Poliomyelitis Eradication
In The Eastern Mediterranean Region
Progress Report 2003
Poliomyelitis Eradication

In The Eastern Mediterranean Region Progress Report 2003
CONTENTS

Foreword ................................................................. 5

1. Current regional situation ........................................ 6

2. Implementation status of the basic poliomyelitis eradication strategies in the Region ............... 8
   2.1 Routine immunization ....................................... 8
   2.2 Supplementary immunization activities with OPV ........................................... 9
   2.3 Surveillance for acute flaccid paralysis ............................................................... 9
   2.4 Regional laboratory network ................................................................. 11
   2.5 End-game strategies ................................................ 12


4. Regional and global partnership ......................................... 16

5. Future directions and challenges ........................................ 17

6. Highlights of polio eradication activities in priority countries of the Region ....................... 18
   6.1 Endemic countries ........................................ 18
   6.2 Other priority countries ...................................... 21
FOREWORD

The year 2003 witnessed many important developments for the polio eradication initiative in the Eastern Mediterranean Region. Somalia has now been polio-free for more than a year, and only three countries in the Region remain endemic for poliomyelitis. Transmission in Egypt has been greatly reduced, as shown by both AFP and environmental surveillance, and the political commitment in Pakistan for polio eradication has never been greater. The situation in Afghanistan, the third remaining endemic country, is closely linked to Pakistan, and in both countries the number of cases remained almost the same as in 2002. Good progress was made throughout the Region in the area of laboratory containment, with 9 countries having already completed the first phase of laboratory containment activities.

In addition to continued technical support provided by the Regional Office, technical advisory groups for countries which are still endemic regularly review the epidemiological situation and advise national eradication programmes. To prepare for a polio-free future, the Regional Technical Advisory Group for Polio Eradication was established to provide advice on activities during the final phase of eradication, particularly with regard to end-game issues such as post-eradication immunization policies.

The credit for these achievements goes primarily to national authorities, who are supported by a strong global partnership spearheaded by WHO, Rotary International, the Centers for Disease Control and Prevention and UNICEF, and including the United Nations Foundation, Bill & Melinda Gates Foundation, the United Kingdom Department for International Development, United States Agency for International Development, the Japan International Cooperation Agency, the Arab Gulf Programme for United Nations Development Organizations and the Governments of Canada, Italy, Netherlands, Russia and United Arab Emirates. All partners have responded generously and are still responding to the needs of Member States for external support in their efforts to achieve polio eradication. In this regard, I am confident that the Custodian of the Two Holy Mosques will give favourable consideration to the appeal made by the Director-General to support the programme of polio eradication in the Region.

This report is the fourth of a series of annual reports documenting the eradication of poliomyelitis from the Eastern Mediterranean Region. It covers progress up to the end of 2003 and describes the current situation, status of implementation of the basic strategies, major challenges and plans to achieve the goal of polio eradication.
1. CURRENT REGIONAL SITUATION

Since 1988, when the global polio eradication initiative was declared by the World Health Assembly and adopted by the Regional Committee for the Eastern Mediterranean, rapid and significant progress towards the eradication of poliomyelitis has continued in the Eastern Mediterranean Region. As of the end of 2003, in the presence of an efficiently performing surveillance system, poliovirus transmission had been interrupted in 18 countries of the Region for more than 3 years (Figure 1). In addition, Sudan has not reported a single poliomyelitis case since April 2001 and Somalia has not reported any cases since October 2002. Moreover, virus transmission in Afghanistan and Egypt has become mostly localized.

The number of confirmed cases of poliomyelitis was 113 in 2003 (Figure 2), reported from only 4 countries (Pakistan 103, Afghanistan 8, Egypt 1 and Lebanon 1). The case reported from Lebanon proved to be genetically linked to the virus strains from India and hence is considered as an importation. The wild polioviruses isolated from Afghanistan and Pakistan belonged to both types 1 and 3, while in Egypt only type 1 was detected.

| Number of virologically confirmed cases in countries of the Region (2003) |
|-----------------|-------|
| Pakistan        | 103   |
| Afghanistan     | 8     |
| Egypt           | 1     |
| Lebanon         | 1 (imported) |
| Regional total  | 113   |

Although the number of confirmed poliomyelitis cases has not decreased significantly since 2001, some of the traditional endemic foci in Pakistan have been eliminated, representing a significant development towards the eradication of poliomyelitis.

Poliovirus genome sequencing is a major surveillance tool that is used to detect epidemiological links between polio cases, identify local reservoirs and recognize imported poliovirus. It is also useful for monitoring

Figure 1. Status of poliomyelitis endemicity in countries of the Eastern Mediterranean Region, 2003
progress towards eradication of wild polioviruses, and helps to characterize unusual vaccine-derived polioviruses and detect poliovirus contamination. Sequence data show that Afghanistan and Pakistan represent a common reservoir, while isolates from Egypt are from a unique reservoir. Sequencing data from 2003 clearly showed decreasing genetic diversity of viruses, reflecting progress towards achieving the poliomyelitis eradication goal in the remaining endemic areas. Additionally, it helped in identifying the isolate from Lebanon as an importation.

