11:25</td>
<td></td>
<td>11:15–11:30</td>
<td>6.2 UNICEF polio vaccine supply management</td>
</tr>
<tr>
<td>11:25–11:45</td>
<td></td>
<td>11:30–12:00</td>
<td>6.3 Country experiences in post eradication phase - shift from oral polio vaccine (OPV) to IPV and implications for national immunization schedule</td>
</tr>
<tr>
<td>11:45–12:00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00–12:30</td>
<td>Discussion</td>
<td>12:00–12:30</td>
<td></td>
</tr>
<tr>
<td>12:30–13:30</td>
<td>LUNCH BREAK</td>
<td>12:30–13:30</td>
<td></td>
</tr>
<tr>
<td>13:30–13:50</td>
<td></td>
<td>13:30–13:50</td>
<td>7.01 Potential areas for cross-country and cross-regional collaboration</td>
</tr>
<tr>
<td>13:50–14:10</td>
<td></td>
<td>13:50–14:10</td>
<td>7.02 The strength in partners — UNICEF’s work in communication and social mobilization</td>
</tr>
<tr>
<td>14:10–14:50</td>
<td></td>
<td>14:10–15:00</td>
<td>7.3. Nearly eradicated is not good enough — what partners will do differently to achieve the global goal</td>
</tr>
<tr>
<td>15:00–15:30</td>
<td></td>
<td>15:00–15:30</td>
<td>8. Draft main conclusions and recommendations by the RCC</td>
</tr>
<tr>
<td>15:30–15:45</td>
<td></td>
<td>15:30–15:45</td>
<td>Closing ceremony</td>
</tr>
<tr>
<td>15:40–15:40</td>
<td>COFFEE BREAK</td>
<td>15:45–16:15</td>
<td></td>
</tr>
<tr>
<td>16:00–16:15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:15–17:00</td>
<td></td>
<td></td>
<td>9. Closed session of RCC with China Team</td>
</tr>
<tr>
<td>17:10–17:30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18:30</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SEVENTEENTH MEETING OF THE REGIONAL COMMISSION FOR THE CERTIFICATION OF POLIOMYELITIS ERADICATION IN THE WESTERN PACIFIC REGION

Hanoi, Viet Nam
16-18 November 2011

LIST OF PARTICIPANTS

1. REGIONAL CERTIFICATION COMMISSION MEMBERS

Dr Anthony I. Adams, Chairman, Regional Certification Commission, No. 6/2-4 Chapman Crescent, Avoca Beach, New South Wales 2251, Australia, Telephone: +61 2 4382 6516, E-mail: aarr@netspeed.com.au

Dr Nobuhiko Okabe, (Vice-Chairman, Regional Certification Commission), Director, Infectious Disease Surveillance Center, National Institute of Infectious Diseases, 1-23-1 Toyama Shinjuku Tokyo 162-8640, Japan, Telephone: +81 3 5285 1111 (ext. 2501), Facsimile: +81 3 5258 1129 E-mail: okabenob@nih.go.jp; okabenob@aol.com

Dr Olen M. Kew, Chief, Molecular Virology Section, Division of Viral Diseases, Centers for Disease Control and Prevention, 1600 Clifton Road, Atlanta, GA 30333, United States of America, Telephone: +1 404 639 3940, Facsimile: +1 404 639 4011, E-mail: omk1@cdc.gov

Professor Nguyen Dinh Huong, Health Policy Advisor, Viet Nam Red Cross Society, 104 C10 Giang Vo. Badinh, Hanoi, Viet Nam, Telephone: +84 4 846 3601/4376, Facsimile: +84 4 771 6608, E-mail: ngdhuonghn@yahoo.com.vn

Dr Aida M. Salonga, Director, Institute of Child Health and Human Development, National Institute of Health, University of the Philippines –623 Pedro Gil Street, Ermita, Manila, Philippines Telephone: +63 2 872 8278 (local 2405), Facsimile: +63 2 525 4996, E-mail: aida.salonga@yahoo.com

Dr Steven Gary Fite Wassilak, Medical Epidemiologist, Global Immunization Division, Centers for Disease Control and Prevention, Mailstop MS-E05, Clifton Road, Atlanta, GA 30333, United States of America, Telephone: +1 404 639 1867, Facsimile: +1 404 639 8573, E-mail: sgw1@cdc.gov

