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Eastern Mediterranean**

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**Progress report on  
Eradication of poliomyelitis**

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## 1. Introduction

In 1988, the World Health Assembly resolved to eradicate poliomyelitis globally. Since then, the implementation of eradication strategies has reduced the number of countries endemic for poliomyelitis from 125 in 1988 to 6 in 2003. During this period, three WHO Regions were certified as polio-free: the Americas, Western Pacific and European Regions.

The Eastern Mediterranean Region also reached the lowest ever number of confirmed polio cases in 2003 (113 reported cases) compared with an estimated 35 000 cases in 1988.

Strong progress continued in Asia and North Africa in 2004. However, in Nigeria, one of the remaining poliovirus reservoirs, immunization activities were suspended in northern areas in mid-2003 due to unfounded concerns over the safety of the polio vaccine. Following this, Nigeria became the epicentre of an epidemic that affected a broad band of countries across Africa and extending to Asia reaching Yemen and Indonesia. Up to mid 2005, a total of 19 previously polio-free countries were reinfected by poliovirus. In eight of these countries the population immunity levels were not sufficiently high to prevent re-establishment of transmission of the imported wild poliovirus (Burkina Faso, Central African Republic, Chad, Cote d'Ivoire, Indonesia, Mali, Sudan and Yemen).

Immunization activities were resumed in Kano, Nigeria in mid-2004 and several synchronized immunization campaigns were implemented across 23 countries in west and central Africa reaching more than 80 million children. There is a significant threat to many other countries, especially in the Horn of Africa (Djibouti, Eritrea, Ethiopia and Somalia).

Polio immunization campaigns were further intensified in Afghanistan, India and Pakistan, with activities conducted on average every six weeks in the highest risk areas, resulting in significant reduction in the number of cases.

## 2. Current situation in the Eastern Mediterranean Region

### 2.1 Regional progress

Following strong political commitment and intensification of polio campaigns in the remaining endemic countries, good progress was achieved. Cases were halved in 2004 as compared with 2003. Progress continued in 2005, with only 12 cases in Pakistan and 4 in Afghanistan up to July.

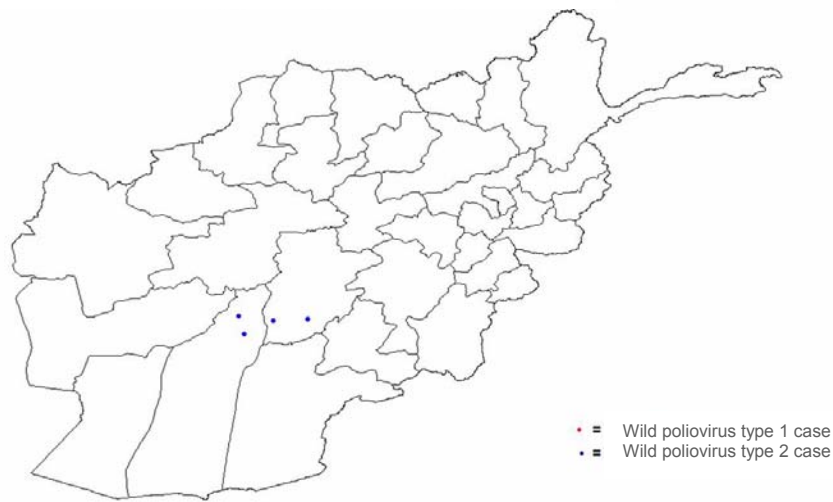
Together with these encouraging developments the Region suffered a serious setback with the reintroduction of poliovirus from Nigeria to Sudan and from there to Saudi Arabia and Yemen. Only two cases were reported from Saudi Arabia late in 2004 due to imported poliovirus, with no secondary spread. In Sudan and Yemen, however, the importations have resulted in explosive epidemics.

### 2.2 Highlights on endemic and re-infected countries

#### *Afghanistan*

Immunization activities were intensified in 2004, with four nationwide campaigns conducted, reaching more than 7 million children each time, and five subnational immunization campaigns mostly conducted in synchronization with neighbouring Pakistan. Four poliomyelitis cases were reported in 2004 representing the lowest number ever for the country. In 2005, between April and June, four cases of type 3 were reported from adjacent areas in Helmand and Urozgan provinces, where there are considerable security problems (Figure 1).

A high level mission composed of senior officials of the Ministry of Public Health, WHO, UNICEF and nongovernmental organizations visited affected provinces in July 2005 and held advocacy meetings with provincial and district governors, district health officials and nongovernmental organizations working in the area. Meetings were also organized with tribal leaders and community elders to ensure their full engagement in accessing all children and reaching them with the vaccine. A mop-up campaign was organized in August 2005.