Figure 2. Reported cases of poliomyelitis, Eastern Mediterranean Region, 1988–2003

Regional commitment for poliomyelitis eradication continues at a very high level. In 2003, Regional Committee for the Eastern Mediterranean passed a resolution endorsing the 2004–2005 regional plan for poliomyelitis eradication and reaffirming its position on the importance of ensuring availability of the financial resources needed for the programme.

In January 2004, delegates from the three remaining endemic countries of the Region, Afghanistan, Egypt and Pakistan, participated in a Ministerial Conference held at WHO headquarters in Geneva. At the end of the conference, national health officials together with representatives of the main partners in polio eradication, WHO, UNICEF, Rotary International and the Centers for Disease Control and Prevention, Atlanta, signed the Geneva Declaration for the Eradication of Poliomyelitis, committing them to the necessary action to stop viral transmission by the end of 2004.
2. IMPLEMENTATION STATUS OF THE BASIC POLIOMYELITIS ERADICATION STRATEGIES IN THE REGION

2.1 Routine immunization

High routine immunization coverage of infants with at least 3 doses of oral poliovaccine (OPV) is one of the basic strategies of polio eradication. In 2003 the regional coverage of infants with at least three doses of oral poliovaccine (OPV3) was 77%. Coverage levels of less than 80% during the same year were reported from seven countries (Table 1). It should be noted that routine immunization coverage in three of these countries is steadily improving, with Afghanistan crossing the 50% mark for the first time in 2003. Improvements in routine immunization coverage, which is not limited to poliovaccine but includes other vaccines as well, can be attributed to many factors. Among these factors are the refurbishment of the physical infrastructure for routine immunization, which was made possible partially through the use of poliomyelitis eradication funds, and the involvement of polio staff in strengthening routine immunization, improving programme management and coordination and enhancing political awareness and support. These are all examples of the long-term benefits of the polio eradication programme.

Table 1. Coverage rates for OPV3 by country and year 1998–2003

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<tr>
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<tr>
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<td>79</td>
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NA: Information not available
2.2 Supplementary immunization activities with OPV

In 2003, supplementary immunization activities (SIAs) were concentrated in endemic, recently polio-free countries and areas at high risk of importation. More than 75% of the immunization campaigns were limited to these priority countries/regions, compared to only 50% in 2002. Additionally all external resources provided by international partners were directed to these priority countries. Each of the endemic countries (Afghanistan, Egypt and Pakistan) conducted 4 rounds of national immunization days (NIDs) in addition to up to 4 subnational immunization days (SNIDs) in high-risk areas. In response to the importation in January, Lebanon conducted a mop-up campaign and four NID rounds. Some polio-free countries also held supplementary immunization campaigns. In particular, Iraq conducted two rounds of NIDs in January and February, immediately before the war.

All polio immunization campaigns in the Region used the house-to-house approach for delivery of OPV. This approach is the only way to ensure that all children under 5 years are covered by the activity. To implement house-to-house immunization, national health authorities have to develop and implement feasible plans that depend on detailed micro-planning, multisectoral involvement and intensified supervision. In some countries, immunization campaigns have to rely on large numbers of volunteers or the military to fulfil the manpower requirements of this huge task. Monitoring by independent observers showed that these intensified campaigns were of high quality and very effective in closing the immunity gap among children under 5 years of age. Monitoring also pinpointed imperfections in campaign implementation and helped the national authorities in further refining the activity. Some countries have adopted the same strategy to deliver other vaccines, relying on the detailed plan developed for the polio immunization campaigns. These campaigns have also been used to deliver other health interventions, particularly vitamin A.

2.3 Surveillance for acute flaccid paralysis

The polio eradication programme has been instrumental in the establishment of well functioning national systems for acute flaccid paralysis (AFP) surveillance, which has also improved the capacity for detection and reporting of other EPI target diseases. Establishment of effective AFP surveillance in countries affected by war and in areas with rudimentary or virtually nonexistent health care services, such as in Afghanistan, Somalia and south Sudan, has been a great achievement.

During 2003, AFP surveillance was maintained at a high level of quality. The Regional non-polio AFP rate reached 2.32 per 100,000 children under 15 years of age (Figure 3). In addition, AFP rates of one or more cases per 100,000 children under 15 years of age were reported from all countries of the Region except in Bahrain and Djibouti, for which the expected number of AFP cases is only 2 per year, and Palestine, which is experiencing a difficult security situation.

Adequacy of stool specimen collection (two stool specimens at least 24 hours apart collected within 14 days of the onset of paralysis and arriving at the laboratory in good condition) has exceeded the target of 80% of all AFP cases. Region-wide, the percentage of AFP cases with adequate stool specimens reached 90% in 2003 (Figure 4). Only four countries (Bahrain, Djibouti, Lebanon and Palestine) reported adequate stool collection rates below the 80% target, but both Lebanon and Palestine had rates above 70% and Bahrain and Djibouti reported only 2 cases each. Somalia achieved the 80% target for the first time in 2003, despite a difficult security situation.
The discovery of an imperation in 2003 testifies to the high quality of surveillance and highlights the importance of maintaining vigilant surveillance in polio-free countries until regional and global certification.