Dr Hui Zhuang, Professor, Department of Microbiology, Beijing Medical University, 38 Xue-Yuan Road, Haidian District, Beijing 100083, People’s People’s Republic of China, Telephone: +8610 8280 1617, Facsimile: +8610 8280 1617, E-mail: zhuangbmu@126.com
2. PARTICIPANTS  
(NATIONAL CERTIFICATION COMMITTEE MEMBERS – DESIGNATES)

AUSTRALIA  
Dr Bruce Thorley, Senior Medical Scientist, Polio Reference Laboratory 
Epidemiology and Public Health Division, Victorian Infectious Diseases 
Reference Laboratory, 10 Wreckyn Street, North Melbourne, Victoria 3051 
Telephone: +61 3 9342 2607, Facsimile: +61 3 9342 2665, 
E-mail: bruce.thorley@mh.org.au

BRUNEI DARUSSALAM  
Dr Hajah Rahmah Haji Md Said, Director General, Health Services 
Ministry of Health, Commonwealth Drive, Jalan Menteri Besar, Bandar 
Seri Begawan BB3910, Telephone: +67 3 238 1640, 
Facsimile: +67 3 238 2032, E-mail: rahmahms@gmail.com

Dr Yung Chee Tee, Child Health Program Manager, Department of Health Services, Ministry of Health, P.O. Box 201, Jalan Menteri Besar 
Bandar Seri Begawan 8670, Telephone: +67 32 878 6111, 
Facsimile: +67 32 381 980, E-mail: cheetee@yahoo.com

CAMBODIA  
Dr Sok Touch, Director, Communicable Disease Control Department 
Ministry of Health, #151-153, Kampuchea Krom Avenue, Phnom Penh 
Telephone: +85 5 12 856848, Facsimile: +85 5 882317 
E-mail: touch358@moh.gov.kh

CHINA  
Dr Hou Yunde, Chairman, Documentation Committee for the Eradication of Poliomyelitis in China, Institute of Viral Disease Control, 100 Ying Xin Jie, Xuan Wu Qu, Beijing 100050, Telephone: +86 10 64519566 
E-mail: houyd20022003@yahoo.com.cn

Dr Wen Ning, Assistant Research, 27 Nanwei Lu, Xuanwu District 
Beijing 100050, Telephone: +86 10 6302 7946 (ext. 2), 
E-mail: Ning_Wen71@hotmail.com

Dr Zhang Yong, Associate Professor, Polio Reference Laboratory, 
Chinese Center for Disease Control and Prevention, Beijing 102206, China 
Telephone: 0086-10-58900183, Facsimile:0086-10-58900184 
Email: yongzhang75@sina.com

Prof Zhao Kai, Senior Researcher and Advisor, Beijing Biological Products Institute, No. 4 Sanjianfan, Chaoyang District, Beijing 100024 
China, Telephone: (8610) 6572 56627, Facsimile: (8610) 65762404 
Email: zhaok@yeah.net

HONG KONG (CHINA)  
Professor Lau Yu Lung, Doris Zimmern Professor in Community, Child Health, Chair Professor and Head, Department of Paediatrics and Adolescent Medicine, Associate Dean (Research), Li Ka Shing Faculty of Medicine, The University of Hong Kong, Queen Mary Hospital, 102 Pokfulam Road, Hong Kong, Telephone: +85 2 2255 4481 
Facsimile: +85 2 2855 1523, E-mail: lauylung@hku.hk

JAPAN  
Dr Tatsuo Miyamura, Emeritus Director-General, National Institute of Infectious Diseases, 1-23-1 Toyama Shinjuku, Tokyo 162 0052 
Japan, Telefax: +81 3 3316 5988, E-mail: Tmiyam@aol.com
LAO PEOPLE'S DEMOCRATIC REPUBLIC  
Dr Samlane Phompida, Director, Center for Malariology, Parasitology and Entomology, Ministry of Health, Km 3, Thadeua Road, Vientiane  
Telephone: +856 21 214040; 252623, Facsimile: +856 21 218131  
E-mail: p.samlane@gmail.com

MALAYSIA  
Dato' Dr Hasan bin Abdul Rahman, Director General of Health (Public Health), Ministry of Health Malaysia, Level 12, Block E7, Complex E, Federal Government Administrative Centre, 62590 Putrajaya  
Telephone: +60 3 8883 2544, Facsimile: +60 3 8889 5601  
E-mail: hasar@moh.gov.my

