

Poliomyelitis Eradication in the Eastern Mediterranean Region

Progress report 2007–2008



It is time to stop polio



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Foreword



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



The credit for the progress achieved goes primarily to national authorities, whose commitment and persistence has been exemplary. The support of the global partnership spearheaded by WHO, Rotary International, the Centers for Disease Control and Prevention and UNICEF, and of many other partners particularly the UK Department for International Development (DFID), World Bank, GAVI Alliance, Government of the United States of America, Bill & Melinda Gates Foundation, United Nations Foundation, Government of Canada, European Community and Governments of Kuwait, Russia, France, Germany, Saudi Arabia and United Arab Emirates continued to be exemplary.

A handwritten signature in black ink, appearing to read 'H. Gezairy'.

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

This report is the seventh of a series of reports documenting the eradication of poliomyelitis from the Eastern Mediterranean Region. It covers the progress achieved during 2007–2008. There were many positive developments during this period. Somalia, the last country affected by the huge importation during 2004–2007, became polio-free in early 2007 and has since remained so. Many virus introductions into the Region during 2007–2008, particularly into northern Sudan and Egypt, have failed to establish circulation. All other polio-free countries have maintained their polio-free status. The containment and certification activities have progressed rapidly with almost all polio-free countries completing the required procedures and submitting the necessary reports.

In parallel with the achievements there have been setbacks, mostly in 2008. Outbreaks were observed within Pakistan in areas that had been polio-free for years. South Sudan has suffered and is still suffering from a large outbreak following an importation in mid 2008. However, it is important to know that the programme has responded aggressively to the situation. The outbreak in Pakistan is now under control and in south Sudan it is waning.

1. Introduction

In 1988, the Regional Committee for the Eastern Mediterranean issued resolution EM/RC35/R.14 adopting the goal of poliomyelitis eradication. Since then, the implementation of eradication strategies has reduced the number of countries endemic for polio in the Eastern Mediterranean Region from 22 countries to only two (Afghanistan and Pakistan) since 2005. As well the epidemics that followed virus importation from Nigeria (2004–2007) affecting consecutively Sudan, Yemen and Somalia have come to an end, with the last case reported from Somalia in March 2007. In the two endemic countries the intensity of transmission decreased to historically low levels in 2007 as a result of enhanced eradication efforts. However, 2008 witnessed an increase in the number of polio cases reported from Pakistan and Afghanistan and the spread of the virus to areas in Pakistan that previously were free from polio, some for several years.

During 2008, the Region continued to experience virus importations from infected countries in other regions. Northern Sudan received repeated importations of both types of wild poliovirus from Chad. None of these importations managed to establish circulation and no secondary cases were reported. However, south Sudan experienced an importation from Ethiopia that led to a large epidemic in 2008 that continued into 2009. The virus further spread from south Sudan to the rest of Sudan and into Kenya and Uganda.

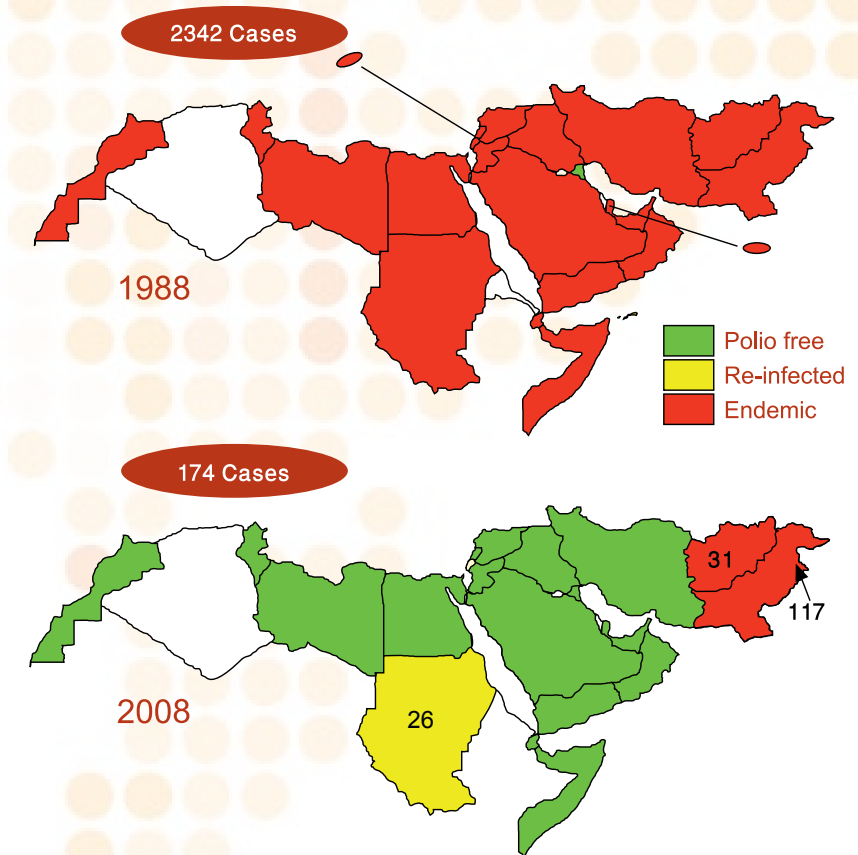


Figure 1. Status of poliomyelitis endemicity in countries of the Eastern Mediterranean Region in 1988 and 2008

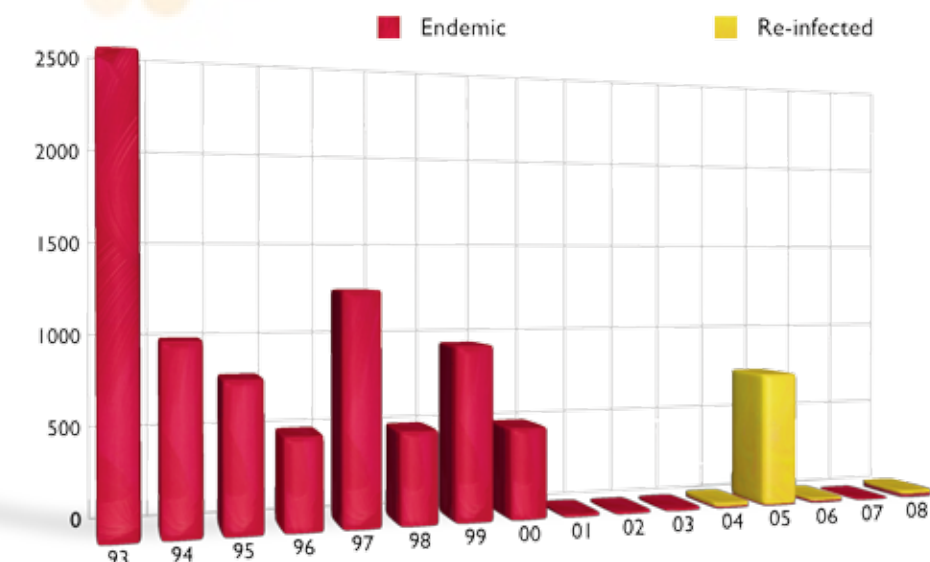


Figure 2. Reported poliomyelitis cases in the Eastern Mediterranean Region, 1993–2008