![Graph showing regional non-polio AFP rate, Eastern Mediterranean Region, 1995-2003](image)

**Figure 3. Regional non-polio AFP rate, Eastern Mediterranean Region, 1995-2003**

In view of the continued high quality of surveillance, all countries of the Region are currently using the virological scheme in the classification of AFP cases. The surveillance data are also guiding targeted immunization activities.

![Graph showing percentage of AFP cases with adequate stool specimens, Eastern Mediterranean Region, 1995-2003](image)

**Figure 4. Percentage of AFP cases with adequate stool specimens, Eastern Mediterranean Region, 1995-2003**

Surveillance is another field in which polio eradication efforts have been instrumental in supporting other programmes. In some countries, AFP surveillance activities provided an opportunity for the national staff to get training and field experience in communicable disease surveillance. In countries with a total lack of health infrastructure, the AFP surveillance network was the only means to provide health services to those in great need and helped in investigating some of the disease outbreaks. As a first step towards comprehensive communicable disease surveillance, surveillance for AFP has been expanded in some countries to include reporting of other diseases such as measles and neonatal tetanus.
The establishment and maintenance of high quality surveillance and the implementation of supplementary immunization activities could not have been achieved without strong technical support to compensate for the lack of required expertise in some countries of the Region. Technical support was provided in the form of international and national staff trained in polio eradication activities. WHO/EMRO has fielded many polio eradication officers throughout the Region with concentration on the high priority countries, as shown in Table 2. These staff also support other programmes, and in some places they are the only form of health infrastructure currently operating.

<table>
<thead>
<tr>
<th>Country</th>
<th>International</th>
<th>National</th>
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<td>Egypt</td>
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<tr>
<td>south</td>
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Table 2. Number of international and national staff fielded by WHO/EMRO in priority countries during 2003

2.4 Regional laboratory network

As the goal of polio eradication nears, poliovirus laboratories are expected to ensure very good quality performance and provide results within the shortest stipulated time. Regional laboratory surveillance for wild polioviruses continues to make substantial progress, and overall improvement is reflected in laboratory performance indicators.

All laboratories of the regional network, except in Iraq, were accredited by WHO during 2003. Virological investigations were performed on 5259 AFP cases. A total of 11 749 specimens were tested in the network laboratories, of which 10 575 were from AFP cases, 860 from contacts, and 314 from environmental samples, healthy children and other sources. The percentage of stool samples of AFP cases received in the laboratory in good condition was 98%. However, only 68% of the samples reached the laboratory within 3 days of collection from the field. This indicator has never reached the target of 80% in the Region. The issue has been discussed with country programmes and recommendations are being implemented to improve the timely arrival of the samples. Results from the laboratory were reported back to the surveillance staff within 28 days for 96% of the cases. In addition, reporting of results of intratypic differentiation (ITD) within 14 days improved from 77% in 2002 to 87% in 2003. Reporting of ITD results within 60 days of onset of paralysis improved from 91% in 2002 to 94% in 2003. Non-polio enteroviruses were isolated from 16% of the samples.
The training of regional poliovirus laboratory network staff has continued and scientists were sent for individual training to WHO accredited regional and global polio laboratories. An intercountry workshop on intratypic differentiation methods for characterization of polioviruses was conducted in Oman during 2003. The Oman National Polio Laboratory staff have been trained in both antigenic and molecular ITD methods, and after passing the proficiency panel will be accredited by WHO to perform intratypic differentiation. The regional reference laboratory in the National Institute of Health, Pakistan has developed the capacity to do genomic sequencing for isolated polioviruses, an activity that previously could only be performed by the network of Global Specialized Laboratories.

The seventh intercountry meeting of directors of poliovirus laboratories in the Eastern Mediterranean Region was held in Amman, Jordan, in August 2003. The participants were briefed on the development in the polio laboratory network in relation with polio eradication. Recommendations were made for improvements in the area of quality assurance, laboratory management and data management.

2.5 End-game strategies

The Global Commission for the Certification of the Eradication of Poliomyelitis (GCC) will declare the Region free of wild poliovirus transmission when no wild poliovirus has been found for at least three consecutive years and all laboratories possessing wild poliovirus materials have adopted appropriate containment measures. With the continuing progress towards interrupting wild poliovirus transmission in the Region, increased attention is being given to polio “end-game” issues: the laboratory containment of wild poliovirus, the certification of polio eradication and the development of post-certification immunization policy for polio.

Laboratory containment of wild poliovirus and potential infectious material

In 1997, the GCC decided that laboratory containment of wild polioviruses would be a prerequisite for global certification. In December 1999, the first edition of the Global Action Plan for laboratory containment of wild polioviruses was issued by WHO. That same year, the World Health Assembly in a formal resolution called on all Member States to begin implementing and reporting on the steps outlined in the global action plan. The purpose of the laboratory containment of wild polioviruses is to minimize the risk of re-introduction of wild polioviruses from the laboratory to the community.
A regional plan for containment was developed and endorsed by the Regional Committee in 2000. WHO developed guidelines to assist countries in formulation of national containment plans and provided technical support for countries in implementation of the plans. At this stage of the polio eradication initiative, Member States in the Region are required to implement the first phase of containment activities, and are expected to establish a task force for containment activities and conduct a national survey of the biomedical laboratories and develop an inventory of those found to be holding wild polioviruses and other potential infectious materials.