MONGOLIA  
Dr Janchiv Oyunbileg, General Director, Public Health Institute  
Peace Avenue – 17, Ulaanbaatar – 49, Telephone: +976 11 458645  
E-mail: jobileg@gmail.com

NEW ZEALAND  
Dr Stephen T. Chambers, Infectious Disease Physician, Christchurch Hospital, Private Bag 4710, Christchurch, Telephone: +64 3 364 0951  
E-mail: steve.chambers@cdhb.govt.nz

PAPUA NEW GUINEA  
Professor John Vince, Professor of Child Health, School of Medicine and Health Sciences, P.O. Box 5255, Boroko, Telephone: +67 5 311 2626  
Facsimile: +67 5 325 0809, E-mail: johndvince@gmail.com

PHILIPPINES  
Dr Nina G. Gloriani, Dean, University of the Philippines Manila College of Public Health, No. 625 Pedro Gil St., Ermita, Manila  
Telephone: +63 2 524 2703, Facsimile: +63 2 521 1394  
E-mail: ninagloriani@gmail.com

REPUBLIC OF KOREA  
Professor Jin Han Kang, Chairperson of DTP and Polio Committee  
Korea Centers for Disease Control and Prevention, 505 Seoul St. Mary Hospital, Seoul, Republic of Korea, Telephone: +02-2258-6183  
Facsimile: +02-537-4544, E-mail: kjhan@catholic.ac.kr

SOUTH PACIFIC (FIJI)  
Dr Adi Lisikoveni Vesikula Tikoduadua, Consultant Pediatrician, Department of Paediatrics, Commonwealth Memorial Hospital Box 115, Suva, Telephone: +67 9 992 5082, Facsimile: +67 9 330 3232  
E-mail: liztiko@gmail.com

VIET NAM  
Prof Le Duc Hinh, Professor of Neurology, Department of Neurology, Bach Mai Hospital, Hanoi, Viet Nam, Telephone: (04) 37-761254  
Facsimile: (844) 38-691607, Email: hunganhvatcoxnk@gmail.com

4. OBSERVERS

DEPARTMENT OF HEALTH (HONG KONG)  
Dr Chan Chi-wai Allen, Senior Medical and Health Officer (Surveillance Section), Room 452, Centre for Health Protection, 147C Argyle Street Kowloon, Hong Kong, Telephone: +85 2 2125 2230, Facsimile: +85 2 2711 0927, E-mail: allen-chan@dh.gov.hk

INTERNATIONAL MEDICAL CENTER JAPAN  
Dr Masahiko Haciya, Senior Scientist, International Medical Center Japan 1-21-1 Toyama, Shinjuku-ku, Tokyo 162 8655, Japan, Telephone: +81 (3) 3202 7181, Facsimile: +81 (3) 3202 7364  
E-mail: Kato.Seiji@jica.go.jp
Dr Mitsuhiro Ushio, Executive Technical Advisor to the Director-General of the Human Service Department, Japan International Cooperation Agency, Nibancho Center Building, 5-25, Niban-cho, Chiyoda-ku, Tokyo 102-8012, Japan, Telephone: +81-3-5226-8305, Facsimile: +81-3-5226-6341, Email: ushio.mitsuhiro@jica.go.jp

Ms Dao Thi Khanh, Program Coordinator of JICA Vietnam, 16F, Deaha Business Center, 360 Kim Ma Street, Hanoi, Viet Nam, Telephone: (84-4)-38315005-8, Facsimile: (84-4)-38315009, Email: Dao-ThiKhanh@jica.go.jp

Dr Lee Duk Hyoung, Director of Disease Prevention Center, Korea Centers for Disease Control and Prevention, Osong Health Technology Administration Complex, Chungbuk-do, Korea 363-951, Telephone: +82-43-719-7300, Facsimile: +82-43-719-7339, Email: leedukh@korea.kr

Mr Kim In, Resident Representative, Korea International Cooperation Agency, Viet Nam Office, 7th/F, Daeha Business Center, 360 Kim Ma St. Ba Dinh District, Hanoi, Viet Nam, Telephone: 84-4-3831-6911, Facsimile: 84-4-3831-6912

Dr Cho Taejin, Vietnam-Korea Friendship Clinic, 12 Chu Van An Ba Dinh, Hanoi, Viet Nam, Telephone: +84 4 38437231

