

Poliomyelitis Eradication

in the Eastern Mediterranean Region
Progress Report 2006



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This report is the sixth of a series of reports documenting the eradication of poliomyelitis from the Eastern Mediterranean Region. During 2006, many notable achievements were made. The number of poliomyelitis cases currently being reported is the lowest ever in the history of the Region.

In addition, most of these cases are now coming from polio endemic countries, a signal that the unfortunate reintroduction of poliovirus that affected three countries of the Region for three years is nearing an end. This conclusion testifies not only to the feasibility of polio eradication but also to the fact that no country will be safe from infection until every single country in the world is free of polio.

In this regard, 2006 was highlighted by many coordination activities within and outside the Region. Exemplary coordination is taking place between the two remaining endemic countries in the Region, Afghanistan and Pakistan. Coordination is also being pursued between countries in the Horn of Africa which have experienced a setback due to importation.

Other collaborative activities with the African Region included extending technical support to polio eradication in Nigeria. Renewed commitment from countries of the Eastern Mediterranean and European regions involved in Operation MECACAR (Eastern Mediterranean, Caucasus, Central Asian Republics) is another example of successful cooperation.



Regional progress towards eradication is very encouraging. The credit for these achievements goes primarily to national authorities, whose commitment and persistence has been exemplary. High-level commitment in the two endemic countries was reaffirmed during a recent stakeholders' consultation in which Heads of Government demonstrated their full support for and engagement in polio eradication activities.



Also vital is the support of the global partnership spearheaded by WHO, UNICEF, Rotary International and the Centers for Disease Control and Prevention (Atlanta) and involving many other partners, particularly the United Kingdom Department for International Development, United States Agency for International Development, Bill and Melinda Gates Foundation and Governments of Canada, France, Germany, Kuwait, Russia, Saudi Arabia, and the European Community. Their contributions are gratefully acknowledged.

Our Region has taken a leading role in the introduction of new tools that are enhancing the impact of eradication strategies, including the use of monovalent oral polio vaccines and new laboratory methods to reduce the time needed for confirming diagnosis. I am hopeful that we will soon witness the cessation of transmission of infection from this region and from the globe as a whole. There are, however, major challenges still facing the programme. With the continued commitment and efforts of national authorities and the support of partners, I am sure polio will be eradicated very soon.

Hussein A. Gezairy, MD, FRCS
Regional Director for the Eastern Mediterranean

1 Introduction

Great progress has been achieved in poliomyelitis eradication in the Eastern Mediterranean Region since the start of the initiative. In 1988, all countries of the Region except Kuwait reported poliomyelitis cases. By end of 2006, polio was reported from only three countries (Figure 1).

In 2006, the number of confirmed poliomyelitis cases due to wild poliovirus in the Eastern Mediterranean Region (107) was the lowest ever recorded in the Region (Figure 2). Of the reported cases, 71 were from the two endemic countries, Pakistan (40) and Afghanistan (31), and 36 were from countries that were re-infected and experienced outbreaks due to imported poliovirus, Somalia (35) and Yemen (1). During 2006, Egypt was declared polio-free and Sudan regained its polio-free status. The last case in Yemen had onset in February 2006.

By the end of 2006, circulation of the wild virus in the Region was restricted to limited areas in Pakistan, and there have been prolonged periods with no cases in Afghanistan and Pakistan. The same also is noted in re-infected Somalia, where circulation is apparently restricted to one area.

It must be noted however that in these areas there are still many challenges facing the programme, especially in relation to security.

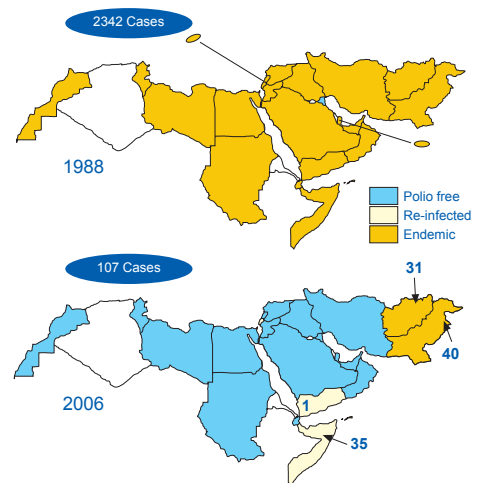


Figure 1: Reported poliomyelitis cases and status of countries in the Region, 1988 and 2006

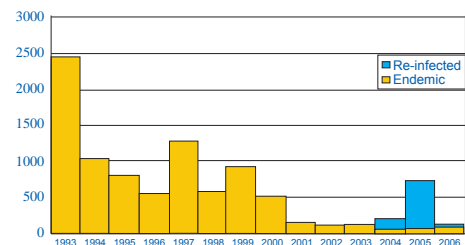


Figure 2: Reported poliomyelitis cases in the Region, 1993 - 2006

2.1 Progress in endemic countries

2.1.1 Overview

The two remaining polio endemic countries in the Eastern Mediterranean Region are Afghanistan and Pakistan. Viral circulation in these two countries has not yet been interrupted; however, the diversity of circulating viruses is decreasing, and transmission is being restricted geographically.



Border areas of Afghanistan and Pakistan share similar ethnic and cultural values and have very strong social and commercial links. As a result, there is considerable population movement between the countries on a regular basis. Available data indicate that each year the border between the two countries is crossed 1.7 million times by children under five years of age. These facts, together with the epidemiological pattern and genetics of the viruses isolated from the two countries, provide evidence that they are one and the same epidemiological block. Hence, success in stopping transmission will only be achieved through joint and highly coordinated efforts between the two countries.

