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COORDINATION OF OPERATION MECACAR

Report on a WHO Meeting

Tashkent, Uzbekistan
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1997

EUR/HFA target 5

TARGET 5

REDUCING COMMUNICABLE DISEASE

By the year 2000, there should be no indigenous cases of poliomyelitis, diphtheria, neonatal tetanus, measles, mumps and congenital rubella in the Region and there should be a sustained and continuing reduction in the incidence and adverse consequences of other communicable diseases, notably HIV infection.

ABSTRACT

The meeting comprised representatives from the 18 countries of the European and Eastern Mediterranean Regions of WHO that participate in Operation MECACAR to interrupt poliovirus transmission in these formerly endemic countries, together with representatives of partner organizations. The meeting reviewed progress and planned the implementation of the poliomyelitis eradication strategies in 1997. The countries reported successful implementation of national immunization days (NIDs) in 1995 and 1996, and steady progress toward enhancing surveillance. The major recommendations of the meeting covered the need to rapidly strengthen surveillance, to continue NIDs in 1997 (and possibly beyond), to strengthen the laboratory network, to improve communication between the staff of the WHO Expanded Programme on Immunization and laboratory and clinical staff, and to begin planning for certification of eradication. In addition, guidance was offered for countries bordering endemic areas, and on when and how to conduct mopping-up operations.

Keywords

COMMUNICABLE DISEASE CONTROL
IMMUNIZATION
POLIOVIRUS VACCINE, ORAL
EUROPE
NIS
MIDDLE EAST

CONTENTS

INTRODUCTION

The third meeting on the coordination of Operation MECACAR took place in Tashkent, Uzbekistan from 14 to16 October 1996. All 18 countries from the European and Eastern Mediterranean Regions of the World Health Organization (WHO) participating in Operation MECACAR were represented, as well as WHO and the United Nations Children's Fund (UNICEF), and the following organizations: Centers for Disease Control and Prevention (CDC), International Federation of Red Cross and Red Crescent Societies, Rotary International, as well as Basic Support for Institutionalizing Child Survival (BASICS).

The meeting was opened by the Regional Director, European Region, Dr Jo E. Asvall, and Dr Rafi Aslanian brought the greeting of the Regional Director, Eastern Mediterranean Region. The meeting was chaired by Dr Bachteyar Nijazmatov, Deputy Minister, Ministry of Health, Uzbekistan; Drs Hamid Jafari, Shanosyr Shavakhabov and Roland Sutter served as co-rapporteurs and Dr George Oblapenko and Dr Rafi Aslanian served as secretaries of the meeting.

SCOPE AND PURPOSE

The main objectives of the meeting were:

- to discuss the results of the national immunization days conducted in the framework of Operation MECACAR during 1996 and the problems encountered;
- to discuss improvement of surveillance;
- with the experience gained in 1995 and 1996, find ways and means to improve the organization and the execution of future NIDs;
- to coordinate the plan of action for Operation MECACAR in 1997, including dates of each round, evaluation process, support needed for mopping-up operations, and coordination of activities.

SITUATION ANALYSIS AND PROGRESS TOWARD POLIOMYELITIS ERADICATION

Global overview

Achievement of poliomyelitis eradication is contingent on the implementation of the basic strategies in all polio-endemic countries: (1) achieving and maintaining high vaccination coverage of all children by one year of age with at least three doses of oral poliovirus vaccine (OPV) through routine vaccination services; (2) establishing sensitive epidemiological and virological surveillance systems; (3) providing supplemental immunization through National Immunization Days (NIDs) to interrupt widespread circulation of poliovirus; and (4) conducting mopping-up operations to eliminate the remaining foci of poliovirus transmission.

Routine coverage with three doses of OPV among one-year-old children was 83% in 1995 (and has been relatively stable between 80–84% since 1990). An increasing number of polio-endemic countries are conducting NIDs, from 16 countries in 1988, 62 in 1995, and as many as 97 countries by the end of 1996, including 29 countries in the African Region who will conduct NIDs (n=26) or Sub-National Immunization Days (SNIDs) (n=3). During 1995, approximately 300 million children <5 years (or nearly half of the world's children in this age group) have

received supplemental doses of OPV administered during NIDs. India conducted NIDs for the first time in December 1995 and January 1996. Use of both the routine and supplemental vaccination efforts have led to substantial decreases in the incidence of reported poliomyelitis; a total of 150 countries have reported no cases of poliomyelitis in 1995. And cases reported from polio-endemic countries decreased from a global total of 35 251 cases in 1988 to only 7024 cases in 1995. Prospects for significantly lower case totals for 1996 remain good; India – reporting consistently approximately half of the world's cases of poliomyelitis – has noticed a substantial drop in notification following the NIDs. According to WHO, the reporting completeness for poliomyelitis cases globally is estimated to be 10%. Thus, the true burden of poliomyelitis could be 10-fold higher.