2. Current situation in the Eastern Mediterranean Region

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2.1 Regional progress

The year 2007 witnessed intensification of polio eradication efforts and considerable progress towards the eradication goal, with the total number of reported poliomyelitis cases the lowest ever recorded in the Region (58). The majority (49 cases) were from the two endemic countries (32 from Pakistan and 17 from Afghanistan); 8 were from Somalia, representing the tail of the outbreak that followed importation of poliovirus, and a single importation was reported in Sudan from Chad, with no secondary cases. The total cases in 2007 represent less than 5% of the global cases for 2007.

Intensification of polio eradication efforts continued in 2008 and polio-free status was maintained in 19 countries including Somalia. However, in Pakistan and Afghanistan the number of cases increased significantly to 117 cases from Pakistan and 31 from Afghanistan. In northern Sudan, the two separate importations from Chad resulted in two cases. In south Sudan an outbreak started in June 2008 and resulted in 24 P1 cases during 2008.

During the early part of 2009 (up to the end of May) the situation in Afghanistan and Pakistan improved, with only 26 cases reported (18 in Pakistan and 8 in Afghanistan). Viral circulation in south Sudan continued, with 32 cases reported, and the virus spread to northern Sudan, resulting in 5 cases, and also into Kenya and Uganda.

All other countries in the Region remained polio-free and did not report any confirmed cases during 2007–2008. In Egypt, wild poliovirus was detected in two environmental samples from the greater Cairo area in September and December 2008. The viruses were genomically linked to the recent circulation in Ethiopia/south Sudan (September isolate) and India (December isolate). The isolation of these wild viruses from Egypt and the repeated importations into Sudan are reminders of the risk of importation that all countries face until global eradication.



2.2 Highlights on endemic and re-infected countries



2.2.1 Afghanistan and Pakistan

Afghanistan and Pakistan represent a single epidemiological block, as evidenced by the epidemiological and genetic patterns of the viruses isolated from each of them. They share ethnic and cultural traditions and very strong social, commercial and even security links, with considerable population movement between both countries.

In 2007 the number of confirmed cases in Afghanistan decreased from 31 in 2006 to only 17 in 2007. The same happened in Pakistan, where the number of cases decreased from 40 in 2006 to 32 in 2007. Transmission in Afghanistan and Pakistan in 2007 was mainly in 2 zones.

The northern zone, comprising most of North-West Frontier Province (NWFP) including the tribal agencies along the border with Afghanistan and sometimes extending into the eastern region of Afghanistan. Cases in this zone are mostly due to wild poliovirus type 1 (WPV1).

The southern zone, which represented the principal endemic zone in 2007 and includes the corridor from the southern region of Afghanistan continuing through Baluchistan and southern Punjab into northern and southern Sindh including Karachi. This zone is characterized by high seasonal population movement from the southern region of Afghanistan crossing into Baluchistan and ending into north Sindh and south Punjab during the cold season with reverse movement during the hot season.

The first 6 months of 2008 showed a continuation of the decline in the number of polio cases and in the genetic diversity of the viruses isolated from Afghanistan and Pakistan, with concentration of cases in the two known transmission zones. A significant increase in the number of cases started in July 2008 in southern Afghanistan and in the reservoir zone in NWFP, with spread to previously polio-free areas particularly in Punjab.

By the end of 2008 the number of cases in Afghanistan increased to 31 (25 P1 and 6 P3); in Pakistan the year ended with 117 cases (81 P1 and 36 P3).

The main reason for continued virus circulation in the southern region of Afghanistan, despite several supplementary immunization activities (4 national and 5 subnational immunization campaigns supplemented with short interval additional doses using monovalent oral poliovaccine in high risk areas) is the deteriorating security situation and active fighting, hindering safe access to children.

Political commitment is very clear at the highest level in the country, and community determination is strong. In the security compromised areas the programme continues

to use windows of opportunities of improved access and innovative strategies to immunize children. Special strategies for insecure areas include the focused district strategy, short interval additional doses, staggered campaigns, high-risk cluster approach, use of access negotiators and coordination with all parties to facilitate access and cease hostilities during immunization activities to allow access of vaccinators to children and reach agreement on periods of tranquility. These efforts are also being undertaken to ensure high quality activities in the accessible polio-free areas. These areas are covered every year by three to four supplementary immunization activities as part of Afghanistan national immunization campaigns, mainly using trivalent oral poliovaccine (tOPV). An international surveillance review conducted in August 2008 confirmed the high quality of surveillance for acute flaccid paralysis (AFP) and the fact that there is no missed circulation.