As of the end of 2003, national containment task forces or committees had been established and national containment coordinators nominated in 18 countries of the Region. Three of the five remaining countries have ongoing wild poliovirus transmission. Nine countries have completed implementation of the first phase of the plan: Bahrain, Djibouti, Islamic Republic of Iran, Jordan, Lebanon, Oman, Qatar, Saudi Arabia and United Arab Emirates. Nine other countries are in the process of implementing this phase. A quality assurance tool was developed to document the quality of the first phase of containment. It provides a means for countries to perform a self-assessment of their activities in terms of comprehensiveness. It will also provide complete information from countries on containment activities for certification purposes. This tool was tested in three countries (Islamic Republic of Iran, Oman and Saudi Arabia) and the results were reported to the Regional Certification Commission. All national and regional poliovirus laboratories are implementing enhanced biosafety level-2 (BSL-2/Polio). At present the major challenge for containment in the Region is to obtain information from the numerous unregistered biomedical laboratories that operate in many countries.

In 2003, the second edition of Global Action Plan for laboratory containment of wild polioviruses was issued by WHO. The new edition incorporates the lessons learned from biomedical laboratory surveys and inventories in countries of all regions. It also addresses vaccine-derived polioviruses (VDPVs) and defines the biosafety requirements in terms of risk.

The second phase of laboratory containment will begin when no wild polioviruses are isolated anywhere in the world for one year and all wild poliovirus materials in laboratories are adequately contained. Countries will be requested to destroy all unneeded stocks of wild poliovirus and ensure the containment of all retained wild poliovirus stocks under appropriate biosafety conditions (BSL-3/Polio). Documentation demonstrating the completion of both containment phases from all countries will be required for certification.

The post global certification phase of laboratory containment will begin after the GCC has certified the world as polio free and international bodies have agreed on post-certification immunization policies. Global decisions on immunization policies will be based on outcomes of current research, post-eradication experiences, containment assessments and assurances that surveillance, vaccine stockpiles and emergency response plans would be adequate in the event that polio was to re-emerge.
Certification of poliomyelitis eradication

The Regional Commission for Certification of Poliomyelitis Eradication (RCC) continues its efforts in monitoring the process of polio eradication and reviewing documentation submitted by the National Certification Committees (NCCs). The RCC held one meeting in 2003, during which national documentation and annual updates were discussed and national authorities were informed of the acceptance or suggested revision of certification documents.

As of December 2003, NCCs had been established in all Member States except Somalia, for which WHO and UNICEF will facilitate certification activities. The RCC held its tenth meeting during 2003 and reviewed the documentation from 4 new countries, Djibouti, Libyan Arab Jamahiriya, Sudan and Republic of Yemen. To date, the RCC has reviewed and accepted documentation from 18 countries that have been polio free for at least 3 years. Annual updates are being regularly submitted by countries whose initial documents have been accepted.

As the Region approaches certification while wild poliovirus is still circulating in the world, preparedness for poliovirus importation becomes a critical issue. A guideline for developing national plans has been prepared by WHO and distributed to national authorities. Sixteen countries of the Region have developed national plans based on maintaining sensitive surveillance and high population immunity. These plans are submitted to the RCC as part of the basic certification documents and annual updates. Although importations have occurred and are likely to occur again in the future, circulation has not been re-established in any of the countries where the importation occurred.

Post-certification immunization policies

The RCC in its meeting in October 2002 recommended that a group of experts be convened to advise the Regional Office on technical issues arising in the course of progress towards polio eradication in the Region, including laboratory safety and wild virus containment, and other issues on certification of eradication, as well as development of post-eradication immunization policies. In response to this recommendation, the Regional Director established the Regional Technical Advisory Group on Poliomyelitis Eradication (RTAG). The RTAG held its first meeting during 2003. In the meeting the RTAG discussed the WHO position paper on introducing inactivated poliovaccine (IPV) and decided that it was premature to consider introducing IPV into routine immunization in countries of the Region. The RTAG recommended that WHO and countries continue to hold consultations on the issue to ensure that future decisions on introducing IPV are taken on a logical and sound basis. This recommendation was communicated to all Member States and endorsed by the Regional Committee in its 50th session in 2003. No country in the Region has introduced IPV since the meeting.
3. STRATEGIC PLAN FOR POLIOMYELITIS ERADICATION, 2004–2008

The work of polio eradication in the Region has been guided by a series of multi-year strategic plans, last updated in 2003. The latest strategic plan update covers the period from 2004 to 2008. This update was done in close consultation with national health authorities and appropriate international agencies within each country, in particular UNICEF. The plan outlines a time-frame for activities required:

- To interrupt wild poliovirus transmission from the Region by 2004.
- To achieve regional certification of polio eradication.
- To prepare for eventually stopping the use of oral poliovaccine (OPV) globally.