An increasing number of countries are also implementing acute flaccid paralysis (AFP) surveillance. In 1995, 120 countries conducted AFP surveillance, but only 35 (29%) achieved one indicator for adequate surveillance (i.e. rate of >1 case of AFP per 100 000 population <15 years of age). The challenge for 1996 and beyond is to institute AFP surveillance in all polio-endemic countries, and improve the quality of AFP surveillance to meet the standards established by the Global Commission for the Certification of Poliomyelitis Eradication. A series of performance indicators have been established to monitor quality of AFP surveillance, the most important of which are:

- rate of AFP;[1]
- the proportion of health facilities reporting regularly (i.e. weekly or monthly) the presence or absence of AFP cases;[2]
- the proportion of AFP cases with "adequate" stool specimens.[3]

To allow countries to meet the required standards for surveillance, laboratory support is essential. A global laboratory network has been established, with specialized and regional laboratories as the anchors, and national laboratories providing basic virological services, including isolation and serotyping of polioviruses. A process of accreditation of all laboratories participating in the global and regional network is in process. There are a number of criteria which have been suggested for accreditation[4].

Despite the progress already achieved, constraints in funding, lack of political commitment, internal strive or civil war, the need for further development in the laboratory network, and incomplete promotion and implementation of the proven strategies for eradicating poliomyelitis

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[1] A rate of 1 case of AFP per 100 000 children <15 years is an indication of an adequately sensitive epidemiological surveillance system.

[2] At least 80% of reports from health facilities documenting the presence or absence of AFP cases should be received on time at the national level.

[3] Adequate stool specimens are defined as two stool samples collected at least 24 hours apart within 14 days of onset of paralysis, arriving in the laboratory with ice or frozen icepacks, sufficient quantity of stool, no leakage or drying, and complete documentation. A proportion of >80% of AFP cases meeting this criterion is considered to indicate adequate virological surveillance for certification.

[4] Accreditation will be reviewed annually and will likely included the following elements: (1) score from on-site review using a standard WHO checklist; (2) passing scores of proficiency testing; (3) non-polio enterovirus isolation rate; (4) processing a minimum number of stool specimens per year; (5) proficiency of isolation and serotyping as assessed by testing tissue cultures or stool samples submitted to regional laboratories for intratypic differentiation; and (6) percentage of test results reported on time.

and poliovirus, continue to delay progress. For example, polio-endemic countries need to continue to conduct NIDs until the AFP surveillance system meets the performance indicators which suggest that the system is adequate. Therefore, further attention to improving the quality of AFP surveillance has become a most urgent priority.

European Region

Routine coverage in the European Region was 89% in 1995; and has remained relatively stable during last few years. A total of ten European countries (i.e. Armenia, Azerbaijan, Bulgaria, Georgia, Kazakstan, Kyrgyzstan, Tajikistan, Turkey, Turkmenistan, and Uzbekistan) participated in synchronized NIDs (designated "Operation MECACAR") with eight adjacent countries of the Eastern Mediterranean Region in 1995. In 1996, the Russian Federation joined Operation MECACAR while Bulgaria withdrew. Also in 1996, Albania, Ukraine and Moldova conducted NIDs while Romania conducted SNIDs that covered in Spring the southern half and in Fall the northern half of the country. Vaccination coverage with OPV administered during the NIDs conducted under the auspices of Operation MECACAR in 1995 and 1996 was very high.

In 1995, a total of 205 cases were reported from 9 countries in the Region; of these, 154 were reported from the Russian Federation (approximately 75% of the regional total) where a large outbreak of poliomyelitis due to poliovirus type 1 (green genotype) occurred virtually exclusively in Chechnya where vaccination services had been discontinued for several years. In 1996, a epidemic transmission of wild poliovirus type 1 (green genotype) occurred in Albania (134 cases including 14 deaths, ~70% in persons 10–29 years of age), Serbia and Montenegro (Kosovo; approximately 20 AFP cases primarily in very young children; poliovirus type 1 [green genotype] was isolated), and Greece (5 cases, all in gypsies; again poliovirus type 1 [green genotype] was isolated). Thus, it appears that one large outbreak of poliomyelitis was affecting these three countries. In response to the epidemic transmission, Albania conducted a mass vaccination campaign in October and is preparing the second round in November targeting all persons 0–50 years of age. Previously planned SNIDs in Yugoslavia (especially in Kosovo) were extended to include school-aged children. The Former Yugoslav Republic of Macedonia conducted a large campaign to provide one dose of OPV to all people 3 months to 18 years of age during October and plans another one in November.

AFP surveillance data were reported from 19 countries in 1995. The AFP rate was 0.24/100 000 persons <15 years in 1995, and has increased to 0.53/100 000 (annualized rate) in 1996. There are a number of shortcomings with AFP surveillance in the Region, including participation (not all endemic and recently-endemic countries have implemented AFP surveillance) and performance (only few countries are meeting or approaching performance indicator levels).

The laboratory network needs to be developed further. The recent outbreaks of poliomyelitis in the Balkan countries highlight the need for effective referral mechanisms for stool specimens and tissue cultures to distinguish as early as possible whether vaccine-related or wild polioviruses are isolated from suspected cases. In addition, proficiency testing suggests that the performance of some laboratories in the network requires improvement. Furthermore, the accreditation standards adopted (see above) require further improvements in the participating laboratories.