One of the main constraints is that most of the districts in the border areas have unpredictable security situations, resulting in difficulties in access. These areas represent the main reservoir from which the viruses are introduced to other polio-free areas in the two countries.

To address the issue of shared transmission between Afghanistan and Pakistan, several steps were taken by the two countries. These included holding regular coordination meetings between district teams on both borders, establishing permanent cross-border vaccination posts which are active year round and conducting synchronized vaccination campaigns ensuring that border areas are covered at the same time in both countries with joint review of microplans to ensure that no border areas are missed during campaigns. As a sign of high level commitment, the Ministers of Health of both countries inaugurated the December 2006 round together at one of the border crossing points. The national, regional and global Technical Advisory Groups have indicated that the opportunity for stopping transmission from Afghanistan and Pakistan during 2007 is strong.

2 Current situation in the Eastern Mediterranean Region

2.1.2 Afghanistan

After more than one and a half years without cases due to wild poliovirus type 1, cases due to this type started to appear in the southern region of Afghanistan in 2005 (5 cases) and reached epidemic proportions in the southern region in 2006 (26 cases). In addition to these cases, there were three cases in other regions; one from each of Farah, Baghlan and Nangarhar. The Farah case is simply a spillover from the southern region, while the Nangarhar and Baghlan cases represent separate introductions from Pakistan. Another two type 3 cases were reported from the southern region, representing re-introductions from Pakistan. The rest of the country remained polio-free (Figure 3).

In general, polioviruses circulated among both resident (25 cases) and mobile populations (6 cases). Most of the cases occurred in rural areas and among relatively underserved populations, with an age ranging between 10 and 30 months.

The main factors behind this outbreak are the prevailing security situation and instability in the southern region. Active fighting, insurgency and unclear leadership have created an environment of suspicion and fear which in turn has resulted in poor performance of all public health programmes in the south, including poliomyelitis eradication.

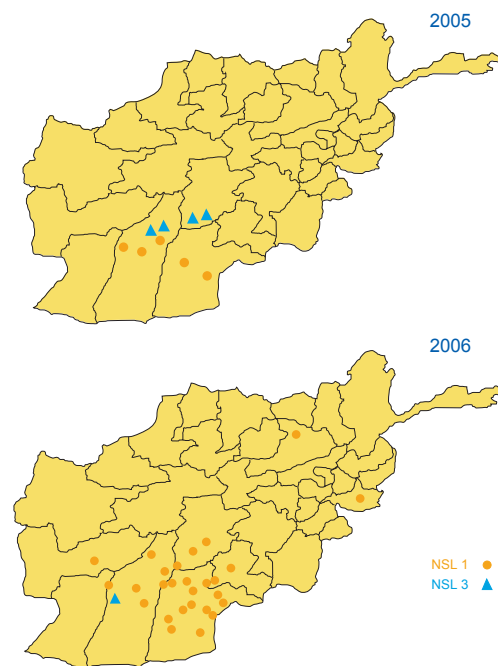


Figure 3: Confirmed poliomyelitis cases in Afghanistan, 2005 and 2006

Despite the situation in the south, however, there are the good efforts and successes in other parts of the country. AFP surveillance is being maintained at the global standard, as shown by the indicators, and the programme is not likely to miss any transmission. Laboratory services extended by the National Institute of Health in Pakistan are a great support to programme operations.

During 2006, 11 rounds of supplementary immunization activities were implemented; five were national immunization days (NIDs) and the other six were subnational immunization days (SNIDs). Five of the subnational campaigns were conducted in the south and one was essentially targeted at border areas with Pakistan and the southern region. The reported aggregate coverage rates of supplementary immunization activities were in general very high. This was reaffirmed by independent monitors. The vaccination status of AFP cases shows that among children aged 6–23 months, 70% received seven or more OPV doses. This percentage is nearly 95% for children aged 24–59 months.

Efforts made to address the challenging situation in Afghanistan include advocacy to ensure political support and involvement. President Hamid Karzai formed a national Polio Eradication Action Group to oversee polio eradication activities in Afghanistan and instructed district governors to increase their support to eradication. Efforts to bring about “days of tranquillity” between parties in conflict are ongoing, although such efforts were unsuccessful in 2006. The “Focused District Strategy” was introduced to make use of windows of opportunity by conducting one-day operations using village-based vaccination teams leading to better community involvement. Monovalent OPV1 was used in several rounds in the southern, southeastern and eastern regions and OPV was added to measles and tetanus immunization campaigns in the southern and southeastern regions.



2 Current situation in the Eastern Mediterranean Region

2.1.3 Pakistan

By the end of 2005, it was clear that the type of wild poliovirus spreading was type 1. Out of 28 cases that occurred in 2005, 27 were type 1 and only one case, from Quetta, was type 3.

It was decided to continue using monovalent OPV1, which was introduced in the last part of 2005 and used in supplementary immunization activities in some districts with the aim of stopping transmission of wild poliovirus type 1.

This strategy successfully reduced the number of polio cases due to wild poliovirus type 1. However, the apparently dormant type 3 virus resurged, particularly in areas where routine immunization is weak, such as Sindh province (8 cases) and Baluchistan (6 cases).

The total number of cases reported from Pakistan in 2006 was 40 cases, divided equally between type 1 and type 3 (Figure 4).

The main epidemiological characteristics of polio cases in Pakistan in 2006 show that all of them, except one, were among children under three years of age; one third were among mobile or minority populations, including Afghanistan refugees and Hindu communities; 75% were among families of the lowest socioeconomic status; and 60% were among Pashto-speaking communities, which is an indication of a link with border areas with Afghanistan.