**Figure 1. Wild poliovirus cases by type in Afghanistan by province, 2005**

### *Egypt*

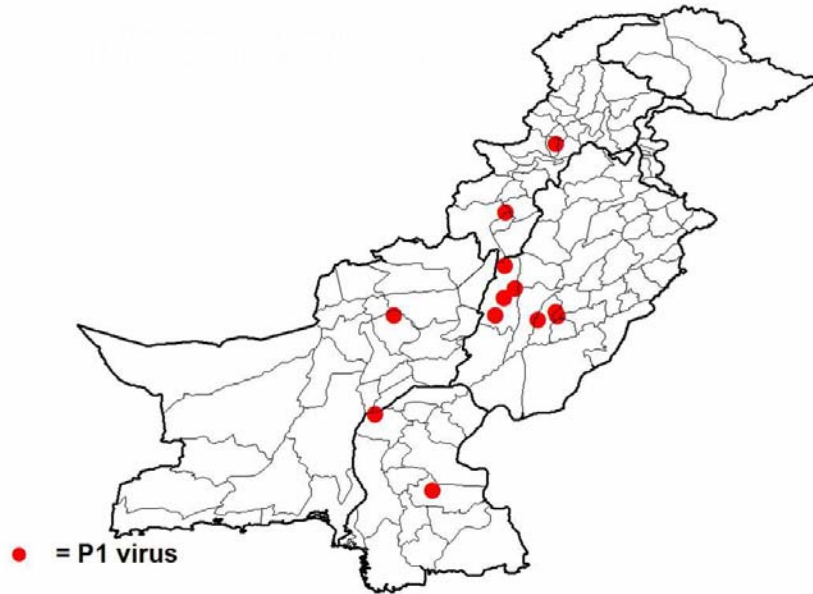
The quality of immunization activities continues to improve, with campaigns consistently reporting over 95% coverage as verified by surveys conducted by supervisors and independent monitors. One confirmed polio case was reported in May 2004; this was the last reported case. Environmental samples positive for wild poliovirus have decreased from 57% in 2001 to 16% in 2002, 4% in 2003 and less than 3% in 2004, with the last samples positive for wild poliovirus reported in January 2005. As only type 1 wild poliovirus has been identified in Egypt since December 2000, monovalent oral poliovaccine type 1 (mOPV1) was introduced to interrupt the final chains of transmission. Two rounds were implemented with mOPV1 in May and July 2005 with reported very high quality and coverage. The high level of political commitment to polio eradication in Egypt has made a strong impact, and there is a clear indication that interruption of viral circulation in Egypt may have already been achieved.

### *Pakistan*

Pakistan has made great progress towards eradication with clear evidence of decreasing virus diversity and intensity of transmission. The number of confirmed polio cases was halved between 2003 and 2004 (103 versus 53 respectively). In 2005, only 12 cases were reported up to mid July; two were from Sindh, two from North-West Frontier province, one from Baluchistan and seven from south Punjab, which seems to be the focus of the last persisting poliovirus transmission in Pakistan (Figure 2). All cases in 2005 were due to wild poliovirus type 1. Type 3 polioviruses had not been reported since December 2004.

The strategic measures adopted by the programme in 2004 and 2005, namely to ensure engagement of civil administration, focus on identification of high-risk districts and intensify support to these areas, have led to substantial improvements in the quality of supplementary immunization activities and in the immunization status of children in Pakistan.

While the general performance of the programme has reached a very good level, the remaining risk areas must be addressed to ensure the achievement of polio eradication in 2005. The engagement of the civil administration will need to be sustained and further expanded, particularly in the highest priority areas. The youngest children, those under one year of age, are still insufficiently accessed in some high-risk districts and zones due to cultural habits and security problems. Efforts to access these children need to be sustained and broadened to achieve a lasting effect.