Operation MECACAR will be repeated in 1997. In addition to the ten countries from the European Region, and the eight countries from the Eastern Mediterranean Region, several

countries in the European Region may also participate in conducting synchronized NIDs, including Albania and other Balkan countries. This extension is important to eliminate epidemic transmission and raise population immunity to prevent epidemic transmission should poliovirus be imported into Balkan countries again. In addition, four countries have conducted mopping-up operations in 1996, including Armenia, Azerbaijan, Turkmenistan and Uzbekistan. Mopping-up will be expanded in 1997 to eliminate the remaining foci of endemic poliovirus transmission and to raise immunization coverage in low coverage areas.

Eastern Mediterranean Region

During 1995, the countries in the Eastern Mediterranean Region (EMR) reported 789 cases of poliomyelitis. The polio incidence in 1996 is 22% lower compared with the incidence in 1994. Of a total of 23 member countries, 11 reported 0 cases, 3 countries did not submit reports (including Afghanistan, Djibouti and Somalia), and 9 reported cases of poliomyelitis (Cyprus, Egypt, Iran, Iraq, Pakistan, Saudi Arabia, Sudan, Syrian Arab Republic and Yemen). For the first 6 months of 1996, 86 cases of poliomyelitis were reported compared with 420 cases for the same period in 1995 (for a decrease of nearly 80%). The eight countries participating with Operation MECACAR (Afghanistan, Iran, Iraq, Jordan, Lebanon, Pakistan, Syrian Arab Republic, and Palestinian N.A. and UNWRA Palestine [United Nations Relief and Works Agency for Palestine Refugees in the Near East]) reported only 60 cases for the first six months of 1996.

Eight (42%) of the 19 countries in the Region conducting AFP surveillance (Bahrain, Iran, Jordan, Kuwait, Oman, Saudi Arabia, Syrian Arab Republic and Tunisia) reported a rate of AFP of at least 1/100 000 population <15 years of age; the most important performance indicator suggesting a sensitive surveillance system. Other indicators, such as the proportion of AFP cases from which two stool samples were collected, or the percentage with a 60-follow-up examination to assess residual paralysis, need to be improved. These indicators measure the actual programme performance of AFP surveillance.

NIDs were conducted in 18 (78%) member countries in 1995. Most reported coverage rates of >90% for each of the two rounds of NIDs. By the end of 1996, 21 (91%) member countries are expected to have conducted NIDs. Eight countries participated with Operation MECACAR (Afghanistan, Iran, Iraq, Jordan, Lebanon, Pakistan, Palestinian N.A. and Syrian Arab Republic). With the exception of Afghanistan, all participating countries reported vaccination coverage rates with OPV administered during NIDs of 95% and higher. Afghanistan reported coverage rates of 87% in the first round and 88% in the second round.

The laboratory network in EMR consists of 12 laboratories. Of a total of 315 poliovirus isolates from AFP cases investigated in the Region in 1995, only 133 (42%) were submitted for intratypic differentiation. Wild poliovirus was isolated from AFP cases in Cyprus, Egypt, Saudi Arabia, and Syrian Arab Republic. In 1996, of 126 isolates submitted, 68 (54%) have been differentiated. Wild poliovirus type 1 has been isolated from cases in Egypt, Iran and Pakistan, and wild poliovirus type 3 from cases in Egypt.

REPORTS FROM INDIVIDUAL COUNTRIES IN THE EUROPEAN REGION

Armenia

Routine coverage with 3 doses of OPV among infants by 1 year of age was reported to be 92% in 1993, 92% in 1994, and 93% in 1995. No cases of poliomyelitis were reported in 1993. Five

cases of poliomyelitis were reported in 1994, 3 cases in 1995, and no cases during the first half of 1996. The rate of non-polio AFP was reported to be 0.8/100 000 population during 1995. The proportion of AFP cases with 2 stool samples collected within 14 days after onset of paralysis was 87%. The coverage achieved during each round of the 1996 NIDs was reported to be 99% and 98%, respectively. Remaining challenges for 1997 include: (1) conducting mopping-up operations; (2) improving AFP surveillance; and (3) participation with the 1997 Operation MECACAR.

Azerbaijan

Routine vaccination coverage with 3 doses of OPV in infants by 1 year of age was 70% in 1992, 59% in 1993, and 94% in 1994. The reported polio cases decreased from 69 in 1993, to 16 in 1994, and 5 in 1995. Coverage with each round of the NIDs in 1996 was reported to be high (97% for the first round and 98% for the second round).

Georgia

The routine coverage among children by 1 year of age with 3 doses of OPV was 81% in 1993, 89% in 1994, and 95% in 1995. No cases of poliomyelitis were reported for the three-year period of 1993–1995, and for the first half of 1996. The rate of AFP was 0.2/100 000 population <15 years of age. And the proportion of AFP cases from which 2 stool samples were collected at least 24 hours apart within 14 days after paralysis onset was reported to be 50%. Coverage achieved with each round of NIDs during 1996 was reported to be 92% and 92%, respectively.

Kazakstan

Routine coverage with 3 doses of OPV among infants by 1 year of age was reported to be 89% in 1993 and 75% in 1994. Four cases of poliomyelitis were reported in 1994, one case in 1995, and no cases for the first half of 1996. Coverage with each round of the 1996 NIDs was reported to be 97% and 99%, respectively. AFP surveillance is progressing well: the Ministry of Health monitors routinely the quality indicators.