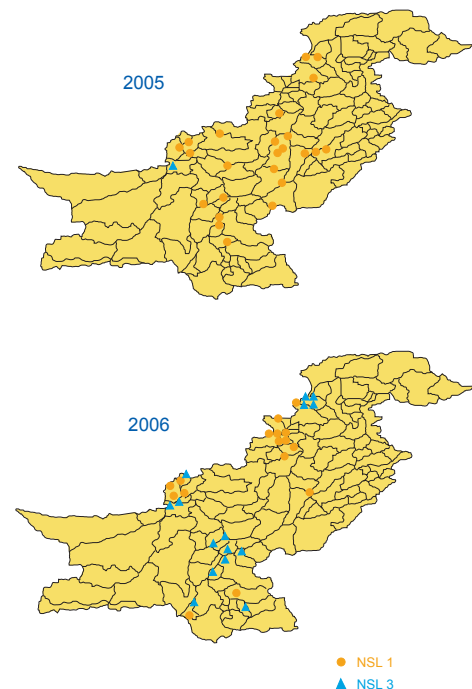


Figure 4: Confirmed poliomyelitis cases in Pakistan, 2005 and 2006

Surveillance activities remained at certification standard and the polio laboratory continued to perform at exceptionally high standard, serving both Afghanistan and Pakistan. Genomic sequencing of viruses isolated from both countries is extremely helpful, and shows a clear decrease in genetic diversity of polioviruses, from 10 sub clusters in 2005 to 7 subclusters in 2006.

During 2006, six rounds of NIDs and six SNIDs were conducted. Though campaign quality has improved, in known zones of transmission the quality of campaigns has not yet reached the level necessary to interrupt transmission. This is mainly due to limitations on access to most of these areas and inadequate engagement of some of the authorities at provincial and district levels.

To address the challenges facing the programme, efforts were made to ensure full engagement of the national leadership at all levels and to identify zones and populations of transmission in order to concentrate immunization efforts using the appropriate mix of monovalent and trivalent vaccines.



2 Current situation in the Eastern Mediterranean Region

2.2 Wild poliovirus importation in the Region

2.2.1 Risk

The risk of importation of wild poliovirus in the Region will continue as long as wild poliovirus is circulating anywhere in the world. Over the years, several importations (crossborder and distant) have occurred in countries of the Region. The outcome of such importations depended on the level of population immunity in the country. In countries with high levels of population immunity, such as Lebanon, Palestine, Saudi Arabia and Syrian Arab Republic, no secondary spread or evidence of re-established circulation occurred. In contrast, importations into Sudan in 2004 and into Somalia and Yemen in 2005 resulted in explosive epidemics as a result of immunity gaps, particularly among young children. The epidemic in Sudan started with importation of poliovirus from Nigeria through Chad in 2004 and ended in 2005. The importations in Yemen and Somalia are described below.



2.2.2 Country experiences

Yemen suffered a devastating epidemic following the introduction of wild poliovirus from Sudan in 2005. The limited supplementary immunization activities conducted during the three years that preceded the epidemic, coupled with low routine immunization coverage, led to a significant immunity gap in the population. In addition, weaknesses in AFP surveillance and diversion of attention to other prevailing outbreaks resulted in late identification of the polio epidemic.

The first reported case was confirmed on 20 April 2005, with date of onset in February 2005, and the last case was reported in February 2006. The epidemic resulted in a total of 479 laboratory-confirmed cases of paralytic polio. The majority of cases occurred during the period April to July 2005. A few sporadic cases continued until November 2005. The response to the epidemic continued with the last round conducted in January 2006 using mOPV1, targeting around 3.9 million children under 5 years of age. One case was reported with onset on 2 February 2006 after a gap of almost 3 months with no cases. In response to the last case, two mop-up campaigns were conducted in April and May 2006 targeting 2.8 million children. Independent monitoring of campaign rounds confirmed overall coverage more than 95%.

In 2006, the national non-polio AFP rate was 2.5 per 100 000 children under 15 years with a stool adequacy rate of 85.4%. However, at subnational level some governorates had either an AFP detection rate lower than 2 per 100 000 population under 15 or a stool adequacy rate of less than 80%. The Yemen Technical Advisory Group (TAG) met in June and emphasized the high priority of strengthening routine immunization and AFP surveillance and of monitoring the global and regional epidemiological situation in order to guide decisions on future supplementary immunization activities.



2 Current situation in the Eastern Mediterranean Region

The main risks to the programme are the inadequate surveillance and low routine coverage in some high risk areas and the risk of importations due to arrival of migrants from Somalia, where there is still ongoing poliovirus transmission. Efforts are continuing to improve surveillance. Routine immunization coverage has been supplemented through large-scale catch-up activities.

In Somalia, after 3 years of being polio free, the first wild poliovirus (P1) was detected in Mogadishu in July 2005. The virus was genetically linked to a virus circulating in Yemen at that time. A total of 185 polio cases were reported in 2005 from 5 regions, with 85% reported from Banadir. Circulation continued in 2006 and 35 polio cases were detected, with 19% from Banadir. The outbreak affected 14 of 19 regions and is clearly on the decline.

All cases reported from July to December 2006 belong to one area (Burao) in Togdher region of northwest Somalia (Figure 5). This area of active wild virus circulation is close to border areas with Ethiopia and represents a shared focus of transmission between the two countries. Estimated national routine immunization coverage with OPV3 is 30%. Except in the northwest zone, where there is some infrastructure, EPI services are mostly delivered through accelerated campaigns by non-governmental organizations or the private sector.

With the confirmation of importation in Sudan, several rounds of supplementary immunization activities were implemented in Somalia prior to and following the outbreak. Prior to the outbreak in July 2005, three rounds of supplementary immunization activities were conducted in Somalia including one round using mOPV1.