The new strategic plan reflects the major tactical revisions introduced in 2003 to interrupt the final chains of polio transmission through focusing intensified supplementary immunization activities on the remaining endemic countries, while reducing activities in non-endemic countries. Eliminating all remaining poliovirus reservoirs is now an urgent regional and international public health issue, because stopping mass immunization campaigns in most polio-free countries has left the world increasingly vulnerable to importations of wild poliovirus from endemic into polio-free areas. The plan aims at achieving four objectives.

1. **Interrupt poliovirus transmission**

Details of the immunization and surveillance activities needed to interrupt transmission in the remaining endemic countries are provided. Particular attention is given to intensifying supplementary immunization activities in Afghanistan, Egypt and Pakistan. It is hoped that in 2004 the remaining endemic countries of the Region will have succeeded in interrupting wild virus transmission and that from 2005 these priority countries will be conducting at least one pair of NIDs annually. Additionally, subnational mop-up campaigns will be implemented according to epidemiological developments.

2. **Achieve regional certification of polio eradication**

This objective focuses on maintaining surveillance quality at certification-standard level, and reversing declines in surveillance sensitivity in some polio-free countries. It also stresses completing the first phase of wild poliovirus laboratory containment. Certification-standard surveillance needs to be maintained through global certification. Efforts will continue to improve and sustain high quality AFP surveillance. This will include regular surveillance reviews in both endemic and polio-free countries. In 2004 for example, reviews are planned for Egypt, Pakistan (at the provincial level), Lebanon, Libyan Arab Jamahiriya, Syrian Arab Republic and Tunisia. All required support will be provided to laboratories in the regional network to maintain the quality of work performed. The RCC will continue to meet twice a year and will review documentation including national annual reports. Members of the RCC will visit countries as required to validate data.
3. Prepare for global cessation of OPV use

This objective addresses the implications of the global decision to stop use of OPV as soon as possible after eradication. Although trivalent OPV will continue to be the vaccine of choice for routine immunization until certification of eradication, specific products need to be developed to facilitate the safe cessation of OPV. These products include a third edition of the global action plan for the laboratory containment of wild polioviruses, monovalent OPV stockpiles, IPV produced from Sabin strains and appropriate IPV-containing combination vaccines. These products will be produced globally, and the regional plan includes the development of mechanisms to ensure that countries have access to the products by 2008.

4. Mainstream the regional polio eradication initiative

This objective has two components. The first addresses the work required to transfer and integrate the substantial human resources, physical infrastructure and institutional arrangements established for polio eradication into other disease control, surveillance and response programmes. The second component details the programme of work to “mainstream” those polio eradication activities that must be continued indefinitely (i.e. surveillance, vaccine stockpiles and laboratory containment) into existing national, WHO and UNICEF structures and mechanisms for managing other serious pathogens.

The greatest risk to achieving the timeline of this plan is ongoing wild poliovirus transmission in any of the remaining endemic countries. Implementing the full range of activities outlined in the plan requires continued technical support from a strong polio eradication partnership, financing for the shortfall to interrupt wild poliovirus transmission and for achieving global certification and mainstreaming of the Polio Eradication Initiative.

4. REGIONAL AND GLOBAL PARTNERSHIP

The impressive progress towards eradication of poliomyelitis in the Region is the result of the extraordinary efforts of national authorities and the support provided by a consortium of partners spearheaded by the Centers for Disease Control and Prevention in Atlanta, Rotary International, WHO and UNICEF. In addition, significant support was received during 2003 from the UK Department for International Development (DFID), United Nations Foundation, Bill & Melinda Gates Foundation, Japan International Cooperation Agency (JICA), the Arab Gulf Programme for United Nations Development Organizations (AGFUND), United States Agency for International Development (USAID) and the Governments of Canada, Italy, Netherlands, Russia, United Arab Emirates and many others. In addition, it is hoped that the Custodian of the Two Holy Mosques will respond positively to the appeal made by the Director-General to support the programme of polio eradication in the Region.

It should be noted that the largest share of resources for the eradication efforts has been provided by Member States, and that without their commitment to the eradication initiative nothing could have been achieved.
5. FUTURE DIRECTIONS AND CHALLENGES

The top priority for the regional polio eradication initiative is interrupting poliovirus transmission during 2004. This can be achieved only through supplementary immunization activities that are more intense in coverage and of the best possible quality. In this respect, the Regional Office is increasing its technical support to Pakistan to ensure that every district has all the required expertise, whether from national or international consultants. Certification-standard surveillance needs to be maintained through global certification. Efforts will continue to improve and sustain high quality AFP surveillance. All countries in the Region are expected to achieve and maintain that standard.

With the regional eradication of poliomyelitis in sight, preparedness for certification and post-certification activities is becoming important. Completing the “survey and inventory” phase of laboratory containment of wild poliovirus in all countries is a prerequisite for the regional certification of polio eradication. Another important issue is mainstreaming the polio eradication resources by integrating these resources, whether personnel or infrastructure, into the main EPI activities. Additionally, issues related to preparation for the eventual cessation of OPV use after global eradication need to be addressed.