Kyrgyzstan

Routine coverage with 3 doses of OPV among infants by 1 year of age was reported to be 85% in 1995. No cases of poliomyelitis had been reported for the three-year period of 1993–1995, and for the first half of 1996. Coverage achieved during each round of the 1996 NIDs was reported to be 98% and 99%, respectively.

Russian Federation

Routine coverage in the Russian Federation among infants by 1 year of age was reported to be 82% in 1993, 88% in 1994, and 89% in 1995. Five cases of poliomyelitis were reported in 1994, 154 cases in 1995 (primarily from the outbreak in Chechnya), and 4 cases for the first 6 months of 1996 (including 3 cases from Chechnya, and 1 case from Novosibirsk). The non-polio AFP rate was 0.1/100 000 population in children <15 years of age. And the proportion of AFP cases from which 2 stool specimens were collected at least 24 hours apart within 14 days after onset of paralysis was reported to be 70%. Coverage during each round of NIDs achieved during 1996 was 99% and 99%, respectively. The main lessons learned during 1996 were: (1) importance of social mobilization; and (2) value of preparedness of medical personnel. The remaining challenges for 1997 are: (1) determination whether NIDs should be conducted; (2) identification of areas for mopping-up operations; and (3) improvements of AFP surveillance.

Tajikistan

Routine coverage with 3 doses of OPV among infants by 1 year of age was reported to be 92% in 1995. A total of 26 cases of poliomyelitis were reported in 1993, and none in 1994 and in 1995. In addition, no cases of poliomyelitis were reported for the first half of 1996. Coverage achieved during each round of the 1996 NIDs were reported to be 95% and 99%, respectively. Tajikistan does not have a national laboratory; all specimens collected from suspected poliomyelitis cases will need to be sent to the regional laboratory in Moscow for processing.

Turkey

Immunization coverage among children <1 year of age increased from 74% in 1989 to 81% in 1994, but decreased to 67% in 1995 due to shortages with DTP supplies and problems with logistics. Coverage has increased for 1996, during the first 8 months, a coverage of 79% was reported.

AFP reporting has improved steadily since 1990. The rate of reported AFP cases per 100 000 population <15 years has increased from 0.2 in 1993 to 0.6 in 1995. A total of 110 AFP cases were reported in 1995; of these 32 (29%) were confirmed a poliomyelitis based on a clinical case definition. In 7 (22%) confirmed cases (including in contacts of one case) in 1994, wild poliovirus was isolated. Although the geographic distribution of reported cases suggest wide-spread transmission of poliovirus, wild poliovirus has only been isolated in two regions (Southeastern and Marmara) since 1994. In 1995, wild poliovirus type 3 was isolated only in the Marmara region. The performance indicators continue to increase but have not yet reached the standards required to indicate "adequate" surveillance. For the period of 1989–1995, 73% of confirmed poliomyelitis cases were in children <5 years of age, 25% in children 5–14 years of age, and 2% in persons 15 years of age and older.

NIDs were first conducted in 1995, and repeated again in 1996. The target age group for the 1996 NIDs were children 0–59 months of age. Two rounds were conducted between 17–23 April and 18–24 May 1996. Coverage with OPV administered during the NIDs was 93% (range: 82% in Southeast to 102% in Marmara) for the first round and 96% (range: 88% in Southeast to 106% in Marmara). A total of 6 299 021 were vaccinated during the first round and 6 547 039 during the second round in the 79 provinces of Turkey. The vast majority of OPV was administered during house-to-house visits (76%) and only 24% in fixed sites. Coverage by age group was generally >90% (except during the first round in infants 0–11 months with 89% and children 12–23 months with 88%). Wastage varied between 2–16% during the first round (14% overall) and between 6–19% during the second round (12% overall). A total of 65 066 staff (including drivers and supervisors) participated in conducting NIDs. A cost analysis of the NIDs was conducted. Adding the costs for vaccine, per diem, salaries, training (including materials), fuel, social promotion and mobilization activities was US $1.13 per dose of OPV administered; and US $14 551 427 for the NIDs in 1996.

Problems encountered were delays in the procurement and delivery of vaccine (due to late transfers of funds), communities not accepting vaccination, and difficulties with the weather conditions during the NIDs. Delays in OPV procurement fortunately did not delay or affect the NIDs, and social mobilization with active support from political leaders helped in convincing communities to participate with the NIDs. Several observations were made in regards to the contribution of NIDs in improving primary health care, including: (1) children not reached with routine services were included during the NIDs and other vaccines were also administered;

(2) acceptance of parents for immunization services led to increased demands for other primary health care services; and (3) level of respect for health personnel (particularly at basic level) increased.

Turkmenistan

Routine coverage with 4 doses of OPV by 1 year of age was 97% in 1995 compared with 80% in 1988. Following the first round of NIDs in 1995, only a single case of poliomyelitis was reported and confirmed clinically. Prior to the NIDs, 6 cases of poliomyelitis were reported in 1994, and 7 in 1995. Coverage achieved during each round of NIDs in 1996 was 99% and 99%, respectively. In addition, mopping-up operations were planned based on the following criteria: (1) wild poliovirus detection; (2) routine coverage below 86%; and (3) reporting of poliomyelitis cases after the 1995 NIDs.