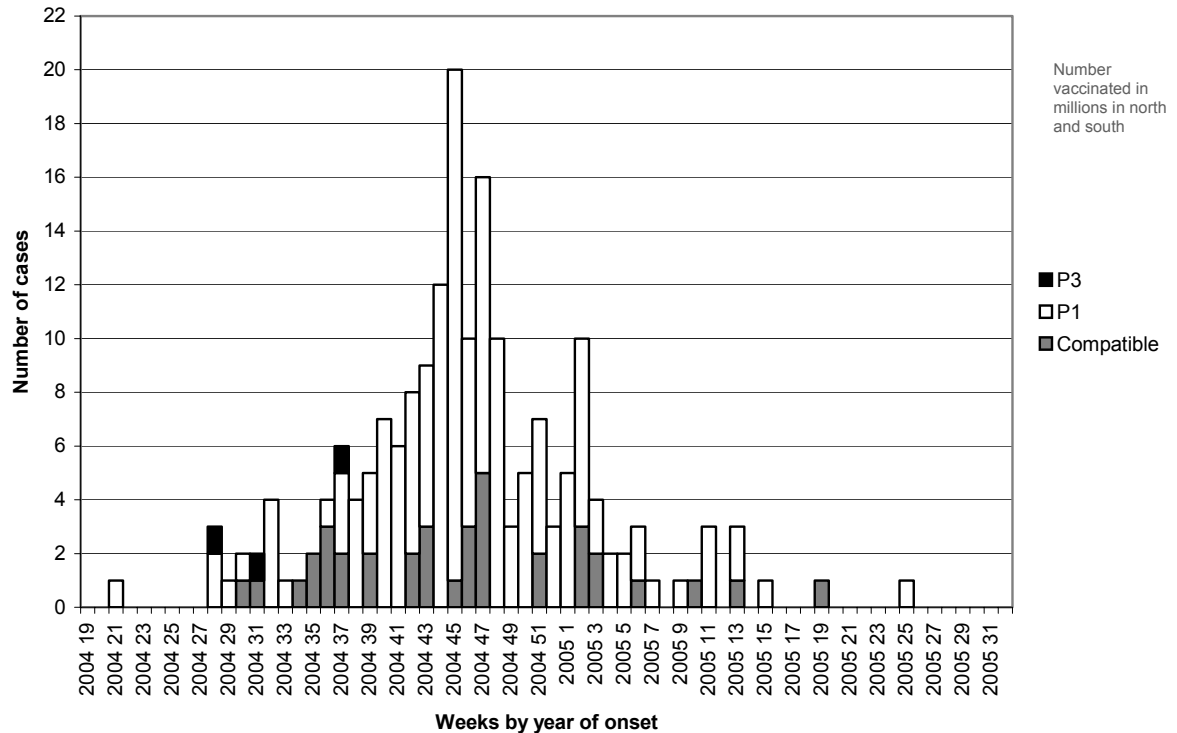
**Figure 2. Wild poliovirus cases by type in Pakistan by district,  
1 January–24 July 2005**

#### *Sudan*

Through well implemented supplementary immunization activities and good surveillance, Sudan succeeded in 2001 in stopping transmission of wild poliovirus; the last case was reported in April 2001. The last national immunization day (NID) campaign was conducted in December 2002, after which the global shortage of funds, focus on endemic countries and a routine immunization coverage of around 70%, with great variability and foci of very low coverage, led to the accumulation of a large group of susceptible population.

The epidemic started with the introduction of imported poliovirus from Nigeria through Chad to west Darfur, where the first case was reported in May 2004. Transmission then spread and continued for about a year, resulting in 153 confirmed cases reported from 19 states in north and south Sudan. Of these cases, 127 had onset in 2004 and 26 in 2005. Most of the cases occurred in the north (141) and all but three were wild poliovirus type 1. Transmission was facilitated by the immunity gap together with other factors such as population movements across the border and within the country.

The response to the reintroduction was immediate. A mop-up campaign was conducted in July targeting the Darfur states, followed by another round in August adding West Kordofan state. Due to the spread of infection to other states, a series of NIDs was implemented in October and November 2004, then in January, February, April, May and July 2005 (Figure 3). WHO extended significant technical and financial support, including introduction of new strategies such as defaulter tracing, finger marking and independent monitoring, resulting in improved campaign quality. The campaigns were implemented as part of coordinated supplementary immunization activities across countries of west and central Africa. As a result of these activities, the epidemic has subsided and the last case was reported in June 2005. However, the situation is still fragile, and population movement and poor accessibility in conflict areas are ongoing challenges. More campaigns are planned before the end of 2005 and through 2006 to ensure complete interruption of virus transmission and to guard against spread as a result of reintroduction of the virus.



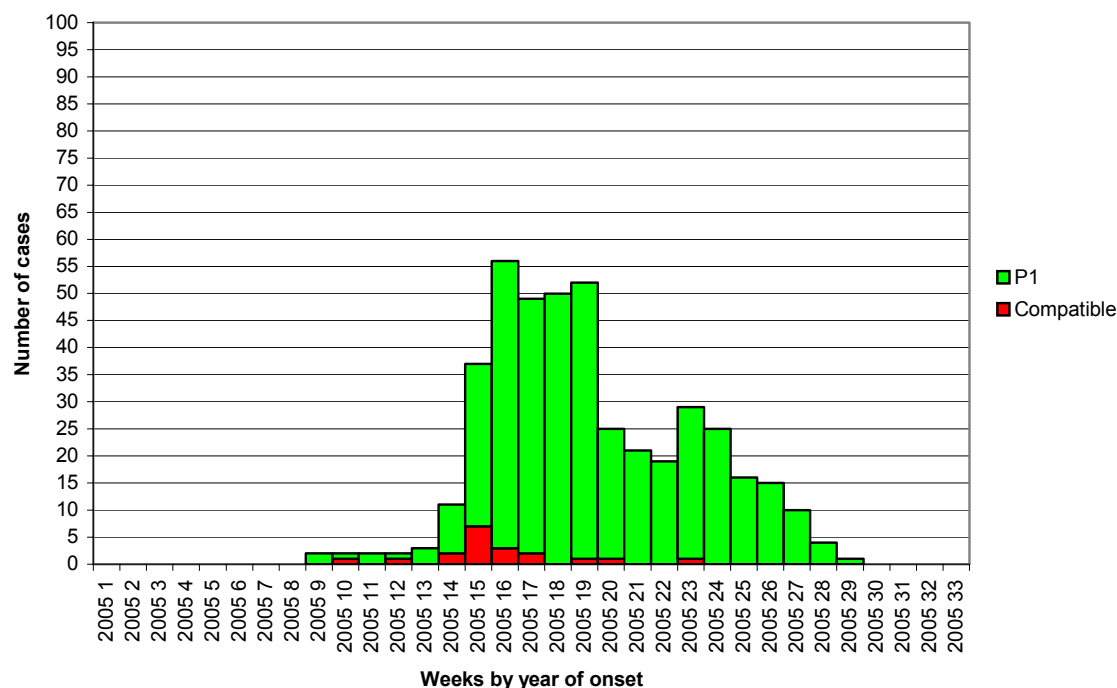
**Figure 3. Epidemic curve of poliomyelitis in Sudan in relation to supplementary immunization activities (2004–2005)**