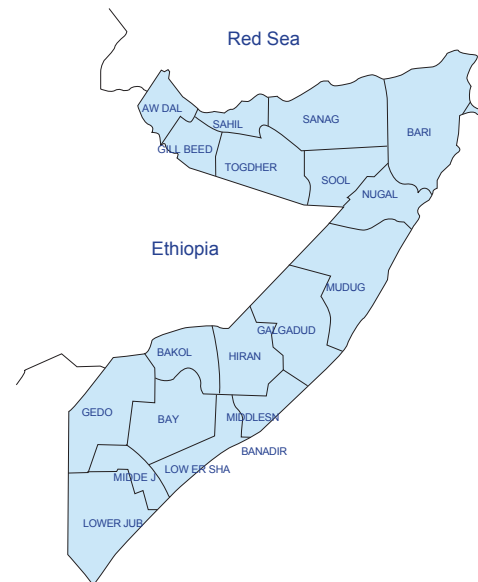


Figure 5. Regions of Somalia

From July to December 2005, 5 NIDs rounds were conducted; all except one, with mOPVI. During 2006, 8 NIDs and 2 SNID were conducted, all with mOPVI. Special mop-ups were conducted in selected areas facing security problems when there were windows of opportunity. In some circumstances, 2 or 3 doses of mOPV1 were administered to the children within one week.

The overall quality of the supplementary immunization activities was good based on the reported coverage. However, limited data from post campaign evaluation showed significant gaps in the quality of some campaigns, mainly due to difficulty in reaching nomadic populations and high numbers of refusals in big towns. The main reasons for refusals were religious misconceptions, unfounded rumours and fatigue. Suboptimal performance of vaccination teams and supervisors was also identified as a factor contributing to the low coverage.

Efforts are ongoing to coordinate activities in the Horn of Africa, where most of the supplementary immunization activities are synchronized between Somalia, the Somali region of Ethiopia, northeast Kenya and Djibouti. All major surveillance indicators were achieved at national level during 2006. The non-polio AFP rate was 4 per 100 000 population under 15 years, and the national stool adequacy rate was 83.2%. All specimens were tested at KEMRI and VACSERA network laboratories, where laboratory indicators continued to meet the recommended standards. The situation in Somalia is complicated by prevailing insecurity, very limited infrastructure, poor routine immunization, large nomadic population and porous borders with high population movement. The main challenge continues to be the security situation, which affects implementation of high quality supplementary immunization activities and AFP surveillance. This is mainly due to inability of national and international staff to supervise regularly staff working at district level.



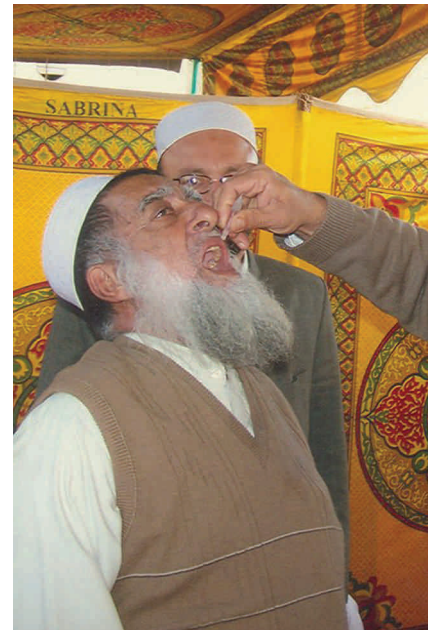
2 Current situation in the Eastern Mediterranean Region

2.2.3 Preparedness for importation

Detection of wild poliovirus in a polio-free country is a public health emergency. Recognizing the importance of this issue, the Regional Office updated and distributed the regional guidelines for preparedness and response to wild poliovirus importation taking into account the recommendations of the Advisory Committee on Poliomyelitis Eradication (ACPE). Furthermore, the Regional Commission for Certification of Poliomyelitis Eradication (RCC) re-affirmed that an updated national plan for preparedness for poliovirus importation is one of the prerequisites for certification and should be included in the documentation requested by the RCC.

The two pillars of preparedness for importation include a sensitive surveillance system and high population immunity. The Regional Technical Advisory Group emphasized that each country should aim to limit the spread of any importation by identifying immunity gaps in their child populations, both nationally and among specific groups. Any such gap should be eliminated through specific targeted immunization activities, including campaigns focused on susceptible population groups, until uniform high coverage has been achieved.

Following global recommendations to limit the spread of the virus from infected countries, countries of the Region are implementing measures for international travellers. Saudi Arabia for example has enhanced its polio immunization requirements for people from polio infected areas intending to travel to Saudi Arabia for pilgrimage. All travellers coming from polio-infected areas are required to provide evidence of vaccination against polio before travelling in order to be granted an entry visa. These travellers also receive a dose of OPV upon arrival.



2.2.4 Lessons learned

Many lessons related to preparedness and response can be learned from the importation and epidemic experiences in the Region.

- The main factor that limits virus spread after importation is high population immunity levels, mainly achieved through routine immunization. Countries should therefore avoid creation of immunity gaps, even in limited population groups.
- High quality surveillance is the key to early detection of importation. Surveillance staff in polio-free countries should expect polio as a possibility among AFP cases, and national preparedness plans should be put in effect.
- Polio outbreaks can be explosive but are controllable. Immediate large-scale response is essential to ensure rapid cessation of circulation. In case of spread of virus, a programme of work of 8 to 12 months should be expected, including well-prepared and well-implemented campaigns using the appropriate monovalent vaccine in order to halt the epidemic. Most importantly, the campaigns must be conducted to a very high standard (high quality and coverage) to avoid re-establishment of virus circulation.