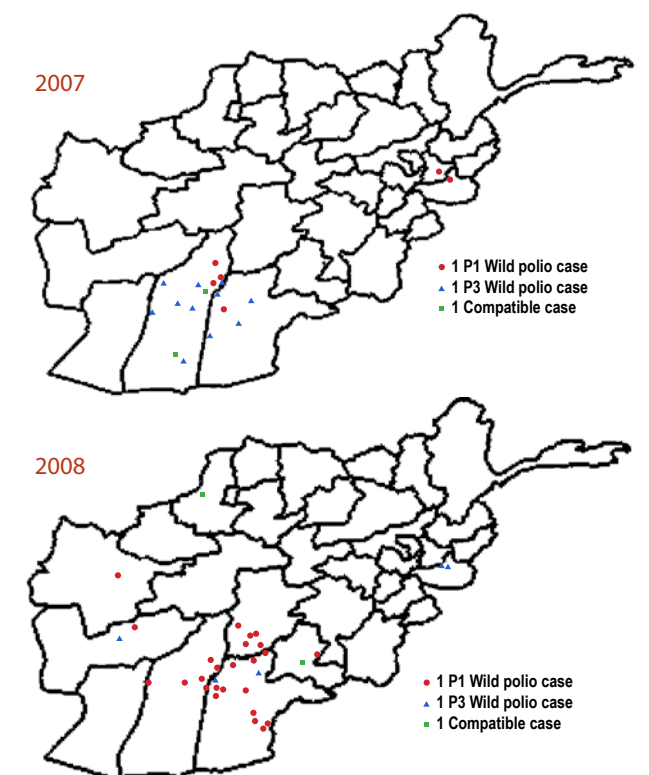


Figure 3. Confirmed poliomyelitis cases in Afghanistan 2007–2008



In Pakistan, the sudden increase in cases starting in the second half of 2008 represented an outbreak (25 cases due to WPV3) in Peshawar and the spread of WPV1 to different parts of the country and was most evident in Punjab where a P1 outbreak (31 cases) occurred after 2 years of freedom from WPV1. Wild viruses also spread from NWFP to Islamabad (3 P1 and 2 P3) after 5 years without any polio case. Out of the total 118 cases reported from 49 districts and towns, 81 were due to P1 and 37 due to P3.

The reasons behind this increase in Pakistan included the decrease in routine immunization from mid 2007, the reduced accessibility of children in security-compromised areas that are endemic foci and the significant population movement out of these areas to other parts of Pakistan. Lack of consistency in the quality of supplementary immunization activities is a big challenge. While the reported aggregate coverage rates of supplementary immunization activities were in general very high, analysis of post campaign monitoring data at the sub-district level points to some poorly covered Union Councils in high-risk areas. The high risk approach, in which immunization efforts

were directed towards these areas only, did not succeed in completely interrupting transmission in the reservoir areas, where different elements including insecurity, managerial issues and inadequate engagement of some of the authorities at provincial and district levels did not allow optimal quality and coverage. At the same time, other areas that were not considered risky did not have sufficient campaigns or adequate routine immunization coverage to ensure population immunity to protect against re-infection and spread. As well, the exclusive use of one monovalent vaccine in some areas for long periods left the population susceptible to the other virus type.

Significant efforts were made on all fronts to address the upsurge of cases, particularly in Pakistan. Two consultations were held, one in June 2008 (Karachi) and the other in October 2008 (Cairo). A special plan was developed with advocacy efforts to address the managerial issues in Sindh. As well, specific provincial plans for 2009 were prepared and efforts made to ensure their implementation. While in 2008 four national (NIDs) and seven subnational immunization day campaigns (SNIDs) were implemented, the plan for 2009 is to increase the number of nationwide activities to six NIDs using tOPV in addition to SNIDs and mop-ups using the appropriate monovalent oral poliovaccine (mOPV) according to epidemiological developments. A communication plan was developed and implemented, focusing on tribal areas and on different types of refusals based on field data. New tactics including environmental sampling and seroprevalence surveys will be added to better understand the reasons for poliovirus persistence in some areas and to guide future strategies.

As part of the advocacy efforts, the Regional Director visited Pakistan and met with HE Mr Yusuf Raza Gillani, Prime Minister of Pakistan, who reaffirmed government commitment to the goal and formation of the inter-provincial committee for polio eradication. The Prime Minister also launched an action plan for polio eradication in Pakistan, focusing mainly on securing the active involvement of other sectors in polio eradication initiatives to ensure a truly national campaign. Coordination also continued with Afghanistan in order to optimize simultaneous comprehensive coverage of the border areas and of children on the move.

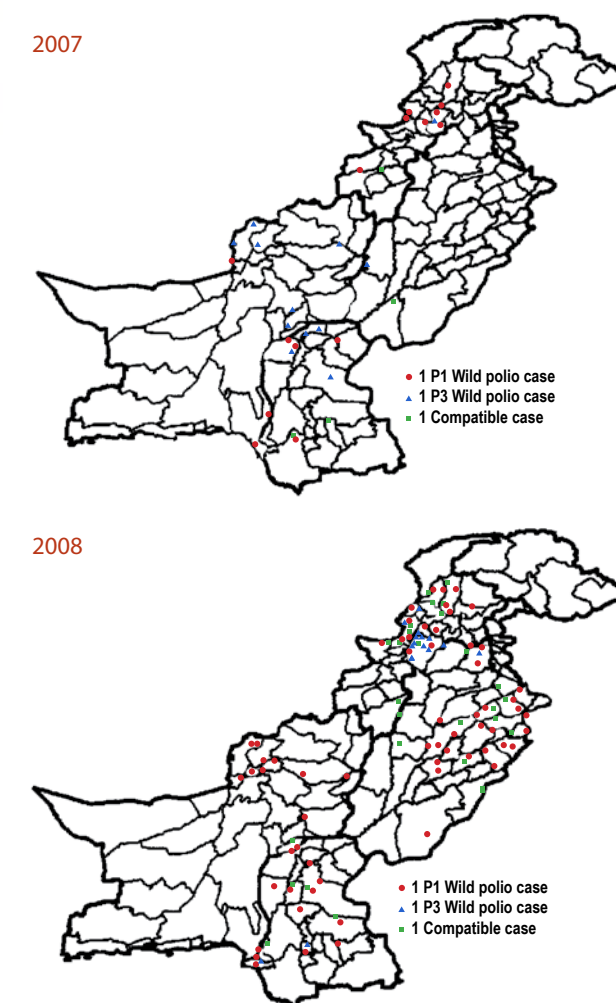


Figure 4. Confirmed poliomyelitis cases in Pakistan 2007–2008



2.2.2 Sudan

Sudan is a country at high risk of wild poliovirus importation. During 2007–2008, three of the nine neighbouring countries, namely Chad, Democratic Republic of Congo and Ethiopia, were reporting wild polioviruses cases. There is continuous population movement across the borders including families living on both sides of the borders, nomadic populations, religious pilgrims and refugees moving due to insecurity.