#### *Yemen*

Before the recent epidemic, wild poliovirus had never been isolated from Yemen and the last clinically confirmed case was reported in 1996. Supplementary immunization activities started in 1996 and were conducted as yearly NIDs until 2001. In 2002 and 2003, only subnational immunization days (SNIDs) were conducted. The cessation of NIDs, coupled with low routine immunization coverage, led to a significant immunity gap in the population, so that the introduction of the virus in early 2005 resulted in a massive epidemic, with 400 cases up to the end July of 2005. Although the AFP surveillance system, which was established in 1997, has maintained certification standards since 2001, there have been delays in detecting early cases of the polio epidemic due to engagement of staff in surveillance of dengue fever. The first confirmation was on 20 April, after the virus had spread extensively, particularly in Hodaida governorate.

Following the epidemic in Sudan, all countries of the Region at high risk were alerted to resume supplementary immunization activities, with Yemen at the top of the list. NIDs were planned but implementation was delayed due to insufficient vaccine and financial resources. The first round was implemented on 11 April, by which time the virus had already spread; hence the impact of the round was limited.

The confirmation of wild poliovirus was followed by rapid response and strong technical support by WHO to ensure high quality house-to-house campaigns implemented in May and July using the more effective mOPV1. Additional rounds are planned to take place in August, September and October to ensure full control of the situation, and NIDs will continue in 2006 as well (Figure 4). Cases were reported from 21 out of 22 governorates. However, the majority were reported from Hodaida governorate, where most of the cases were infected before the April NID.



**Figure 4. Epidemic curve of poliomyelitis in Yemen in relation to supplementary immunization activities, 2005**

### 3. Implementation of polio eradication strategies

#### 3.1 Strengthening routine immunization

High routine immunization coverage of infants with at least three doses of oral poliovaccine (OPV) is one of the basic strategies of polio eradication. In 2004, the regional coverage of infants with at least three doses of oral poliovaccine (OPV3) was 79%, which has been the same for the past few years. The most significant development is the success of Iraq in re-establishing its routine immunization programme to the prewar level, after significant deterioration in 2003. Coverage levels of less than 80% with routine immunization during 2004 were reported from six countries: Afghanistan, Djibouti, Pakistan, Somalia, Sudan and Yemen.

High routine immunization coverage is crucial for maintaining polio-free status after successful eradication. The recent importations and resulting epidemics in countries such as Sudan and Yemen, compared with sporadic cases following importations in other countries like the Islamic Republic of Iran, Saudi Arabia and Syrian Arab Republic, highlight the importance of maintaining high routine coverage. The polio eradication initiative continues to emphasize the need to maintain high routine coverage and has worked to strengthen routine immunization in a number of ways.

- All poliomyelitis eradication staff are involved in the strengthening of routine immunization and in surveillance of vaccine-preventable diseases.
- A substantial amount of poliomyelitis eradication resources have been utilized in strengthening the physical infrastructure for routine immunization.
- The strategic planning process introduced for poliomyelitis eradication activities, and lessons learned from it, have been used in other initiatives in support of routine immunization services, such as in the process of application for support from the Global Alliance for Vaccines and Immunization (GAVI).

- Routine immunization has benefited from poliomyelitis eradication efforts in other areas such as in programme management, improved coordination and enhancement of political awareness and support.

### **3.2 Supplementary immunization activities**

Ensuring that every child under the age of five years is immunized against polio is the highest priority in polio eradication. In countries where routine immunization coverage is below desired levels, supplementary immunization activities remain a very important tool for achieving the high levels of immunity in children necessary to achieve and maintain polio-free status.

Intensification of supplementary immunization activities continued in 2004 in the remaining endemic countries, each of which conducted 8 rounds in 2004. The same intensification is continuing in 2005. Supplementary immunization activities were mostly in the form of NIDs, and in few cases SNIDs. In addition, mop-up activities were added to interrupt transmission rapidly in areas where the transmission is becoming focal. As well, several countries conducted supplementary immunization activities to guard against spread of the virus in the event of an importation (Bahrain, Djibouti, Jordan, Libyan Arab Jamahiriya and Oman).