3 Implementation of polio eradication strategies

3.1 Supplementary immunization activities

Implementing supplementary immunization activities aiming at ensuring that all children under 5 years are immunized against polio, especially in countries with low routine coverage, continued to receive priority attention in the Region.

In 2006, more than 342 million doses of OPV were given in national and subnational immunization campaigns. Afghanistan, Pakistan and Somalia carried out supplementary immunization activities throughout the year at 4–6 week intervals.

To guard against spread after importation, some polio-free countries conducted campaigns addressing mainly high-risk areas and areas with low routine coverage. Such campaigns were conducted in Djibouti, Egypt, Islamic Republic of Iran, Iraq, Jordan, Saudi Arabia, Sudan and Syrian Arab Republic.

All campaigns were conducted from house to house, covering all children less than 5 years of age. Extensive efforts were made to ensure high quality. Multisectoral approaches were implemented to involve governmental and non-governmental sectors. Social mobilization efforts made sure that all families were informed about the campaigns, and mobilized resources by involving community and religious leaders and ensuring political commitment.



Detailed micro-plans were developed with maps and used to reach every child, with special focus on risky areas and difficult-to-reach groups. Control rooms were put into operation at district, provincial and national levels to report daily on progress of campaigns, identify problems and intervene. Volunteers assisted as vaccinators and supervision was intensified. Finger-marking was used to guarantee that no child was missed. Independent monitors observed campaigns, and their remarks helped to pinpoint problems that were resolved by the responsible authorities. NIDs were coordinated between countries and cross-border immunization activities were also carried out.

Monovalent vaccine (mOPV1) was used in countries with predominant type 1 wild poliovirus to maximize type-specific immune response. Supplementary immunization activities continued to develop national capacities at all levels and were also used to provide other services, such as delivering life-saving vitamin A.



3.2 Surveillance for acute flaccid paralysis

3.2.1 Performance indicators

AFP surveillance is a core component of the polio eradication initiative. It plays a vital role in all stages of the polio eradication. It directs the activities of the eradication programme in infected countries and provides the proof of interruption of transmission when it is achieved.

The role of surveillance becomes more vital after the country becomes polio-free. Since it is more difficult to prove the absence of transmission than to prove its existence, the quality of AFP surveillance in polio free countries must be of the highest standard. The polio eradication initiative has developed indicators to assess AFP surveillance performance. All countries are expected to achieve and sustain a certification-standard level of these indicators.

The global and regional technical advisory groups have asked priority countries (endemic, recently endemic, infected or at high risk of importation) to maintain a non-polio AFP rate of at least 2 per 100 000 children under the age of 15 years. Other countries are also encouraged to achieve and maintain highly sensitive AFP surveillance. In the Eastern Mediterranean Region, all infected or recently polio-free countries are maintaining the required level of AFP sensitivity, and the regional rate reached 3.89 per 100 000 population under 15 years in 2006. The minimum required level of 1 per 100 000 population under 15 years was not reached in Djibouti (0.93), Palestine (0.89) or the United Arab Emirates (0.78), all of which had only a small number of expected cases (Figure 6).



The second key quality indicator for surveillance is percentage of AFP cases with adequate stool collection (Figure 7). In 2006, this indicator was maintained above the target of 80% at the regional level (89.0%) and in all countries of the Region except in Djibouti (50.0%), Kuwait (70.0%), Lebanon (53.3%) and Morocco (77.8%).

Countries which achieve polio-free status run the risk of becoming complacent in implementing polio eradication activities when such activities become of a lesser priority compared with other competing national health issues. This situation may compromise detection of poliovirus and hence the response to importations.

Continued efforts have been made to further assess the quality of the AFP surveillance system and look beyond the indicators. In 2006, AFP surveillance reviews were conducted in Egypt, Iraq (internal review due to security constraints) and Jordan. Generally, the surveillance reviews confirmed the quality of the surveillance system and its ability to detect wild poliovirus. To maintain high standard surveillance in the Region, the Regional Office has developed guidelines for identifying priority (hot) cases and for collection of stool samples from contacts. These guidelines are being used by individual countries to update their national guidelines and maintain surveillance performance. As the target of eradication nears, it is critical to sustain the quality and sensitivity of AFP surveillance in all countries of the Region. This will provide the information necessary to guide programme activities for virus interruption in endemic and infected countries and for timely detection and response to any wild poliovirus importation in polio-free countries. Continued national commitment, close monitoring and full support for these programmes will ensure this goal is achieved.

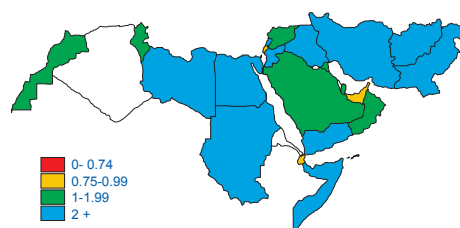


Figure 6: Non-polio AFP rate in countries of the Region, 2006

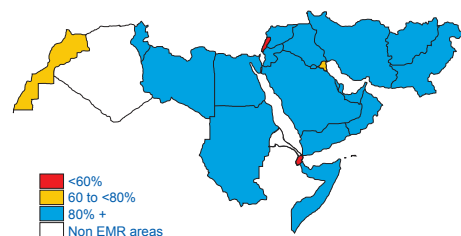


Figure 7: Stool adequacy rate among AFP cases in the Region, 2006

3 Implementation of polio eradication strategies

3.2.2 Regional laboratory network

The performance of the regional polio laboratory network is being sustained at certification standard. In 2006, all network laboratories passed the WHO proficiency testing panel of unknown viruses for both primary virus culture and intratypic differentiation testing. All were fully accredited, except in Kuwait, where the national polio laboratory was provisionally accredited (Figure 8).