Uzbekistan

Routine coverage with 3 doses of OPV by 1 year of age increased from 46% in 1993, to 79% in 1994, to 99% in 1995. The reasons for the lower performance in 1993 and 1994 are the disruption of vaccine supply channels following independence. Reported cases of poliomyelitis have increased from 68 in 1993 to 117 in 1994. However, only one case was reported in 1995, and none since then. The only poliovirus isolated since the beginning of 1995 were two isolates of poliovirus type 3 (both were determined to be vaccine-related). Coverage achieved during each round of NIDs was >95% in each year (1994, 1995 and 1996). The challenges for 1997 are to procure and deliver OPV well in advance of the NIDs dates, to improve the performance of surveillance, and to upgrade the national laboratory with the necessary equipment and supplies.

Reports from individual countries in the Eastern Mediterranean Region

Afghanistan

The NIDs in Afghanistan were characterized by administration of OPV in two rounds to children <5 years of age in 1996. The NIDs were also used to administer one dose of vitamin A supplements to children <6 years of age, DTP and measles vaccine to infants in high-risk areas, and tetanus toxoid women of childbearing age (e.g. 15–45 years of age). These activities were dependent on "days of peace and tranquility" in Afghanistan. The vaccines and vitamin A were administered in fixed centres (a minimum of one fixed centre was available in 265 districts, and the total number of fixed centres was 376), campaign posts (on average five campaign posts were established in each district, and the total number of campaign posts was 1173), and OPV posts (on average 16 community-based OPV posts were established in each rural district to administer OPV and vitamin A by health workers and trained volunteers, a total of 2196 OPV posts were established).

The NIDs were conducted between 16–20 June and 21–25 July; the second round was to coincide with the Olympic Games in Atlanta. Afghanistan was participating with Olympic Aid Atlanta 1996. This linkage provided high visibility and assisted in reaching a truce for the NIDs. With the assistance of WHO, UNICEF and other UN agencies, all leaders of the different fractions agreed to a truce (e.g. "days of peace and tranquility") to permit movement of personnel, and supplies, and facilitate social mobilization. Compliance with the truce agreement was very good (only isolated incidents were reported without causing causalities).

Coverage with OPV during the first round was 87% and for the second round was 88%. The reported coverage with vitamin A was 79% administered during the second round of NIDs. The challenges for 1997 for Afghanistan include: (1) establish surveillance for poliomyelitis; and (2) establish and improve routine vaccination services.

Iran

Routine vaccination coverage with 4 doses of OPV among children <12 months of age was reported to be 98%.

NIDs were conducted on 10 May and 14 June and targeted all children <5 years of age. In rural areas, all border cities, and the four provinces of Azerbayejan, Ilam, Hormozgan, Sistan-Baluchestan, southern parts of Khorasan, and the city of Kahnug (Kerman), OPV was administered by going door-to-door. In all other areas, OPV was administered in one of the nearly 14 000 fixed vaccination posts (approximately 1 post per 1000 households, and within 10 minutes walking time). A total of some 250 000 persons from the Basij and health staff participated. The NIDs were inaugurated by H.E. the President of Iran. Coverage of 99% for the first round and 100% for the second round were reported.

Surveillance for AFP continues to improve. In 1995, a total of 331 cases of AFP were reported. The rate of non-polio AFP was 0.9/100 000 population <15 years of age. Of these, 101 were confirmed as poliomyelitis based on clinical criteria only. No wild polioviruses were found in the 17 poliovirus isolates submitted for intratypic differentiation. Further improvements in AFP surveillance are anticipated by visiting regularly all paediatric, neurology and rehabilitation wards of all hospitals, training, and rewards for reporting of AFP cases.

Iraq

Routine coverage with 3 doses of OPV by 1 year of age was >80% in 1993, 87% in 1994, and 90% in 1995.

Reported cases of poliomyelitis were 76 in 1993, 63 in 1994, and 34 in 1995. For the first half of 1996, only 3 cases of poliomyelitis have been reported. During the first half of 1996, a total of 38 cases of AFP have been detected. However, the performance indicator was only 53% for the proportion of AFP cases from which 2 stool specimens were collected at least 24 hours apart within 14 days after onset of paralytic disease.

NIDs were conducted between 4–6 March and 9–11 April. A total of 6529 immunization sites were used during the first round and 5518 for the second round. Of the a total of 2575 vehicles used for the first round, only 248 (10%) were from the Ministry of Health. Coverage with OPV achieved during the 1996 NIDs was high. During the first round a coverage of 98% was reported, and the second round coverage was also 98%. The wastage rate was 17% during the first round and 12% during the second round.

The main lessons learned during 1996 was (1) importance of AFP surveillance; (2) timely collection of stool samples from AFP cases; and (3) the importance of surveillance to guide mopping-up operations. The major remaining challenge is transportation. There is a very severe shortage of spare parts in Iraq.

Jordan

Routine vaccination coverage in Jordan among infants by 1 year of age was reported between 94% in 1993, 96% in 1994, and 99% in 1995.