The main challenges facing the polio eradication activities in the Region are sustaining national commitment and securing the required financial support. Political commitment is needed in both polio endemic and polio free countries. This commitment must be translated into effective action to resolve any problems in management and implementation at all levels. The financial resources required to implement the regional plan for eradication through 2005 must be made available in order to maintain the technical and operational support needed to ensure high-quality eradication activities. So far, the input from donors within the Region is a very modest component of the required resources. The Regional Committee, in its most recent resolution on polio eradication in October 2003, reaffirmed its call on Member States to contribute financially to the programme.

Partners for Polio Eradication

Governments of the Eastern Mediterranean Region
6. HIGHLIGHTS OF POLIO ERADICATION ACTIVITIES IN PRIORITY COUNTRIES OF THE REGION

6.1 Endemic countries

Afghanistan

Although Afghanistan has been in a state of complex emergency for decades, polio eradication activities have been implemented successfully. Between 1994 and 1996, supplementary immunization activities with OPV were first conducted during annual multi-antigen campaigns with limited national coverage. Since 1997, annual NIDs have been conducted with very high coverage. Acceleration of polio eradication activities started in 2000 with more rounds and qualitative improvements, using the house-to-house vaccine delivery strategy exclusively. Eradication activities have continued despite the war during 2001 and the ongoing security challenges. During 2003, Afghanistan conducted four rounds of NIDs and three rounds of SNIDs. These rounds were coordinated with Pakistan to ensure vaccination of children in mobile population groups between the two countries. National staff implemented the supplementary immunization activities under the guidance of WHO and UNICEF. Routine OPV3 coverage in 2003 was 54%, highlighting the importance of supplementary immunization activities to prevent the accumulation of susceptible children.

AFP surveillance was established in Afghanistan in 1997, and has gradually expanded and reached an excellent level of quality. The programme shifted to the virological classification scheme in 2001. During March 2003, an international surveillance review was conducted and found that surveillance, overall, was of high quality. The few weaknesses identified in the southern and western areas were rectified. The AFP surveillance system is also being used to report measles and neonatal tetanus cases. The polio laboratory at the National Institute of Health, Pakistan extends the necessary support for examination of stool samples from AFP cases in Afghanistan.

During 2003, 8 polio cases were identified in Afghanistan, as compared with 10 in 2002. Genomic sequencing determined that cases were due both to indigenous virus circulation and to shared circulation with Pakistan, underscoring the need for close cooperation between the two countries.

The deteriorating security situation in 2003 has led to the displacement of staff and focal points, making the implementation of quality activities more challenging. However, extra efforts are being made to sustain high-quality activities to achieve interruption of wild poliovirus transmission. This involves ensuring the highest quality of supplementary immunization activities, especially in areas with remaining virus circulation, maintaining certification standard surveillance in all parts of the country and coordinating activities, especially immunization campaigns, with Pakistan.
Egypt

During 2003, only one case was reported in June from a previously endemic governorate, Minya, after 18 months without a case. Genomic sequencing has indicated that this virus is closely related to the virus isolated from the environment in Cairo during 2003.

The reported routine OPV3 coverage in 2003 was 98%. Four rounds of national immunization days were conducted house to-house in 2003 with ensured quality OPV (two in spring and two in fall) and a very high coverage rate was achieved. In addition, two mop-up rounds were implemented in response to isolation of a wild virus from the environment in Sharkia early in the year, and to the isolation of wild virus from a case and from the environment in Minya. Since 2002, coverage rates during immunization campaigns have been more than 96%. There is evidence that the quality of supplementary immunization activities is continuously improving from one round to the next, but some problems still exist, especially in recruitment and training of volunteers, and in ensuring effective supervision. These constraints are being addressed and effective solutions are being developed.

AFP surveillance continues to be conducted at very high standards. In 2003, the non-polio AFP rate was 2.45 per 100,000 population under the age of 15 years, and the adequate stool collection rate was 93%. Testing of all stool samples is carried out at the WHO-accredited laboratories of VACSER, Cairo, which also serves as a regional reference laboratory. Phase one of laboratory containment of wild poliovirus is in progress. Egypt has supplemented AFP surveillance with environmental surveillance since 2000. This activity has now been integrated into the information collection and decision-making processes of the national programme. In 2003 the percentage of environmental samples positive for poliovirus dropped to only 5%, as compared to 16% in 2002 and 57% in 2001, indicating progress being made in the eradication programme.

The Technical Advisory Group on Polio Eradication in Egypt (TAG) met three times during 2003. After detailed review of the epidemiological situation in their meeting in December 2003, the TAG identified greater Cairo as probably the last reservoir of wild poliovirus in Egypt and one which posed a risk for re-infecting other areas of the country. Greater Cairo is the only area from which 2 lineages of wild poliovirus were detected in 2003; moreover, surveillance and NID performance indicators were lower in the greater Cairo area than other parts of Egypt. The TAG concluded that the highest priority for the programme must be to implement fully and supervise the house to-house delivery of vaccine during the Spring 2004 rounds. It recommended that additional data should be collected through tally sheets and supervisors to facilitate the monitoring of district performance and to ensure accountability.