There was a generalized increase in laboratory workload due to improvement in AFP surveillance and the outbreaks in Somalia and Yemen.

Another factor for the increase in workload was the collection of stool samples from contacts of AFP cases. In 2006, the regional polio laboratory network tested 17 796 stool samples of AFP cases, 5007 samples of contacts, and 1018 samples from other sources. All laboratory performance indicators were well above the targets except transportation of samples within 3 days of collection, which was slightly below target due to logistical and security challenges in areas such as Afghanistan, Iraq, Somalia and south Sudan. Timeliness of reporting the virological investigation results, from onset of paralysis to final results, improved from 32 in 2005 to 28 days in 2006.

Another remarkable achievement was the implementation of new testing algorithm aimed at shortening the time of reporting results. From April 2006, it was implemented in the Pakistan poliovirus laboratory, with final results obtained in just under 2 weeks after the stool samples were received in the laboratory.

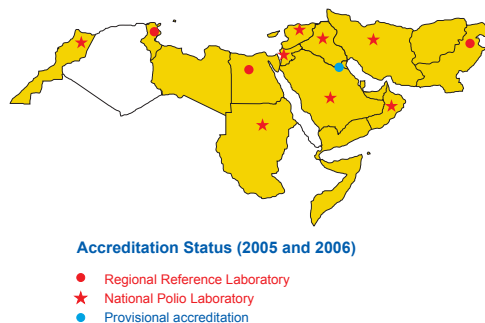


Figure 8: Accreditation status of the regional poliovirus laboratory network, 2005 and 2006

The testing algorithm will be introduced in the whole network by mid-2007. AFP surveillance is being supplemented with environmental surveillance in Egypt and Palestine to increase sensitivity for detection of wild poliovirus.

The use of country-specific arrangements for transfer of specimens and for feedback to sources of information also proved functional and capable of supporting not only other EPI diseases but also prevention and control programmes for diseases such as Rift Valley fever and dengue fever, which prevailed in some countries during 2006.

Maintaining the poliovirus laboratory network is vital at least until global certification, including the post-eradication phase. It should be used for the provision of laboratory support to other programmes particularly measles elimination. Efforts must therefore continue to address and resolve any challenges that may face the network.



3.3 Impact of polio eradication efforts on strengthening routine immunization

During the early phases of the polio eradication programme, it was necessary to make significant investment in strengthening routine immunization, particularly in endemic countries which were also the least developed in the Region and had the largest proportion of unimmunized children due to weak EPI. These investments were mainly in human and physical infrastructure, as well as in advocacy and institutional support.

The human resources made available through the polio eradication programme have as their first term of reference to strengthen routine immunization. The percentage of their time spent on supporting EPI varies from one country to another. In countries and areas where the health system infrastructure is weak, polio staff not only provide all the required technical support to EPI but also support the investigation and control of other diseases.

As well, the significant investment made by the polio eradication programme in training various levels of national health workers in micro-planning, campaign implementation, monitoring and evaluation has made them more qualified for supporting immunization programmes. The surveillance structure developed for AFP surveillance, including arrangements for collection of data and transport of samples, has proved to be capable of supporting other EPI programmes such as measles elimination.



Organizational structures for polio eradication are being used to deliver other health services such as vitamin A, which has helped avert hundreds of thousands of childhood deaths, particularly as a result of measles. As well, NIDs are used to deliver messages to the public about the importance of ensuring vaccination of children against other diseases that can be prevented by immunization.

Another important support extended by polio eradication to EPI is the provision of equipment needed for immunization, both routine and supplementary. This includes provision of cold chain equipment, vehicles and other modes of transport and communication equipment and computers. Such equipment is not used exclusively for polio eradication efforts; in some places it is the only available equipment for the health care system at large. In addition, the established laboratory network for polio eradication is now extending the required laboratory services for EPI diseases and also other diseases of public health importance.

The regional and national systems developed for strategic planning and advice, such as Technical Advisory Groups and ICCs (Inter Agency Coordination Committees), have started extending their services to other EPI diseases. They were a cornerstone in the process of securing GAVI support and have become a model for broader cooperation such as in the process of country cooperation mechanism used by the global funds.

The regional policy is to ensure maximum coordination of efforts for polio eradication and EPI, avoid duplication of efforts and maintain the infrastructure developed for polio eradication in support of EPI and other important public health programmes.



3.4 End-game issues

3.4.1 Laboratory containment

Sixteen countries (Bahrain, Djibouti, Islamic Republic of Iran, Iraq, Jordan, Kuwait, Lebanon, Libyan Arab Jamahiriya, Morocco, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Sudan, Tunisia, and United Arab Emirates) have reported completion of the phase 1 (laboratory survey and inventory) activities, while Egypt and Palestine are in the process of completion. Sudan was re-infected in 2004, after completion of phase 1 activities in 2003. As a result, Sudan re-conducted the containment activities in February 2006. National plans of action have been developed by Afghanistan and Yemen, and have been submitted for the approval of their health authorities. A national containment coordinator has been nominated by Pakistan and a national plan of action is under preparation.

As of December 2006, other than Pakistan, 22 210 laboratories had been surveyed and only four laboratories were identified as storing wild poliovirus material. Three of these belong to regional network of poliovirus laboratories. The fourth is Razi Institute, Islamic Republic of Iran, which is storing wild poliovirus neurovirulent strain for quality control of OPV production.

Guidelines for documenting the quality of phase 1 containment activities, along with a reporting format, were sent to all countries that had completed phase 1 activities. As of December 2006, 15 countries had submitted their draft reports to WHO. The reports were reviewed by independent reviewers and national coordinators were asked to amend the reports in the light of comments. After revision, the reports will be submitted to the RCC through the National Certification Committees (NCCs).