Few cases of poliomyelitis were reported. In 1993, one case of poliomyelitis classified as vaccine-associated; in 1994, 4 cases of poliomyelitis were reported; and in 1995, no cases of poliomyelitis were reported. Non-polio AFP rate reached >1 case per 100 000 population <15 years of age for the first time in 1994, and was 1.3/100 000 in 1995. The other performance indicators are also very high, meeting or exceeding those generally required for certification. Thus, Jordan appears to have implemented an effective AFP surveillance system.

The 1996 NIDs were conducted between 6–9 May and 8–12 June. The target age group was children <5 years. Coverage achieved during the NIDs in 1996 were 106% for the first round and 104% for the second round.

The main lessons learned during the 1996 NIDs include: (1) the importance of health education (including social mobilization); (2) mass media messages should be initiated before the NIDs and maintained during the NIDs; (3) planning for NIDs should start at least four months before the start of NIDs; and (4) evaluation of NIDs is critical to permit improvements in the performance of subsequent NIDs. Challenges that remain are: (1) continuation of yearly NIDs; and (2) implementation of NIDs during the low-transmission season (i.e. March and April).

Lebanon

Lebanon had reported two cases of poliomyelitis in 1994, none in 1995, and none for the first half of 1996. NIDs were conducted from 16–22 March and 7–14 May. The target population for NIDs was children <5 years of age. A total of 372 206 (representing 99% of the target population) children were vaccinated during the first round, and 357 417 (95%) children during the second round. The main lessons learned during the 1996 NIDs include: (1) start planning of NIDs early; (2) improve logistic, including the early provision of operational funds to district physicians; (3) conduct opening ceremonies for NIDs also at governorate and district levels; (4) increase private sector participation by organizing seminars and lectures; and (5) improve social mobilization.

Pakistan

Routine coverage with OPV among infants 11 months of age decreased from 74% in 1993, to 67% in 1994, and 55% in 1995. In 1996, coverage has improved and was reported to be 73% for the first half of the year.

Reported cases of poliomyelitis decreased from 1,803 in 1993, to 527 in 1994, and 490 in 1995; and 45 for the first half of 1996. An AFP reporting system was established starting September 1995.

Coverage achieved during the NIDs conducted in 1994, 1995, and 1996 has been above 95% during each round. The last NIDs were conducted during December 1995 and January 1996 to correspond with the NIDs in China, India and other countries in the area. Coverage reported for the last rounds of NIDs were >100%.

The major challenges for 1997 are to improve restore vaccination coverage in infants, to continue conducting NIDs and to improve the AFP surveillance system in order to meet the criteria for adequate surveillance.

Syrian Arab Republic

Routine vaccination coverage with 3 doses of OPV among 11-month-old infants was 92% in 1995.

AFP reporting has been established in Syrian Arab Republic since 1993. A total of 22 AFP cases were reported in 1993, 46 in 1994, and 66 in 1995. Wild poliovirus types 1 and 3 were in 1995. No isolates with wild poliovirus has been detected in the first half of 1996. However, 28 poliovirus isolates were tested and yielded only vaccine-related polioviruses. The rate of non-polio AFP was 1.3/100 000 population <15 years of age. The other performance indicators have reached high levels already, and indicate adequate surveillance.

Two rounds of NIDs were conducted between 11–16 March and 22–27 April. The target population was children <5 years of age. Coverage reported for the first round was 117% and for the second round was 123%. These levels are >100% because of uncertainties about the population size (denominator problem) and vaccination of some children outside the target age (numerator problem). The isolation of wild poliovirus triggered mopping-up operations in eight health districts administering through house-to-house efforts two doses of OPV. The health district were located in the following areas: Aleppo, Deir Ezzour, Hasaka, and Raqqa. NIDs will be repeated in 1997 during February and March. In addition, the areas targeted for mopping-up in 1996 will also be the areas for Sub-National Immunization Days in 1997. In terms of surveillance, all paediatric departments should be included, both from public and private hospitals, by the end of 1997.

The main challenges for 1997 are (1) a shortage of transportation; and (2) difficulties in reaching nomadic people for the provision of vaccination services.

Palestinian N.A.

Routine coverage with 3 doses of OPV among infants by 1 year of age was reported to be 95% in 1993, 97% in 1994, and 96% in 1995. No cases of poliomyelitis were reported for the three-year period of 1993–1995, and for the first half of 1996. The reported coverage with each round of NIDs during 1996 was 106% and 105%, respectively. The main lessons learned during 1996 include: (1) planning for NIDs needs to start early; (2) importance of budget; and (3) availability of increased supervision. The remaining challenges for 1997 include: (1) obtain budget for NIDs; (2) improve media participation for social mobilization; and (3) coordination with neighbouring countries.

MECACAR PLANNING FOR 1997

All countries from the European and Eastern Mediterranean Regions of WHO plan to collaborate in Operation MECACAR to conduct synchronized NIDs in 1997. Pakistan will coordinate their NIDs with other countries in South Asia and South East Asia. The following table outlines the major features of these coordinated NIDs for 1997.