In summary, there are substantial improvements in surveillance and immunization activities since 2001 in Egypt that have reduced poliovirus transmission to the lowest level ever recorded. This has created an unprecedented opportunity to eliminate the final chains of transmission during 2004.
Pakistan

Over the past few years, significant progress has been made in implementing polio eradication strategies and reducing transmission of the poliovirus in Pakistan. Immunization activities have intensified since 1999 with the adoption of a house-to-house vaccination strategy. The Government of Pakistan is firmly committed to attaining the eradication goal. In addition, partner agencies have generously provided a large proportion of the total budget, which includes provision of vaccine, funds for operational costs and international technical support.

The reported routine OPV3 coverage in 2003 was 69%, below the target of 80%. To administer supplementary OPV doses during 2003, 4 rounds of NIDs were conducted during March, April, September and October. An additional 4 rounds of SNIDs were conducted during January, June, July and December. All immunization activities used a house-to-house approach. During 2004, five NID rounds and additional SNIDs are planned to interrupt transmission of wild poliovirus. The timing of the immunization campaigns is coordinated with Afghanistan, since the two countries represent a single epidemiological block of poliovirus transmission.

AFP surveillance has met WHO-established targets for key indicators since 1999 and the country shifted to virological classification in 2000. The non-polio AFP rate increased from 2.1 in 2001 to 2.75 in 2002 and further to 2.96 in 2003. The rate for adequate stool collection increased from 83% in 2001 to 88% in 2002 and to 89% in 2003. All samples are tested at the virology laboratory at NIH, Islamabad, which is a WHO-accredited regional reference laboratory. The strong coordination between the laboratory and the polio eradication programme enables prompt response to identified viruses. Genomic sequence data have assisted in differentiating districts with frequent introductions of virus from other areas and identification of areas with persistent indigenous circulation.

During 2003, 103 polio cases were reported from 46 districts. As part of ongoing efforts to improve performance, criteria were developed to classify districts according to degree of risk of continued virus circulation. District support teams, essentially composed of national staff, were established in priority districts to develop appropriate local solutions to identified problems in programme implementation.

In September 2003, in an effort to ensure national commitment to polio eradication, the WHO Regional Director for the Eastern Mediterranean met with President General Pervez Musharraf, who promised to personally oversee the final push to eradicate polio from Pakistan. President Musharraf called for full commitment, appealing to Governors, Chief Ministers, District Nazims and civil servants across the country to make all efforts to ensure the disease is eradicated from Pakistan and that every child is protected against the disease once and for all. The Regional Director also met with provincial governors and chief ministers, who reaffirmed the full commitment of the provincial governments to polio eradication.

To interrupt transmission during 2004, the highest priority will be to ensure that all children under 5 years are vaccinated during immunization campaigns. To accomplish this, efforts are being actively pursued to ensure adequate female participation in the vaccination teams and among supervisors, and provision of appropriate supervision.
6.2 Other priority countries

Iraq

The last virologically confirmed indigenous polio case was reported in January 2000. The routine OPV3 coverage in 2002 was 82%. A worrisome declining trend in routine coverage with all EPI antigens, including OPV, was seen during 2003. The reported OPV3 coverage among infants during 2003 was 54%. AFP surveillance data showed that the percentage of adequately vaccinated AFP cases aged one year or under decreased from 90% in 2002 to 71% in 2003. Causes of the declining infant immunization are interrupted vaccine supply, repeated disruption of electric power, limited immunization services to major health centres in towns and big villages, and lack of security compromising the access of both client (especially women and children) and provider to health facilities. This situation is the result of disturbance of public services and utilities through widespread looting and damage to EPI government facilities and other conditions that prevailed during and after the war in March 2003. In response to the situation, in June 2003 the Ministry of Health started implementing a 2-day outreach campaign every month. These campaigns have been successful in improving the EPI coverage in some localities; however, no systematic monitoring or evaluation of these outreach activities has been carried out. NIDs have been held each year since 1995. During 2002 four NIDs rounds were implemented. In 2003, two more NIDs rounds were carried out in January and February before the war. More than 95% of the targeted 4.3 million children under 5 years were reached and vaccinated in each round. Independent monitoring of the NIDs in January and February 2003, which was supervised and coordinated by WHO and implemented in the most risky areas of the country by medical schools, the Iraqi Red Crescent Society (IRCS) and the International Federation of the Red Cross and Red Crescent societies, confirmed the high coverage figures reported administratively.

Iraq started national surveillance and reporting of AFP on a regular basis in 1997. Since then it has maintained a non-polio AFP rate of more than 1 per 100,000 population under 15 years, and a rate for adequate stool collection of more than 80% since 1999. Despite the deteriorating security situation in 2003, AFP surveillance was maintained, with a non-polio AFP rate of 1.97/100,000 and an adequate stool collection rate of 92%.

The national polio laboratory, which was previously as part of the regional laboratory network, was completely destroyed in 2003. The laboratory has now been re-established and is currently being provided with supplies and equipments required for effective functioning. However, until it can be re-accredited, duplicate stool samples must be examined in another accredited laboratory.