3.4.2 Certification of poliomyelitis eradication

In keeping with past practice, the RCC held two meetings in 2006 during which it reviewed various national documents submitted by the NCCs in the Region. Final national documents for regional certification were accepted from seven countries (Bahrain, Jordan, Islamic Republic of Iran, Oman, Qatar, Saudi Arabia and United Arab Emirates) that have been polio-free for 5 or more years and have completed phase 1 of laboratory containment. Similar reports from another set of countries meeting these criteria (Kuwait, Lebanon, Libyan Arab Jamahiriya, Morocco, Syrian Arab Republic and Tunisia) will be reviewed by the RCC in early 2007. All these countries, and others whose basic national documents have been accepted (Djibouti, Iraq, Palestine and Sudan), will continue to submit annual updates until regional certification has taken place.

The RCC also reviewed provisional national documents from countries that are still polio endemic (Afghanistan and Pakistan) or have not completed three years since the detection the last case of wild poliovirus (Egypt). The preparation of these reports has helped the NCCs and the national programme managers in compiling and validating a large amount of data on national polio eradication activities and in becoming familiar with the RCC's critical review of such reports. With the anticipated re-submission of the national document of Yemen and of a provisional report from Somalia early in 2007, the RCC will henceforth be reviewing certification-related reports from all countries in the Region on an annual basis.



3 Implementation of polio eradication strategies

The RCC has been closely following the activities of the NCCs and their interactions with the respective national programmes with a view to ensuring the quality of data compiled by the programme and its subsequent validation by the NCCs. Similarly, it has closely followed the progress of the laboratory surveys undertaken in connection with phase 1 of laboratory containment of wild poliovirus and the preparedness of polio-free countries to deal with importations. In anticipation of submission of a report to the Global Commission on Certification of Poliomyelitis Eradication, the RCC discussed and finalized the regional certification report format for eventual submission to the Global Commission. The report will include a comprehensive regional overview and standardized summary for each country.

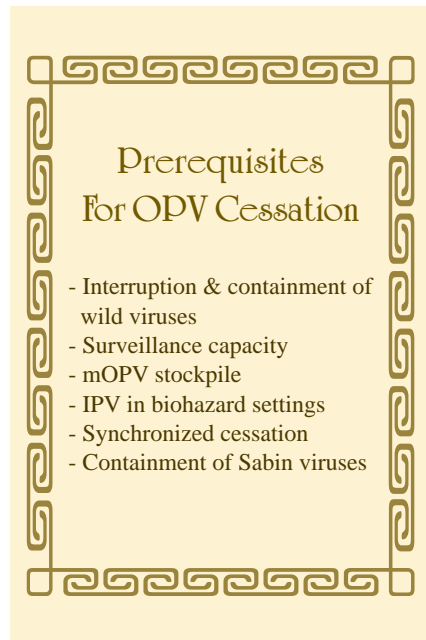


3.4.3 OPV cessation

In September 2004, the ad hoc Advisory Committee on Polio Eradication decided that global cessation of OPV immunization is the appropriate post-eradication immunization policy. This cessation should take place as soon as possible after global eradication, while population immunity and surveillance sensitivity are high. However, OPV cessation is associated several risks, mainly the emergence of cVDPV and the re-introduction of poliovirus from a manufacturing site, research facility or diagnostic laboratory.

To minimize these risks, six prerequisites have been identified that should be achieved before cessation of routine OPV: 1) interruption and containment of wild polioviruses; 2) ensuring global surveillance and notification capacity; 3) establishing an mOPV stockpile and response mechanism; 4) implementation of IPV requirements in biohazard settings; 5) synchronized cessation of trivalent OPV; and 6) containment of Sabin polioviruses

Although the availability of stockpiles of mOPV is a global issue, the Regional Office will facilitate for countries the process of licensing by national regulatory authorities. With regard to the synchronous cessation of OPV, the Regional Office will work with countries to ensures optimal timing of activities. In the event of a need for simultaneous campaigns, these would be coordinated by the Regional Office. Following OPV cessation, the destruction of remaining OPV stocks will be documented and verified in each country of the Region.

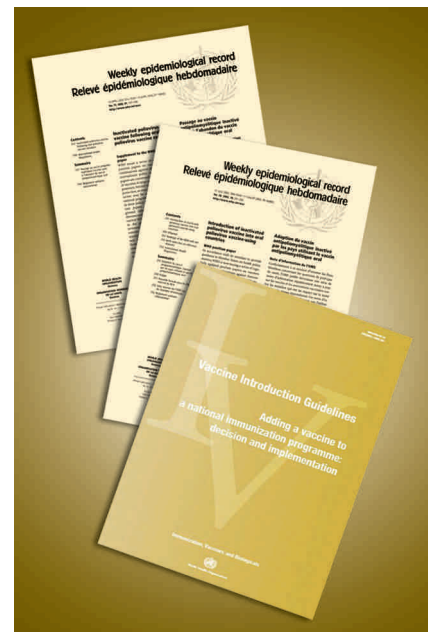


3 Implementation of polio eradication strategies

Considering the long-term immunization policy, the regional Technical Advisory Group in its 2004 meeting recommended that decisions regarding this issue should not be taken hastily. The Regional Office will discuss with each country individually their decision whether or not to use IPV and evaluate the risk and benefits for each country situation.

It is also a priority for the Region to understand fully the prevalence and the duration of excretion among iVDPVs, given that during 2005–2006 iVDPV cases were reported from the Islamic Republic of Iran, Morocco, Syrian Arab Republic and Tunisia.