The implementation of supplementary immunization activities continued to be refined and strengthened through the adoption of several approaches. These included:

- Identification and mapping of high-risk areas/districts and assuring the best possible performance.
- Strengthening the planning, monitoring and evaluation through extending significant technical support, including the introduction of campaign control rooms, finger-marking and independent monitoring.
- Introduction of the more potent mOPV1 in Egypt, to stop transmission; in Yemen, in response to the epidemic, and in Somalia, to address the possible spread following importation. The superiority of mOPV1 has been shown in studies in tropical countries where one dose of mOPV1 conferred immunity in 81% of those vaccinated, as compared with roughly 30% to 40% of those vaccinated with trivalent OPV.

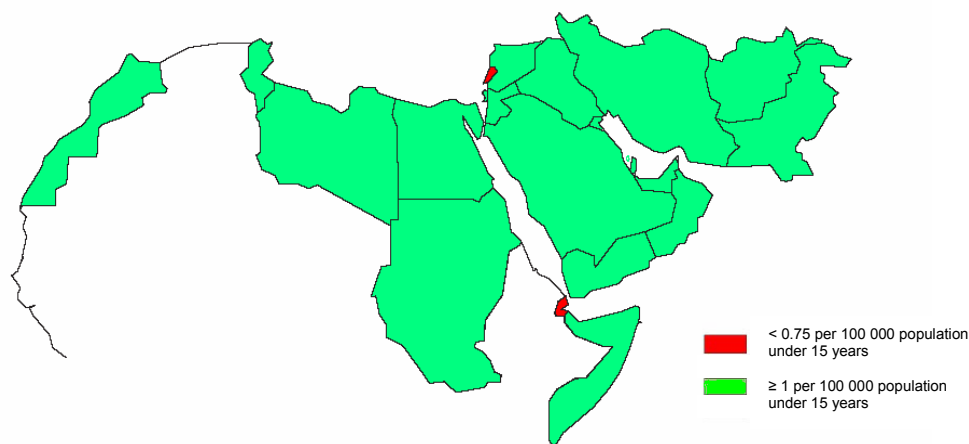
### **3.3 Surveillance for acute flaccid paralysis**

Surveillance for acute flaccid paralysis (AFP) is one of the main strategies and the driving tool for polio eradication activities. It is currently well established in all countries of the Region, even in those affected by war and in areas with rudimentary health infrastructure. The polio eradication surveillance structure has been used for the surveillance of other diseases targeted by the Expanded Programme on Immunization, and in some countries it is also used for investigation and response to other communicable diseases and emergencies.

The required level of sensitivity of AFP surveillance (non-polio AFP rate of 1 per 100 000 population under 15 years) was exceeded during 2004 at the regional level (2.68) and in all countries of the Region except Bahrain, Djibouti and United Arab Emirates, which have only a small number of expected AFP cases, and Palestine, which has a difficult security situation. For 2005, the annualized regional non-polio AFP rate is 3.17 (Figure 5). The second quality indicator for surveillance, namely percentage of AFP cases with adequate stool collection, was maintained in 2004 above the global target of 80% both at the regional level (90%) and in individual countries except Djibouti, Jordan and Lebanon. For 2005, the stool adequacy rate is 89%.

In Egypt, AFP surveillance is supplemented with environmental surveillance, in which sewage samples are collected and tested periodically from 33 sites all over the country with the aim of increasing the sensitivity for detection of wild poliovirus.





**Figure 5. Non-polio AFP rate in the Eastern Mediterranean Region, 1 January–24 July 2005**

To ensure that certification-standard surveillance is maintained until certification, surveillance reviews are conducted periodically. During 2004, surveillance reviews were carried out in Egypt, Lebanon, Libyan Arab Jamahiriya, Pakistan, Syrian Arab Republic and Tunisia. Up to July 2005, reviews were conducted in Morocco, Saudi Arabia, Sudan and Yemen, with more reviews planned later in the year. These international reviews are very constructive in highlighting issues that need immediate corrective action to maintain the sensitivity and quality required for surveillance systems capable of timely detection of any circulating poliovirus, including importations. The surveillance reviews have in general confirmed the sensitivity and the reliability of the system. The system has been further strengthened by national authorities who have always accepted and implemented the recommendations emanating from the reviews. The programme continues to be refined, such as through introducing new concepts (e.g. hot cases) and setting clear criteria for the collection of stool samples from contacts.

AFP surveillance in the Region is supported by a regional laboratory network of 12 laboratories. The performance of the regional poliovirus laboratory network continued to be of a high standard, as reflected by the accreditation of all laboratories except the national polio laboratory in Iraq, which could not be visited due to the prevailing security situation. All laboratories have passed the WHO proficiency panel for both primary virus culture and intratypic differentiation (ITD) testing. The national laboratory in Oman was recently accredited to perform ITD testing and support the regional network in this function, in addition to serving as a national laboratory. The regional reference laboratory in the National Institute of Health, Pakistan acquired the capability to carry out genomic sequencing for isolated polioviruses, an activity that previously could be performed only by the network of Global Specialized Laboratories. These developments represent a significant support to the regional polio eradication initiative.