Table 1. Features of 1997 NIDs in countries participating with Operation MECACAR

Country	Target age	OPV needed	1997 NIDs	Dates	Sub-NIDs	Mopping-up	WHO support?
Azerbaijan	<4	1 648	Yes	M/A	No	Yes	N/S
Georgia	<4	0 625	Yes	A/M	No	Yes	OPV
Kazakstan	<4	3 389	Yes	M/A	No	Yes	Technical
Kyrgyzstan	<5	1 216	Yes	A/M	No	Yes	Technical
Russian Federation	<4	N/A	Yes?	M/A	No?	Yes	Support
Tajikistan	<4	1 681	Yes	M/A	No	Yes	N/S
Turkey	<6	13 042	Yes	A/M	No	Yes	None
Turkmenistan	<5	1 198	Yes	A/M	No	Yes	Technical
Uzbekistan	<4	7 301	Yes	A/M	No	Yes	Technical
Afghanistan	<6	N/A	Yes	A/M	Yes	No	Political/technical
Iran	<5	21 000	Yes	M/A	Yes	No	Political
Iraq	<5	12 00	Yes	M/A	Yes	No	Political
Jordan	<5	1 500	Yes	M/A	No	No	Political
Lebanon	<5	0 500	Yes	M/M	No?	No?	Political/technical
Pakistan	<5	N/A	Yes	D/J	No	No	Technical
Syrian Arab Republic	<6	N/A	Yes	F/M	Yes	No	Political
UNWRA	<6	1 100	Yes	M/A	No	No	Technical

CONCLUSIONS

1. Many countries participating in "Operation MECACAR" have achieved and maintained high routine vaccination coverage rates with OPV and other antigens; however, two countries, Pakistan and Turkey, reported lower coverage rates in 1995 compared with 1994 which probably permitted the occurrence of a large outbreak of poliomyelitis in Pakistan in 1995.

2. The quality of AFP surveillance has not reached the standards necessary to achieve certification, eventually, and to permit discontinuation of NIDs, in the near future, with the possible exception of Jordan.

3. Several countries experienced delays in the delivery of vaccines for the 1996 NIDs because of delays in transferring funds from donors.

4. Individual laboratories participating in the polio eradication network can not function as required because of technical and financial impediments.

5. Regular meetings between EPI staff, virologists and clinicians are not held in many countries.

6. Based on the progress in polio eradication in many countries, mopping-up operations may be considered to eliminate the remaining reservoirs of wild poliovirus transmission or to eliminate areas of low coverage with OPV.

7. Not all countries have created a National Committee for the Certification of Polio Eradication.

RECOMMENDATIONS

1. Countries must maintain and monitor routine vaccination coverage carefully at district or rayon level, detect any changes rapidly and implement corrective action early to ensure that routine polio vaccination levels are maintained at very high levels (i.e. >90%) in each geo-political division.

2. All countries are committed to continue "Operation MECACAR" in 1997 and to cooperate in conducting NIDs in March–May 1997 (with the exception of Pakistan which will coordinate their NIDs with other South-Asian countries during December 1996 and January 1997). Countries should refine their planning preparations based on their experience from 1995 and 1996, including, for example, adjustment of their population estimates.

3. Since vaccine procurement and delivery may take up to three months, government and donors must commit funding to UNICEF at the earliest possible time (latest by December 1996) to permit the timely procurement and delivery of OPV to participating countries with "Operation MECACAR" in 1997.

4. Although "Operation MECACAR" ceases after three years, participating countries will need to evaluate in consultation with WHO whether NIDs need to be continued to accomplish the polio eradication target. The quality of AFP surveillance is the most important criterion to determine the need to conduct additional NIDs. Specific criteria to monitor the quality of AFP surveillance may include: (1) non-polio AFP rate $\geq$ 1 case/100 000 population (< or = 15 years of age); (2) % of adequate stool samples (see above for definition) in $\geq$ 80% of AFP cases; and (3) all stool specimens processed in WHO-accredited laboratories. In addition, countries that share a border with polio-endemic countries may be at increased risk for wild poliovirus importation and should consider continuation of NIDs.

5. Highest priority for 1997 is to institute or improve AFP surveillance in each participating country to timely detect and investigate cases, guide mopping-up operations and eventually permit certification of polio-free status. Each country should urgently work with WHO to develop a list of resources needs, including budget, for implementing enhanced epidemiological and virological surveillance. The development of AFP surveillance must be monitored by use of minimum two main surveillance indicators, including (1) the rate of non-polio acute flaccid paralysis [AFP];[5] and (2) the proportion of "adequate" stool samples.[6] The comparison of maps[7] showing the expected number of AFP cases by oblast/rayon and the observed number of AFP cases is another very useful tool to identify areas with suboptimal AFP performance.

6. An equally high priority for 1997 is to improve the laboratory network to ensure adequate laboratory support for each country; this includes the timely processing and reporting of all

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[5] A rate of $\geq$ 1 non-polio AFP cases per 100,000 population <15 years of age is considered an indication of adequate surveillance.

[6] Adequate stool specimens are defined as two specimens collected at least 24 hours apart within 14 days after paralysis onset, arriving in laboratory with ice or frozen icepacks, sufficient quantity of stool, and complete documentation. A proportion of $\geq$ 80% of AFP cases meeting this criterion is considered to indicate adequate surveillance for certification purposes.