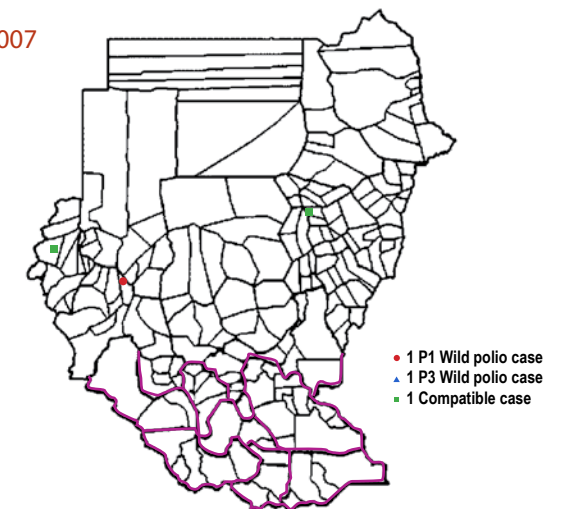
Many lessons were derived from the explosive outbreak that followed virus importation in May 2004 and continued until June 2005. Based on this experience, Sudan continued to conduct NIDs during 2006–2008 in order to maintain high level of immunity among children and hence prevents spread of any importation. Wild poliovirus importation was discovered in 2007 (one P1) and 2008 (two P3). The causative viruses were linked to the viruses circulating in Chad. These detected importations were not followed by secondary cases, which is a reflection of the high immunity level of children and the large-scale high quality immunization response to these importations.



South Sudan has been polio free since 2005, after a large outbreak that involved the whole of Sudan in 2004–2005. Following the reporting of three P1 cases in Gambella region of Ethiopia in early 2008 and the huge movement into south Sudan in early 2008 for the population census, cases of polio started to appear in south Sudan resulting in spread to almost all states, with 24 cases in 2008. The circulation continued in 2009 with 32 more cases up to May 2009. This was also followed by detection of five related cases in Khartoum and Red Sea states and the spread of virus out of south Sudan to neighbouring countries (Kenya and Uganda). The spread within south Sudan could be explained by the low level of population immunity as a result of low routine coverage and severe logistic constraints facing NIDs in the country. Supplementary immunization activities using mainly but not

exclusively mOPV1 continue to be conducted since May 2008, synchronized with similar activities in neighbouring African countries. It should be noted that the programme in south Sudan implements enhanced AFP surveillance activities by collecting samples from contacts of all AFP cases. This proved very useful in identifying areas of virus circulation that would otherwise have been missed. The global and regional polio eradication programmes currently provide extensive technical support in addition to providing the needed logistical support.

2007



2008

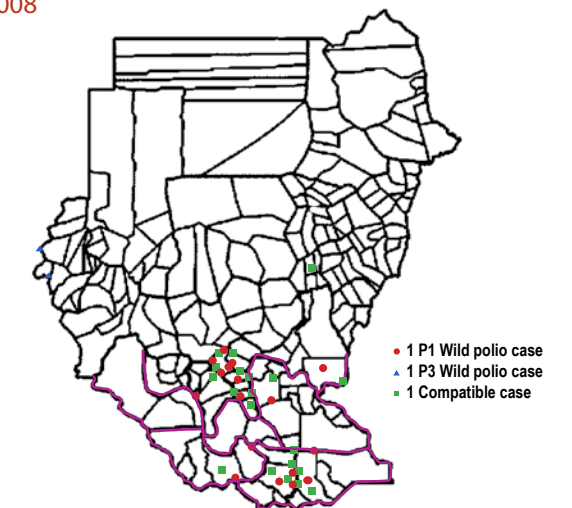


Figure 5. Confirmed poliomyelitis cases in Sudan 2007–2008



2.2.3 Somalia

The outbreak that started in Somalia after the first imported wild P1 virus was detected in Mogadishu in July 2005 came to an end with the last case on 25 March 2007. Somalia has since regained its polio-free status.

This was achieved despite considerable challenges including prevailing conflict and insecurity, limited infrastructure, poor routine immunization, porous borders with intense population movement, difficulty in reaching nomadic populations and large numbers of refusals in large towns. Several rounds of supplementary immunization activities were conducted prior to and following the outbreak using mOPV1. Activities continued in 2007, with four NIDs and six SNIDs implemented using mOPV1. In 2008, in addition to four NIDs using tOPV in three and mOPV1 in one, tOPV was also administered to all targeted children during the two rounds of immunization during Child Health Days. Post-campaign evaluation over the past three



years has been very helpful in identifying and addressing gaps in campaign quality. Also, several innovative approaches were used in conflict affected areas, including full involvement of the community elders, use of windows of opportunity to access children and implementing repeated rounds within short periods using mOPV. In recognition of the continued risk of importation and poor routine coverage and in order to prevent building of a pool of susceptible individuals, supplementary immunization activities are continuing with at least two rounds of NIDs annually in addition to OPV given during Child Health Days.

The AFP surveillance system is well established, with a large number of national staff and reporting sites and a strong community component. All major surveillance indicators were achieved at national level during 2007 and 2008.

Efforts are also ongoing to coordinate activities in the Horn of Africa, where communication and exchange of information is ensured and most of the immunization campaigns are synchronized between Somalia, the Somali region of Ethiopia, northeast Kenya and Djibouti.

3. Implementation of polio eradication strategies

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3.1 Routine immunization



High routine immunization coverage of infants is one of the basic strategies of polio eradication. The crucial role of high routine coverage is highlighted by the outcome of importation, where imported poliovirus did not result in more than sporadic cases in countries with high routine coverage.

Polio eradication activities continue to support and strengthen routine immunization. The polio eradication workforce helps to strengthen routine immunization. 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 increased their capacity to support immunization programmes.

The surveillance structure developed for AFP surveillance has been supporting surveillance of other initiatives of the Expanded Programme on Immunization (EPI) such as measles elimination. The laboratory network established for polio eradication is now extending laboratory services for EPI diseases and other diseases of public health importance.

3.2 Supplementary immunization activities



Priority attention continues to be given to implementing high quality supplementary immunization activities, with the aim of ensuring that all children under 5 years are immunized against polio, especially in countries with low routine immunization coverage.

During 2007–2008, more than 800 million doses of OPV were given in national and subnational immunization campaigns in the Region. Afghanistan, Pakistan, Somalia (during 2007) and south Sudan (starting mid 2008) carried out supplementary immunization activities throughout the year at intervals of 4–6 weeks. Mop-up activities were also implemented in response to wild poliovirus isolation in newly affected areas in Afghanistan, Pakistan and Sudan using the appropriate monovalent OPV. To guard against spread after importation,

some polio-free countries conducted annual NIDs (Djibouti, Egypt, Iraq, Sudan and Yemen), while other countries conducted annual SNIDs addressing mainly high-risk areas and areas with low routine coverage (Lebanon, Jordan, Libyan Arab Jamahiriya, Saudi Arabia and Syrian Arab Republic). Opportunities created by measles campaigns and other programmes such as Child Health Days in Somalia are used to deliver additional doses of OPV. In response to the isolation of wild poliovirus from environmental samples in late 2008, Egypt implemented four supplementary immunization activities in late 2008 and early 2009 including three SNIDs covering areas of greater Cairo in addition to one NID.