Phase one of laboratory containment of wild poliovirus was in progress before the war. The possibility of spreading potential infectious material after laboratories were looted was of great concern. However, it is believed that prior to looting all strains were destroyed as a result of electricity failure. Containment activities must be restarted. The National Certification Committee has submitted national documentation for certification of poliomyelitis eradication to the Regional Certification Commission. The documentation was accepted in October 2001. Annual updates for 2002 and 2003 and a special report on the situation were submitted to the Regional Certification Commission in April 2004.
Lebanon

The last virologically confirmed indigenous polio case was reported in June 1994. Routine OPV3 coverage in 2003 was 92%. NIDs were held during the years 1995 to 2000. Lebanon started national surveillance and reporting of AFP on a regular basis in 1994. The non-polio AFP rate has been maintained at more than 1 per 100 000 population under 15 years since 1999 and was 2.17 in 2003. The adequate stool collection rate for 2003 was 75%, a decrease from 81% in 2002. Phase one of laboratory containment of wild poliovirus has been completed. The national documentation for certification of poliomyelitis eradication was accepted by the Regional Certification Commission in 2002. The National Certification Committee also submitted an annual update for 2002.

In January 2003, an AFP case was reported and later confirmed as a polio case infected with wild poliovirus type 1. The case was a boy 8 months old who lived in a small village at the northern Lebanese—Syrian border in Akkar district of the north province. The child had never received poliovaccine. The father of the child travels internationally, but had not been recently to an endemic area. Community immunization assessment in the district indicated that only 44% of the children had at least 3 doses of OPV and that the NIDs coverage in 2002 was only 40%. Stools were collected from contacts and from hospitalized children under 10 years. Only two of the contacts were found to be positive for the virus as late as March 2003. Genomic sequencing showed that the virus is of South Asia (SOAS) genotype, with the closest matches (~97% VP1 sequence identity) with the 1999 wild poliovirus type 1 isolates from Uttar Pradesh, India. This indicates clearly that this was an imported virus. A local mopping up campaign was conducted in March, in addition to four NIDs including two in the spring (May and June) and two in the fall (October and November). In the spring rounds the coverage for Akkar district was between 85% and 94%, while in the fall the coverage was between 93% and 97%. For the first time in these rounds, the Lebanese Army participated in the house-to-house campaign, in addition to nongovernmental organizations. The occurrence of this importation from India indicates that as long as wild poliovirus in circulating somewhere in the world, every place is at risk. It also stresses the importance of maintaining high population immunity as the only guard against the spread of importations.
Somalia

Somalia reported its last case of poliovirus on 6 October 2002. The polio eradication programme has been successful despite the continuing inter-clan fighting that has devastated the country’s infrastructure. The polio eradication programme in Somalia is a complex, large-scale operation initiated by WHO and UNICEF in 1997. The two agencies coordinate, implement and promote the polio eradication programme. Technical and field staff, both international and national, are hired by each agency and programme activities are implemented through decentralized hubs and offices, belonging to either WHO or UNICEF. Collaboration with nongovernmental and humanitarian organizations is done through the Somali Aid Coordinating Body (SACB).

NIDs have been conducted each year since 1997, with increasing areas of the country being covered and the quality of implementation improving. During lulls in fighting, a rapid access immunization strategy has been implemented in which vaccinators work independently to target small populations in a short time. Immunization activities have continued despite ongoing conflict, although with limited access to children in the Mogadishu area. Two rounds of NIDs were conducted in 2003, reaching approximately 1.3 million children in February and approximately 1.4 million children in March, and one round of SNIDs was conducted in May 2003. The routine OPV3 coverage in 2003 was 40%, the lowest in the Region. This highlights the importance of timely NIDs to raise the level of immunity in the community.

The AFP surveillance system is working efficiently. The non-polio AFP rate was 2.92 per 100,000 children under 15 years and the adequate stool collection rate exceeded the international target during 2003. The laboratory of KEMRI, Kenya extends the necessary laboratory support to AFP surveillance in Somalia.

Progress in Somalia also is attributed to the use of data to support decision-making. For example, the identification of unvaccinated children in the Mogadishu area led to implementation throughout Somalia of “zero-dose” campaigns (i.e. house-to-house campaigns over a number of days that target all children having less than 3 doses of OPV and that also register all newborns). These campaigns have likely stopped transmission of any existing poliovirus.

Although Somalia has not reported a case of polio since October 2002, support is continuing. The infrastructure established for the polio eradication programme is being sustained to ensure continued high-quality surveillance and immunization campaigns. The existing national capacity that has been strengthened by the polio programme should be utilized to detect and control other priority diseases. As part of the Horn of Africa, Somalia experiences large population movements across open borders, making it important to synchronize activities with neighbouring countries, particularly with Ethiopia.
STOP POLIO NOW

Poliomyelitis Eradication
In The Eastern Mediterranean Region
Progress Report 2003

For more information contact
Poliomyelitis Eradication Unit
World Health Organization
Regional Office for the Eastern Mediterranean
P.O. Box 7608 Nasr City 11371 Cairo, Egypt
Fax: 202 2765413
Tel: 202 2765074
E-mail: pol@emro.who.int
www.emro.who.int/polio