[7] The absence of areas from which no AFP were reported is considered to indicate adequate surveillance.

stool specimens collected from AFP cases in laboratories accredited[8] by WHO. Because procurement and shipping of equipment is often a lengthy process, partners providing financial support for laboratory development are urged to provide funding at the earliest possible time.

7. To facilitate communication between the EPI programme staff and the virologists, regular monthly meetings should be conducted between epidemiologist and clinician to decide on classification of cases, track specimens, line listings of cases, transportation of samples, etc.

8. Mopping-up should be conducted in the latter part of 1997 guided by data generated by AFP and virological surveillance (i.e. isolation of wild poliovirus, clustering of AFP cases, particularly in the absence of adequate stool samples, low coverage, cases of poliomyelitis in the previous years, borders with polio-endemic areas, "high-risk" populations [including refugees and migrants]). Mopping up is characterized by house-to-house delivery of OPV in two rounds to children combined with an active search for unreported AFP cases. Countries planning to conduct mopping-up operations should prepare a plan that includes the time frame (dates), the criteria to select geographic areas targeted for immunization, target age group and population size for supplementary immunization.

9. Neighbouring countries regardless of WHO region should coordinate their mopping-up operations in border areas, particularly to ensure best possible results in eliminating the remaining wild poliovirus reservoirs.

10. In preparation for certification of polio eradication all countries should create and convene national committees for the certification of polio eradication in 1997. The terms of reference for the national certification committees are defined in the regional plans for the certification of polio eradication.

[8] Accreditation will be reviewed annually and the following standards are being finalized: (1) use of standard WHO protocols and guidelines including the use of approved reagents and cell lines in an appropriately equipped laboratory; (2) passing scores of proficiency testing; (3) non-polio enterovirus isolation rate; (4) processing a minimum number of stool specimens per year; and (5) proficiency of isolation and serotyping as assessed by testing tissue cultures or stool samples submitted to regional laboratories for intratypic differentiation.

Annex 1

PROVISIONAL PROGRAMME

Monday, 14 October 1996

8.30 – 9.00	Registration	
9.00 – 9.45	Opening	
	Ministry of Health Uzbekistan	Dr Sh. Karimov
	WHO/EURO	Dr J. Asvall
	WHO/HQ	Dr H. Hull
	WHO/EMRO	Dr R. Aslanjan
	UNICEF	Dr S. Guichard
	Rotary International	Dr A. Austvik
9.45 – 10.00	Introduction	
	Adoption of agenda	
	Election of chairperson	
10.00 – 10.30	Poliomyelitis eradication initiative – situation analysis and progress in 1996	
	Global Overview	(HQ)
	EMRO Overview	(EMRO)
	EURO Overview	(EURO)
10.30 – 11.00	Coffee break	
11.00 – 11.30	Contribution of other partners in EMRO and EURO	
		UNICEF
		Rotary International
		CDC Atlanta
11.30 – 12.00	Discussion	
12.00 – 12.30	Operation MECACAR 1996 – update	Dr Oblapenko
	Discussion	
12.30 – 14.00	Lunch break	
14.00 – 15.30	Country experiences on polio eradication in 1995–1996	
	Pakistan, Russian Federation, Syrian Arab Republic, Turkey	
	Discussion	
15.30 – 16.00	Coffee break	
16.00 – 17.30	Improvement of surveillance on AFP/polio	
	AFP surveillance: Situation Analysis: global overview (HQ)	
	EMRO	
	EURO	
	National Experience in improving AFP surveillance	
	Armenia, Iran, Jordan, Kazakstan	
	Discussion	

Tuesday, 15 October 1996

9.00 – 9.45	Laboratory Network for polio eradication EMRO EURO Experience of Moscow RRL	 RIVM Dr Olga Ivanova
9.45 – 10.15	Genetic Analysis of wild polio viruses EMRO/EURO EURO	 RIVM Dr Galina Lipskaya
10.15 – 10.30	Recommendation and requirements on laboratory pragmatic relationships	Dr Rafi Aslanjan
	Discussion	
10.30 – 11.00	Coffee break	
11.00 – 12.30	Polio laboratory pragmatic issues – country experience Jordan, Uzbekistan, Syrian Arab Republic, Turkey	
	Discussion	
12.30 – 14.00	Lunch break	
14.00 – 15.00	Preparation for mopping-up activities Azerbaijan, Russian Federation, Turkmenistan	
	Discussion	
15.00 – 15.30	Global Certification Commission: criteria and process	
15.30 – 16.00	Coffee break	
16.00 – 17.30	Certification of the European Region: plans Certification of the Eastern Mediterranean Region: plans	
	Discussion	

Wednesday, 16 October 1996

9.00 – 10.30	MECACAR 1997 – general discussion on planning and targets: Target group Dates of NIDs 1st and 2nd round Coordination Mopping-up OPV needs Wastage rate AFP Surveillance Reporting Budget: international support needed
10.30 – 11.00	Coffee break
11.00 – 11.30	Continuation of discussion
11.30 – 12.30	Support to Operation MECACAR – View of partners UNICEF, CDC, USAID, Rotary International
12.30 – 14.00	Lunch break
14.00 – 15.00	Recommendations
15.00 – 15.30	Closure

Annex 2

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