The workload of network laboratories is increasing as a result of the continued developments in surveillance in countries of the Region. In 2004, virological investigations were performed on 6174 AFP cases. A total of 15 236 specimens were tested in the network laboratories, of which 12 643 were from AFP cases, 2133 from contacts, and 460 from environmental samples, healthy children and other sources. All laboratory performance indicators were well above the set targets, except transportation of samples within 3 days, which remained below 70%, mainly because of the time taken for shipment from countries with no national laboratory to other countries for testing. Results of virological investigation of 99.9% of AFP cases were reported within 28 days, 92% of ITD results for polioviruses were sent within 14 days, 94% of ITD results were reported within 60 days from date of onset of paralysis, and non-polio enteroviruses were isolated from 18% of the samples.

All isolated viruses are subjected to molecular testing. Genetic sequencing data suggest that wild poliovirus transmission is increasingly localized and genotypes are specific to endemic countries of

the Region. Sequencing is used routinely to identify epidemiological links between isolates and also to identify the source of the importations in the Region.

Every effort is being made to sustain and further develop performance of the laboratory network by ensuring human resources development through the conduct of refresher training workshops as well as provision of fellowships for training in advanced techniques. The necessary budget allocations for supplies and logistics were secured. The Regional Office continues to advocate for the utilization of the facilities and expertise of the polio laboratory network in other disease surveillance programmes.

#### **4. Preparedness for poliovirus importation**

The risk of importation will continue so long as wild poliovirus is circulating anywhere in the world. Recognizing the importance of this subject, the Regional Office prepared guidelines to assist Member States in developing national plans for preparedness for poliovirus importation. The Regional Certification Commission (RCC) decided that such plans should be one of the prerequisites for certification and included in the documentation requested by the RCC. The main pillars of preparedness are high population immunity gained through routine and supplementary immunization, and a sensitive AFP surveillance system.

Over the years, several importations have occurred in countries of the Region with high levels of population immunity (Lebanon, Palestine, Saudi Arabia and Syrian Arab Republic) with no secondary spread or evidence of re-established circulation. In contrast, importations into Sudan in 2004 and Yemen in 2005 resulted in explosive epidemics as a result of immunity gaps among children under 5 years. This highlights the need to continue supplementary immunization activities in polio-free countries with low routine immunization coverage.

Member States were alerted about the importance of activating national plans following the spread of virus from Nigeria to other countries in Africa. Further alert was raised when the Sudan epidemic occurred, particularly for Djibouti, Somalia and Yemen, as well as countries in north Africa and in the Gulf Cooperation Council.

The Regional Technical Advisory Group recommended in its last meeting in June 2005 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 groups, either locally or nationally, until uniform high coverage has been achieved.

#### **5. End-game issues**

##### **5.1 Laboratory containment of wild poliovirus and potential infectious material**

Nine countries of the Region (Bahrain, Djibouti, Islamic Republic of Iran, Jordan, Lebanon, Libyan Arab Jamahiriya, Oman, Qatar and Saudi Arabia) completed the first phase of activities for laboratory containment, namely the completion of the laboratory survey and inventory. Another six countries are in the final stages, with completion expected before the end of 2005 (Iraq, Kuwait, Morocco, Syrian Arab Republic, Tunisia and United Arab Emirates). The remaining countries include those with virus circulation and Palestine and Somalia, which are in the process of drafting their national plans of action, to be completed by the end of 2005.

As of end 2004, 19 060 laboratories have been surveyed and only 6 laboratories have been identified as storing wild poliovirus material. Most of these belong to the regional network of national polio laboratories.

Guidelines for documenting the quality of phase 1 of containment activities were pilot tested in three countries (Islamic Republic of Iran, Oman and Saudi Arabia), and reports were submitted to the RCC through the national certification committees. Other polio-free countries have been requested to submit their reports to the RCC.

##### **5.2 Certification of poliomyelitis eradication**

The RCC continued to review documentation from countries of the Region who have been polio-free for three or more years. So far, basic national documentation from 17 countries (Bahrain, Djibouti,

Islamic Republic of Iran, Iraq, Jordan, Kuwait, Lebanon, Libyan Arab Jamahiriya, Morocco, Oman, Qatar, Saudi Arabia, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates and Yemen) was accepted by the RCC. The national certification committees of these countries continue to prepare and submit annual updates to the RCC. As transmission has been re-established following the importation of wild poliovirus into Sudan and Yemen, the RCC decided to request the national certification committees in these two countries to resubmit their national documentation after being free of polio for at least a year. The RCC has reviewed national documentation from Palestine and Somalia, with acceptance pending clarifications requested from the national certification committees.

In order to facilitate the eventual timely submission of national documentation from Afghanistan, Egypt and Pakistan and to periodically review the current status of polio eradication initiative in these countries, the RCC has also been reviewing preliminary national documents from these countries.