Campaigns in the region were conducted from house to house, targeting all children less than 5 years of age. Extensive efforts were made to ensure high quality. Politicians and community leaders were enlisted, and multisectoral approaches were implemented to involve governmental and nongovernmental sectors and included intensified social mobilization and supervision activities. Detailed micro-plans with maps were developed and used to reach every child, with special focus on risky areas and difficult-to-reach groups. Monovalent vaccine was used in specific situations to maximize type-specific immune response and finger-marking was used to guarantee that no child was missed. Independent monitors observed and assessed outcome of campaigns, and their findings helped to pinpoint problems to be resolved by the responsible authorities. NIDs were coordinated between neighbouring countries and supplementary immunization activities were also used to provide other services, such as delivering life-saving vitamin A and deworming tablets.



3.3 Surveillance for acute flaccid paralysis



The AFP surveillance system in the Region continues to perform at the accepted international standard and even exceeds the required indicators in many priority countries. All endemic, infected or recently polio-free countries have maintained a non-polio AFP rate of at least 2 per 100 000 children under the age of 15 years. Many other countries, particularly those at high risk of importation, also exceeded the required level. Overall, the Region has achieved a rate of 4.08 in 2007 and 4.42 in 2008, with all countries exceeding the minimum rate of 1 per 100 000 population under 15.

The second key quality indicator for surveillance is the percentage of AFP cases with adequate stool collection. In 2007 and 2008, this indicator was maintained above the target of 80%. It reached 90.9% in 2007 and 91.7% in 2008.

All countries provide AFP surveillance data on a weekly basis to the Regional Office, where they are analysed and published in the weekly polio fax. As well, the quality of AFP surveillance is assessed through in depth-review missions with actual field evaluation. At the end of 2007, with the AFP surveillance reviews conducted in Bahrain, Kuwait,

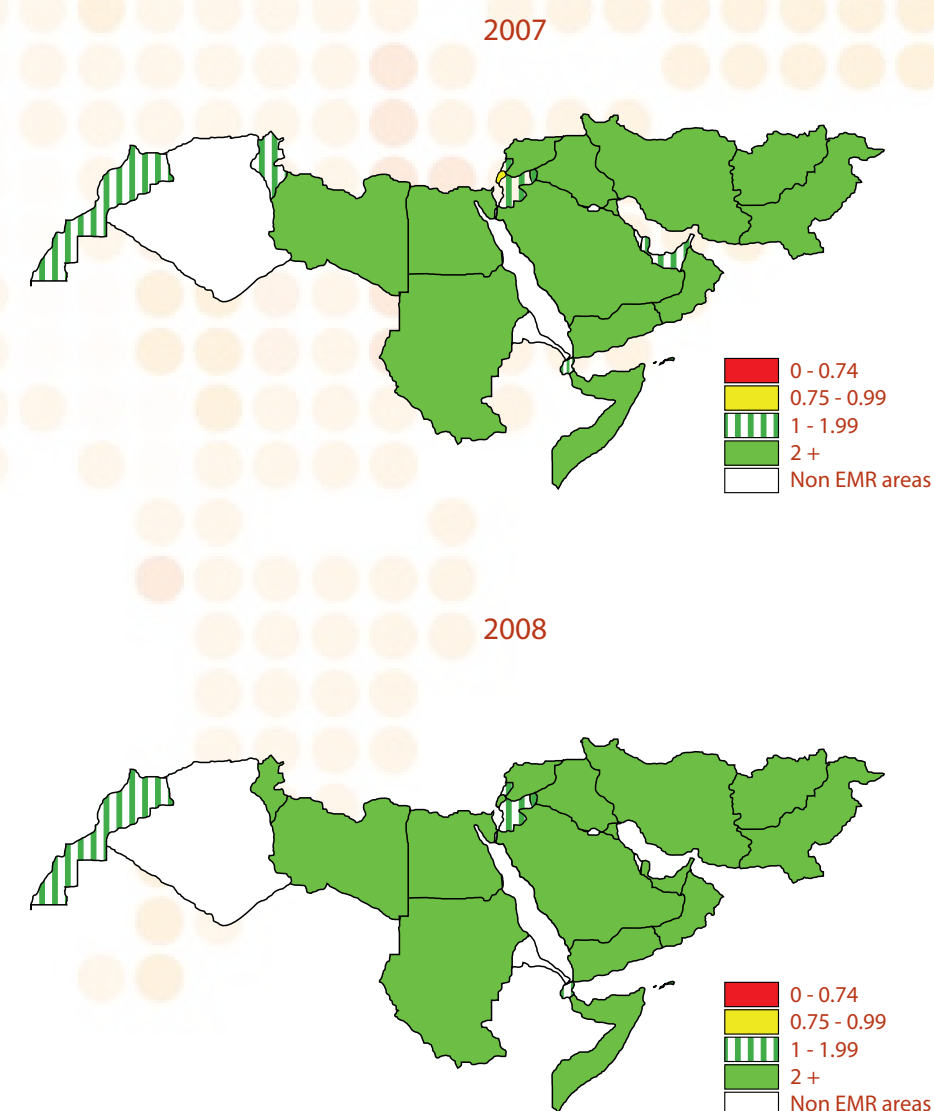


Figure 6. Non-Polio AFP rate in the Eastern Mediterranean Region, 2007–2008

Oman, Qatar and United Arab Emirates in the later part of the year, all countries of the Region had been reviewed by international staff at least once since 2004. The only exceptions are two security-compromised countries: Palestine and Somalia. In 2008, Afghanistan and Saudi Arabia had international reviews and a desk review for Somalia. In early 2009, south Sudan had an international review. The Regional Office

follows up closely the implementation of the recommendations of these reviews.

To maintain high standard surveillance in the Region, the Regional Office has developed regional guidelines for many of the procedures implemented in AFP surveillance. These guidelines have been communicated to the national programmes and are used to update



their national guidelines and maintain surveillance performance. A surveillance workshop was conducted in March 2007, with participation from all countries, to share the findings of the surveillance reviews and train the national staff. The workshop also included one day on measles surveillance reflecting the pivotal role played by polio eradication staff in other EPI programmes. During 2008, two workshops were implemented for countries of the Gulf Cooperation Council in order to address all needs identified during the reviews.