Currently, all countries of the Region except two are implementing a full OPV vaccination schedule for routine immunization. The two exceptions are Jordan and Palestine, which implement a sequential/combined schedule of IPV/OPV. Countries of the Gulf Cooperation Council are considering incorporation of IPV into their immunization schedule; however, the issue is still under discussion with the Regional Office.



4 Technical and financial support to countries

The regional strategic plan for poliomyelitis eradication, 2006–2007, was prepared in consultation with nationals, United Nations agencies and other partners. The plan covers the main elements of intensifying supplementary immunization, enhancing surveillance and maintaining the laboratory network, ensuring laboratory containment and certification and strengthening of EPI.

Technical support is continuing, using about 100 international and over 900 national polio staff in addition to teams of experts constituting both regional and country TAGs, which are advising the national programmes on strategic directions. All polio staff are extending support to EPI as well as helping to address emergencies at country level. The surveillance system for AFP is also being used for surveillance of many other diseases.

Technical support and coordination is not restricted to work in the Region but is extending to neighbouring countries of other WHO regions. Several coordination meetings for the Horn of Africa took place in 2006 and the Horn of Africa Bulletin was initiated and is being issued regularly. As well, a Horn of Africa Technical Advisory Group was established and met for first time in August 2006.

Synchronization of activities and exchange of information between countries has improved greatly. However, there is still room for improving direct coordination at the local levels. Operation MECACAR is continuing between neighbouring countries of the Eastern Mediterranean and European regions. A coordination meeting took place in 2006 for MECACAR countries and partners and extended its scope beyond polio eradication to include measles elimination as well.



4 Technical and financial support to countries

Given the continued potential danger of poliovirus importation from Nigeria, the Regional Office continued to extend technical support to the polio eradication efforts in Nigeria. Many experts from the Region were provided to help in the planning and implementation of eradication activities in northern Nigeria. As well, the Regional Office continued to support efforts to fight rumours about the vaccine and vaccination through seeking statements from leading religious scholars that call on parents and communities to vaccinate their children and that counter unfounded rumours about the vaccine.

Significant resources for the eradication efforts are being provided by the Member States, particularly with respect to routine immunization. In addition, considerable external financial resources were secured to support activities necessary to achieve the target, particularly with respect to the provision of vaccines, operational expenses and technical support needed to intensify supplementary immunization and continue surveillance activities.

The estimated external resource requirements, according to the strategic plan for 2006, were in the order of US\$ 100.7 million; these included US\$ 41 million for vaccine, US\$ 40.2 million for operational expenses, US\$ 7.5 million for surveillance and laboratory and US\$ 12 million for national and international staff. Funds for vaccines and some operational costs are administered through UNICEF; the remainder is administered through WHO. External support was secured by WHO for operational expenses, surveillance and staff.



The actual expenditure during 2006 on operations and surveillance amounted to US\$ 64.5 million. This was at least 10% higher than the estimate. All these amounts were spent in the countries, except for US\$ 1 million spent by the Regional Office for staff and intercountry meetings and activities.

The main contributors to these funds were the UK Department for International Development (DFID), Rotary International, Government of the United States of America, Bill & Melinda Gates Foundation, Government of Canada, the European Community, Governments of Russia, France, Germany and Saudi Arabia, and United Nations Foundation (Figure 9).

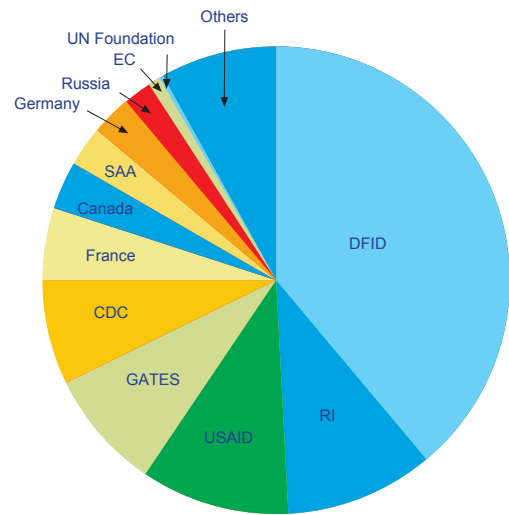


Figure 9: Contribution of partners to polio eradication activities in the Region, 2006

5 Challenges and future priorities

The main challenges facing the programme include securing necessary resources both from national funds and external resources, maintaining the interest and commitment of national authorities and the public and reaching children living in security-compromised and hard to reach areas with the necessary vaccine.

Regional priorities for polio eradication during 2007 are as follows.

- Interrupt transmission in the remaining endemic countries before end 2007. It is mandatory to sustain political commitment at all levels, continue close coordination between Afghanistan and Pakistan, ensure engagement of the leadership at all levels and negotiate periods of tranquillity in security compromised areas. It is also important to continue supplementary immunization activities with the same intensity and to concentrate on known zones of transmission with mop-up quality campaigns.
- Interrupt transmission in Somalia and continue to improve the quality of supplementary immunization activities, ensure access to children, address issues of refusals and implement special plans for nomadic populations.
- Avoid large immunity gaps in polio-free countries through improvement of routine immunization and implementation of supplementary immunization activities, especially in foci of low population immunity.



- Maintain certification-standard surveillance with focus on performance and indicators at subnational level and among high-risk areas and populations.
- Strengthen coordination activities between neighbouring countries, especially between Afghanistan and Pakistan and in the Horn of Africa, including synchronization, exchange of information and local level planning and coordination.
- Continue with containment and certification activities.
- Optimize collaboration with EPI.
- Make available the financial resources required to implement the regional plan for eradication.