As a step towards preparation for regional certification, the RCC decided to solicit final national documents for regional certification from countries that had been polio-free for five years or more and had completed phase 1 of laboratory containment. These countries will, however, continue to submit abridged annual updates until regional certification has occurred. Other countries satisfying these criteria are requested to submit final national documentation.

### **5.3 Regional preparedness for 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. Cessation should occur as soon as possible after global eradication, while population immunity and surveillance sensitivity are high. Minimizing the risk associated with stopping OPV requires careful preparation at the national and international levels and, eventually, simultaneous OPV cessation across all remaining OPV-using countries to ensure that no country is placed at risk of importing a vaccine-derived virus from an area where OPV use continues.

OPV cessation is associated with its own risks, mainly the emergence of circulating vaccine-derived polioviruses 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. These are: 1) confirmation of global interruption of wild poliovirus; 2) appropriate biocontainment of poliovirus stocks; 3) international poliovaccine stockpiles (mOPV); 4) highly sensitive surveillance; 5) a procedure for synchronous OPV cessation; 6) long-term routine polio immunization policy.

Regional progress with regard to the interruption of transmission, containment and surveillance has been discussed in other parts in this report. Although the availability of stockpiles of mOPV is a global issue, the Regional Office will provide support to countries to expedite the process of licensing by national regulatory authorities. As far as the synchronous cessation of OPV, it is expected that a global decision will be issued in 2006 through a Health Assembly resolution outlining the precise timing and process for simultaneous OPV cessation by all OPV-using countries. Detailed plans for the collection and destruction of all OPV stocks at the national level need to be worked out with national authorities. Following OPV cessation, documentation and verification of the destruction of remaining OPV stocks will be carried out in each country of the Region.

Considering the long term immunization policy, the Regional Technical Advisory Group in its 2004 meeting recommended that decisions regarding this issue be postponed for at least one year. Currently no country in the Region has made a final decision concerning continuation of immunization after eradication. There will be a chance to discuss with each country whether or not to use inactivated poliovaccine (IPV), taking into account the risk and benefits for each country situation.

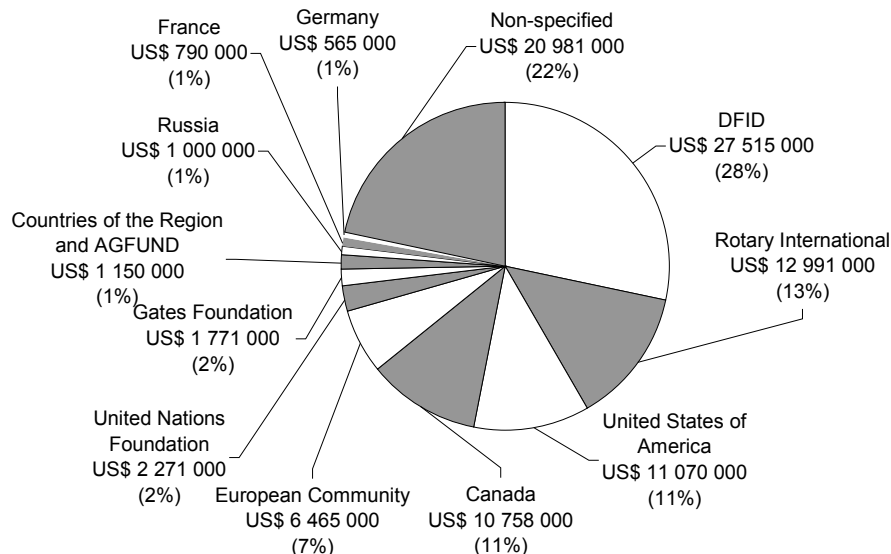
## **6. Technical and financial support to countries**

Technical support to the regional polio eradication programme is provided through 95 international and 879 national polio officers recruited by WHO and concentrated mainly in priority countries. Those staff also support other programmes and, in some places in Somalia and south Sudan, they are the

main form of health infrastructure currently operating. In addition, technical support in the form of expert teams was provided to Sudan and Yemen to help improve the implementation of house-to-house supplementary immunization activities. Similar local arrangements are being made in Afghanistan and Pakistan.

In addition to this continued support, the Regional Technical Advisory Group and national technical advisory groups continued to review the epidemiological situation and planned activities and advise on the strategic directions of the programmes. The groups concluded that poliovirus transmission in these countries has reached the lowest level ever recorded and that to reach cessation of transmission, the highest priority for the programmes must be to implement excellent quality house-to-house campaigns.