The Regional Office is working on updating the IFA (Information for Action) database system. During early 2008, three workshops were conducted to train the data management staff in all countries on the new system. This also represented a chance to build analytic capacities of the staff. The new systems will incorporate a component for collection of data on samples collected from contacts of selected AFP cases.

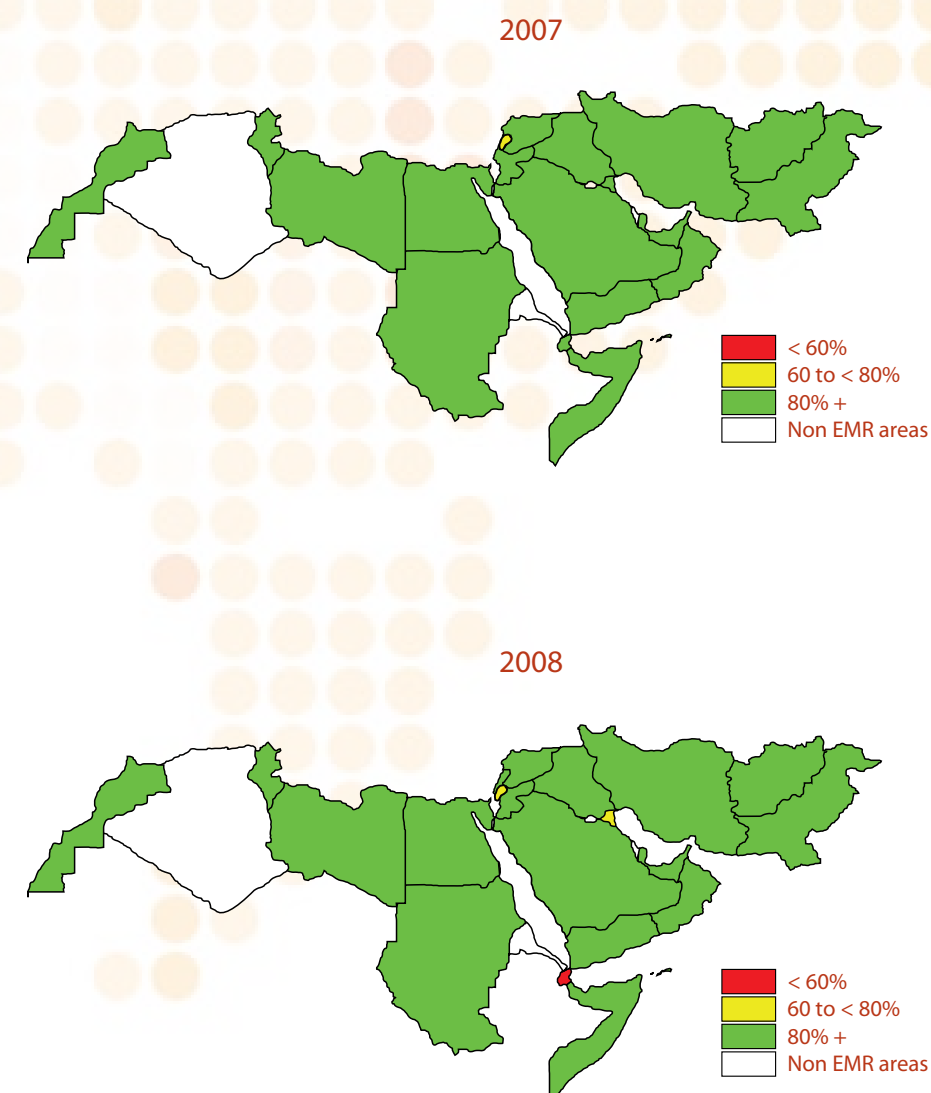


Figure 7. Stool adequacy rate in the Eastern Mediterranean Region, 2007–2008

As the target of eradication nears, it is critical to sustain the quality and sensitivity of the AFP surveillance in all the countries of the Region and hence provide necessary information to guide programme activities for interruption of viral circulation in endemic countries and for timely

detection and response to any wild poliovirus importation in polio-free countries. Continued national commitment, close monitoring and the support to these programmes will ensure this goal is achieved.

3.4 Regional Laboratory Network

The performance of the regional polio laboratory network is sustained at certification standard. All network laboratories were fully accredited, and have passed the WHO proficiency testing panel for both primary virus culture and intratypic differentiation (ITD) testing.

There was a general increase in laboratory workload due to improvement in AFP surveillance and collection of stool samples from contacts of selected AFP cases. In 2007, the regional polio laboratory network tested 18 632 stool samples from AFP cases, 4732 from contacts, and 849 from other sources. All laboratory performance indicators were well above the set targets: cell culture report within 28 days (100%), non-polio enterovirus rate (18%), ITD within 14 days (99%), and final report within 60 days of onset of paralysis (99%). In 2008, the polio network laboratories processed 25 823 stool specimens of AFP cases and contacts.

A remarkable achievement is the implementation of new testing algorithm in all regional network laboratories, which has shortened the time of reporting of virological investigation results to less than two weeks. The speed of sequencing results for wild polioviruses has also increased; most WPV positive cases have been confirmed within one week of isolation, which in turn has reduced the response time in the field for immunization activities. After the implementation of new test algorithm, the mean time from onset of paralysis to ITD result decreased from 31 days in 2006 to 25 days in 2007 and 23 in 2008. The period from receiving sample in laboratory to ITD results has decreased from an average of 19 days in 2006 to 15 days in 2007 and 14 in 2008. The real-time PCR method for rapid characterization of polioviruses will be established in polio intratypic laboratories for the Region; in this regard a training workshop was held in January 2009 at the national polio laboratory, Muscat, Oman.

Two more laboratories (Morocco and Syrian Arab Republic) were given the facilities for ITD testing, and are in the process of establishing ITD testing. New LABIFA software, version 4.0, was designed in light of the needs of the new algorithm for use in network laboratories beginning in March 2008.



Islamic Republic of Iran (one with mixture of type 1 and 2, and another with type 2), and one child in Egypt (type 3). Isolates from these cases were classified as iVDPVs. There was no evidence of secondary spread of VDPVs from any of the immunodeficient persons.

Maintaining the polio laboratory network is of vital importance 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. Therefore efforts are needed to address and resolve challenges that may face the network.