Dr Seo Youngjin, Vietnam-Korea Friendship Clinic, 12 Chu Van An Ba Dinh, Hanoi, Viet Nam, Telephone: +84 4 38437231

Dr Cho Jaehee, Vietnam-Korea Friendship Clinic, 12 Chu Van An Ba Dinh, Hanoi, Viet Nam, Telephone: +84 4 38437231


Prof Ho Minh Ly, Member of National Certification Committee for Poliomyelitis Eradication, National Institute of Hygiene & Epidemiology, 1 Yersin, Hanoi, Viet Nam, Telephone: +84 975680206, Facsimile: +84 4.39723103, Email: minhlyho@yahoo.com.vn

Dr Phan Trong Lan, Deputy Director of General Department of Preventive Medicine, 135 Nui Truc, Ba Dinh District, Hanoi, Telephone: +84 913002797, Email: ptlan2000@yahoo.com

Dr Nguyen Minh Hang, Chief, Vaccines and Biological Safety Unit, General Department of Preventive Medicine, 135 Nui Truc, Ba Dinh District, Hanoi, Viet Nam, Telephone: +84 904245868, Email: hang0907@gmail.com

Dr Nguyen Van Cuong, Deputy Manager, National Expanded Programme on Immunization, No. 01 Yersin, Hanoi, Telephone: +84 915342223, Facsimile: +84 438213782, Email: cuongepi@yahoo.com
5. SECRETARIAT

**WHO REGIONAL OFFICE FOR THE WESTERN PACIFIC (WPRO)**

**Dr Sergey Diorditsa**, Team Leader, Expanded Programme on Immunization, World Health Organization, Regional Office for the Western Pacific, United Nations Avenue, 1000 Manila, Philippines
Telephone: +63 2 528 9745, Facsimile: +63 2 526 0279
E-mail: diorditsas@wpro.who.int

**Dr Yoshikuni Sato**, Medical Officer, Expanded Programme on Immunization, World Health Organization, Regional Office for the Western Pacific, United Nations Avenue, 1000 Manila, Philippines
Telephone: +63 2 528 9742, Facsimile: +63 2 526 0279,
E-mail: satoy@wpro.who.int
**Dr Sigrun Roesel**, Medical Officer, Expanded Programme on Immunization, World Health Organization, Regional Office for the Western Pacific, United Nations Avenue, 1000 Manila, Philippines
Telephone: +63 2 528 9741, Facsimile: +63 2 526 0279
E-mail: roesels@wpro.who.int

**Dr Youngmee Jee**, Scientist (Laboratory Virologist), Expanded Programme on Immunization, World Health Organization, Regional Office for the Western Pacific, United Nations Avenue, 1000 Manila, Philippines
Telephone: +63 2 528 9744, Facsimile: +63 2 526 0279,
E-mail: jeey@wpro.who.int

**WHO/CHINA**

**Dr Zuo Shuyan**, National Programme Officer, World Health Organization
401, Dongwai Diplomatic Office Building, 23, Dongzhimenwai Dajie Chaoyang District, Beijing 10000600, People's People's Republic of China
Telephone: +86 10 6532 7189, Facsimile: +86 10 6532 2359
E-mail: zuos@wpro.who.int

**WHO/VIET NAM**

**Dr Kohei Toda**, Medical Officer, World Health Organization
63 Tran Hung Dao Street, Hoan Kiem District, Hanoi, Socialist Republic of Viet Nam, Telephone: +84 4 3 9433734, Facsimile: +84 4 3 9433740
E-mail: todak@wpro.who.int

**WHO HEADQUARTERS**

**Dr Rudolf Tangermann**, Medical Officer, Strategy Implementation Oversight and Monitoring, World Health Organization, CH-1211 Geneva 27, Switzerland, Telephone: +41 22 791 4358,
Facsimile: +41 22 791 0746, E-mail: tangermannr@who.int

**WHO REGIONAL OFFICE FOR SOUTH EAST ASIA (SEARO)**

**Dr Patrick Michael O’Connor**, Regional Adviser-Polio & VPD Surveillance Immunization and Vaccine Development, The World Health Organization, Regional Office for South-East Asia (SEARO), World Health House, Indraprastha Estate, Mahatma Gandhi Road, New Delhi 110002, India, Telephone: +91 11 2337 0804,
Facsimile: +91 98101 74725, E-mail: oconnorp@searo.who.int