Some of the resources for the eradication efforts are being provided by the Member States, particularly with respect to routine immunization, which is basic for achieving the eradication target and for maintaining the progress achieved so far. Significant external financial resources are required to support activities necessary to achieve the target, particularly with respect to the provision of vaccines and operational expenses needed to intensify supplementary immunization, continue surveillance activities and ensure the availability of the technical support required. The estimated requirements, according to the strategic plan for 2004 and 2005, were in the order of US\$ 118 million; these included US\$ 37 million for vaccine, US\$ 49 million for operational expenses, US\$ 11 million for surveillance and laboratory and US\$ 21 million for national and international staff. In view of the developments with respect to the epidemics in Sudan and Yemen, the requirements increased by US\$ 20 million. Funds for vaccines and some operational costs are administered through UNICEF; the remaining are administered through WHO. During 2004–2005, more than US\$ 97 million were received by WHO to support operational expenses, surveillance and staff. The main contributors to these funds were the UK Department for International Development (DFID), Rotary International, Governments of the United States of America and Canada, European Community, United Nations and Gates Foundations, Government of Russia, France, Germany, United Arab Emirates, Qatar and Oman and the Arab Gulf Programme for United Nations Development Organizations (AGFUND). The relative proportion paid by various contributors is shown in Figure 6.



## 7. Regional commitment for polio eradication

**Figure 6. Major contributors to regional poliomyelitis eradication activities supported by WHO, 2004–2005** Political support for polio eradication is at a very high level in the Region. National authorities, in both endemic and polio-free countries, are committed to implementing all the polio eradication strategies. The Regional Committee for the Eastern Mediterranean has been in the forefront of polio eradication efforts since 1988. The continued interest and regular review of the situation by the Regional Committee and the

progressive guidance reflected in the Regional Committee decisions and resolutions have been the driving force towards achieving this goal in the Eastern Mediterranean Region.

In January 2004, an important ministerial meeting was held in Geneva for all remaining endemic countries, at the end of which countries and representatives of main partners signed the Geneva Declaration for the Eradication of Poliomyelitis, committing themselves and their countries to necessary actions to stop viral transmission by the end of 2004. The endemic countries met again in early 2005 in the ministerial meetings held in Geneva as a follow-up to the meeting in January 2004. Ministers of health and their delegations presented the progress made in their countries and the planned activities, and reaffirmed national commitment to achieving the target in 2005.

Advocacy efforts for polio eradication in the Region are continuing. The Regional Director paid a number of visits to Pakistan, the largest endemic country in the Region. He met with President Pervez Musharraf, who reiterated his promise to personally oversee the final push to eradicate polio from Pakistan. Meetings were also held with Governors, Ministers and other senior officials and leaders in different provinces.

The issue of polio eradication was also discussed during the 2004 meeting of the Organization of the Islamic Conference (OIC), whose 52 members include the remaining endemic countries in the Region. During the meeting, polio endemic member countries reaffirmed their commitment to the eradication efforts, and other OIC countries were called upon to support the global polio eradication initiative. The issue was addressed again in the 2005 meeting of OIC in Yemen, and the member countries reiterated their support to the initiative and their commitment to the target of a polio-free world.

WHO is playing a pivotal role in the polio eradication initiative in the Region. This role involves continued advocacy for the eradication initiative and dissemination of information about the global, regional and country situations through periodic publishing of the PolioFax and updates on the situation in endemic and recently re-infected countries. Letters are sent to national authorities alerting them about developments that may affect their countries. The provision of technical and financial support to Member States for activities that require external resources are also an important part of the role played by WHO.

## **8. Challenges and future directions**

The top priority for the regional polio eradication programme is to interrupt poliovirus transmission in the remaining endemic countries as soon as possible. Supplementary immunization will continue in 2005 with efforts to intensify the quantity of activities and also achieve the best possible quality. It is crucial to sustain the political commitment at all levels in these countries to ensure that this commitment is translated into accountability and better performance at the grass-roots level.

It is of equal importance to stop transmission in Sudan and Yemen and support them to regain their polio-free status and to ensure maximum coordination with neighbouring countries to avoid gap areas at the borders, particularly with countries with known population movement into and through Djibouti, Somalia and Sudan.

It is also important to avoid large immunity gaps among children under 5, especially in countries that are recently polio-free and have suboptimal routine immunization coverage. In addition to efforts targeted to improve routine activities in these countries, supplementary immunization activities should be planned to cover at least high risk and low coverage areas as long as the virus is circulating in or around the Region.

It is crucial to maintain certification standard surveillance in all countries of the Region through to global certification. Sensitive, high-quality surveillance is one of the pillars of preparedness for poliovirus importation and allows early detection and timely response to any possible importation. Surveillance data will continue to be closely monitored and surveillance reviews will be implemented in both endemic and polio-free countries.

As the goal of poliomyelitis eradication nears certification and post-certification activities are becoming more important. Completing the "survey and inventory" phase of laboratory containment of

wild poliovirus in all countries is a prerequisite for the regional certification of poliomyelitis eradication. As well, preparations must be made for eventual cessation of OPV use.

The financial resources required to implement the Regional plan for eradication through 2008 must be made available in order to maintain the technical and operational support required to implement high quality eradication activities. Efforts to raise funds from the main donors are continuing. Similar efforts to raise funds from within the Region are becoming a priority. The Regional Committee resolutions in this regard should be implemented.