Environmental surveillance continued as a supplemental surveillance activity in Egypt. There are plans to establish environmental surveillance in some cities in Pakistan to improve our understanding of the circulation of WPVs and help in selecting areas to be targeted for immunization activities.

In 2007 and 2008, vaccine-derived polioviruses (VDPVs) were isolated from AFP cases who were subsequently confirmed as immunodeficient patients. These included two children in the

3.5 Improving the quality of life of polio victims



Poliomyelitis survivors are one of the largest groups with physical disability in the world. WHO estimates that worldwide there are between 10 and 20 million polio survivors living with physical disabilities.

It is essential to provide polio patients with the treatments needed for rehabilitation, namely physiotherapy, orthotics and corrective devices, in order to optimize their functional mobility. In some cases, surgical interventions may also be needed.

The Regional Office, in collaboration with the International Islamic Relief Organization (IIRO), has established a programme for improving the quality of life of children suffering from polio-related disabilities in Yemen and Pakistan, where there are significant number of cases of post polio paralysis following the epidemic of 2005 in Yemen and the continued endemicity in Pakistan. The specific objectives of this programme are to enhance the mobility and dignity of children suffering from disabilities caused by polio and to facilitate their integration as productive members of society.

So far, the programme is covering 119 polio survivors in Pakistan and 144 in Yemen and are providing them with various types of orthotic supports. The orthotic devices used are manufactured locally. In Pakistan, in addition to rehabilitation, arrangements have been made for schooling of those patients who are school aged, including covering school fees, uniforms and books.

It is sincerely hoped that this programme will be continued, and that all former patients with polio-related disability can be identified and the necessary support provided, both institutional and community-based.

4.2 Certification of poliomyelitis eradication

The Regional Certification Commission continued to review various national documents submitted by the National Certification Committees (NCC) of countries in the Region. By the end of 2008, final reports were submitted and accepted from 14 countries, which have all been polio-free for 5 or more years and had completed phase 1 of the laboratory containment (Bahrain, Islamic Republic of Iran, Iraq, Jordan, Oman, Kuwait, Qatar, Lebanon, Libyan Arab Jamahiriya, Morocco, Syrian Arab Republic, Tunisia, Saudi Arabia and United Arab Emirates).

Another six countries have submitted basic documents that have been accepted by the Commission (Egypt, Djibouti, Palestine, Somalia, Sudan and Yemen). Among these, Sudan has to resubmit its basic documentation after the interruption of the current epidemic in south Sudan and Djibouti will re-submit its final report in 2009. These countries and others whose basic national documents have been recently accepted will continue to submit annual updates until regional certification has taken place.

The remaining polio endemic countries of the Region, Afghanistan and Pakistan, have submitted provisional national certification documents which were reviewed by the Regional Certification Commission in 2007 and 2008. The preparation of these reports has helped the NCC 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 Regional Certification Commission's critical review of such reports.



4.1 Laboratory containment of wild poliovirus and potential infectious material

The Eastern Mediterranean Region continues to make progress in containment activities. All countries of the Region except Afghanistan, Pakistan and Somalia have completed Phase 1 of containment (laboratory survey and inventory activities). National plans of action have been developed by Afghanistan. However, there is a delay in initiating phase 1 activities in Pakistan and Somalia.

All countries except Palestine that have completed Phase 1 of containment activities have submitted the quality assurance report.

5. Technical and financial support to countries

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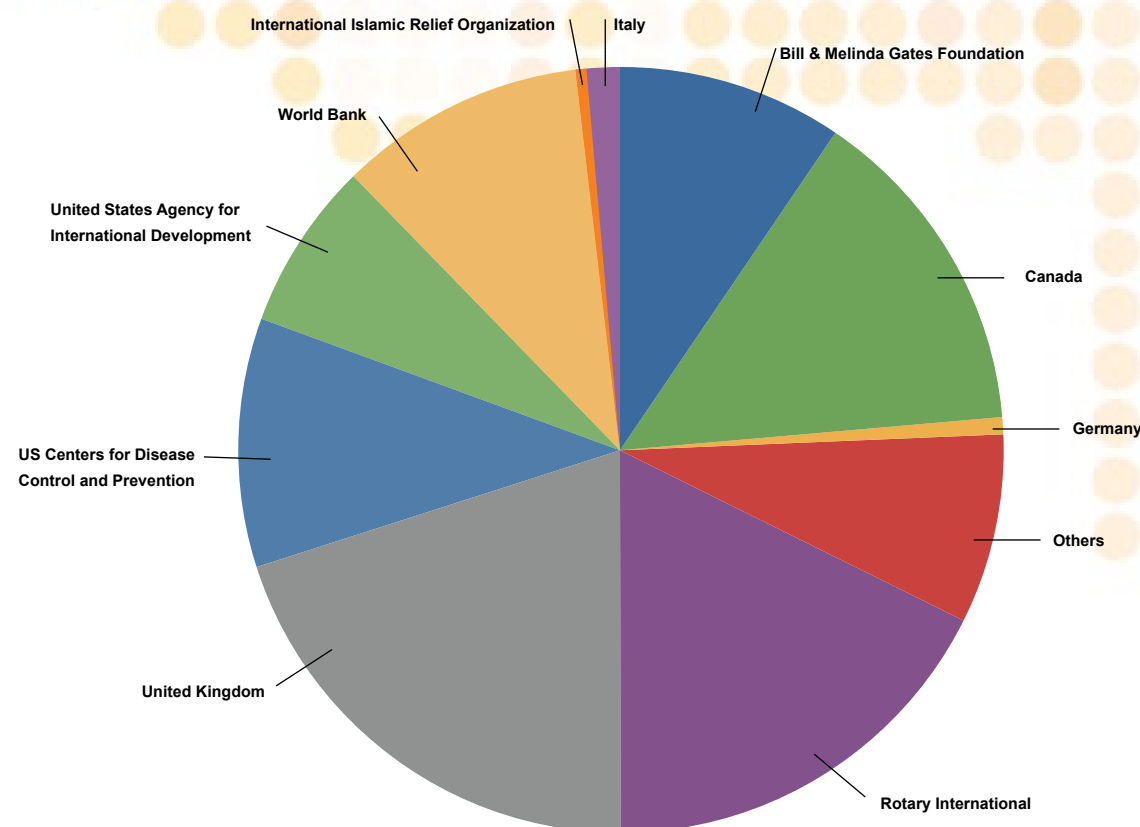


Figure 8. Donor contributions to poliomyelitis eradication in the Eastern Mediterranean Region, 2007–2008

Technical support to the regional polio eradication programme is continuing, using about 70 international and over 1000 national polio staff in addition to teams of experts constituting both regional and country Technical Advisory Groups, which provide advice to the national programmes on strategic directions. At the same time, all polio staff are extending support to EPI as well as helping to address other priority health programmes at country level.

The surveillance structure developed for AFP surveillance has proved to be capable of supporting other EPI initiatives such as measles elimination and the established laboratory network for polio eradication is now extending laboratory services for EPI diseases and other diseases of public health importance, including the H1N1 influenza pandemic.

Significant resources for the eradication efforts are being provided by 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 external resources provided to support the planned activities through WHO for 2006–2007, were approximately

US\$ 117 million; these included US\$ 72 million for operational expenses, US\$ 16 million for surveillance and laboratory and US\$ 29 million for national and international staff. The external resources provided to support the planned activities through WHO for 2008–2009, have exceeded the amount planned (US\$ 124 million) to cover operational expenses, surveillance and personnel. The additional resources were needed for operational costs to address the developments in the epidemiological situation.

The main contributors to these funds were the UK Department for International Development, Rotary International, World Bank, GAVI Alliance, Government of the United States of America, Bill & Melinda Gates Foundation, United Nations Foundation, Government of Canada, European Community and Governments of Malaysia, Kuwait, Russia, France, Germany, Saudi Arabia and United Arab Emirates.



6. Coordination with other Regions



The recent importation of the virus into south Sudan from Ethiopia then from south Sudan into Kenya and Uganda is an indication to the importance of close coordination between neighbouring countries particularly in areas where the same population live on both sides of the borders and where population movement is extensive through wide and porous borders.

Coordination is being extended to neighbouring countries of other WHO regions. Several coordination meetings for the Horn of Africa took place during 2007–2009, and the Horn of Africa bulletin is being issued regularly with input of all concerned countries. As well, the Horn of Africa Technical Advisory Group met in April 2007, July 2008 and February 2009. Synchronization of activities and exchange of information between countries has improved greatly. However, there is still room for improving direct coordination at local levels. Operation MECACAR to fight polio is continuing between neighbouring countries of the Eastern Mediterranean and European regions, in line with the declaration signed in 2007. The scope of Operation MECACAR has been extended to include measles elimination and routine immunization as well.

Given the continued threat of poliovirus importation from Nigeria, the Regional Office continued to assist in providing technical support to the polio eradication efforts in Nigeria to help in the planning and implementation of polio 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 the unfounded rumours about the vaccine and vaccination.

7. Regional commitment for polio eradication



With the goal of stopping transmission in the Region now closer than ever, regional commitment for poliomyelitis eradication is at its highest level, with national authorities in both endemic and polio-free countries showing great commitment.

The continued interest and regular review of the situation by the Regional Committee, along with the progressive guidance reflected in Regional Committee resolutions, are the driving force towards achieving this goal at regional level. The Regional Office has continued its advocacy efforts with dissemination of information and regular updates and alerting national authorities to developments. The Regional Director continued to pay visits to priority countries and met with Heads of State, Prime Ministers,

Ministers of Health and other senior national officials, who assured him of their continuing commitment to eradication efforts.

The commitment of the two endemic countries in the Region, Pakistan and Afghanistan, was reaffirmed during a stakeholder's consultation in Geneva in February 2007 and the meeting of the Advisory Committee on Polio Eradication in October 2008, as well as during the visit of the WHO Director-General and Regional Director to both countries and in subsequent meetings held with high-level officials including President Hamid Karazi of Afghanistan and Prime Minister Yusuf Raza Gillani of Pakistan.

8. Regional experience and lessons learnt – re-emerging virus circulation



Many lessons were learnt from the experience of re-emergence of wild poliovirus circulation in some polio-free areas and from the ability of other areas to maintain polio-free status.

1. *A good AFP surveillance system is of utmost importance for early detection of and rapid response to importations.*
2. *High routine immunization coverage is indispensable in averting the establishment of circulation after importation.*
3. *As long as there is wild poliovirus circulation in a place with a population link to polio-free areas, the risk of re-introduction of the virus is real.*
4. *It is important to be ahead of the virus, blocking its path, rather than pursuing the virus after it strikes (preventive supplementary immunization activities in northern Sudan, Yemen, Somalia).*
5. *It is essential to choose wisely among the alternative strategies (NIDs versus SNIDs) and to decide carefully which type of vaccine to use (mOPV versus tOPV).*
6. *Additional surveillance strategies (contact sampling, environmental sampling) have great value in supplementing the standard AFP surveillance activities.*
7. *There is a need to monitor continuously population movement patterns between infected and polio-free areas to predict possible importations.*

9. Challenges and future directions



The main challenges facing the programme include the following.

1. *Continuation of endemic wild poliovirus transmission in the shared transmission zones of Pakistan and Afghanistan, where access to children is compromised due to insecurity, especially in the conflict-affected areas of southern Afghanistan and tribal areas of Pakistan, and in other areas due to cultural constraints, refusals and sub-optimal quality of supplementary immunization activities.*
2. *Ongoing outbreak and spread of poliovirus in south Sudan, indicating a large immunity gap caused by poor routine immunization and sub-optimal quality of supplementary immunization activities.*
3. *Maintaining interest and commitment of national authorities at all levels in both polio-endemic and polio-free countries.*
4. *Importation of wild poliovirus to the Region from remaining endemic countries, especially countries in the extended Horn of Africa.*
5. *Securing necessary resources from both national funds and external resources.*

To address these challenges the regional priorities for polio eradication during 2009 are as follows.

1. *Interrupt transmission in Pakistan and Afghanistan through intensifying supplementary immunization activities, addressing managerial issues, ensuring high quality performance and ensuring access to children in the security-compromised areas.*
2. *Interrupt transmission of P1 virus in south Sudan with focus on improving the quality of supplementary immunization activities and providing necessary logistical support to the programme.*
3. *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.*
4. *Maintain certification-standard surveillance in all countries, at both national and sub-national levels and particularly among high-risk areas and populations.*
5. *Maintain and further 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.*
6. *Maintain the polio laboratory network and promote its use for other relevant programmes and continue with containment and certification activities.*
7. *Make available the financial resources required to implement the regional plan for polio eradication.*

just **TWO** drops



Poliomyelitis Eradication
in the Eastern Mediterranean Region



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