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*SUB-REGIONAL
COORDINATION
MEETING ON
SURVEILLANCE
AND
CERTIFICATION OF
POLIOMYELITIS
ERADICATION*

Report on a WHO Meeting

Kiev, Ukraine
15–17 July 1998

EUROPEAN HEALTH21 TARGET 7

REDUCING COMMUNICABLE DISEASES

By the year 2020, the adverse health effects of communicable diseases should be substantially diminished through systematically applied programmes to eradicate, eliminate or control infectious diseases of public health importance

(Adopted by the WHO Regional Committee for Europe at its forty-eighth session, Copenhagen, September 1998)

ABSTRACT

With further advances in all the strategies of the global programme to eradicate poliomyelitis, the European Region of WHO is approaching the target of eliminating indigenous transmission by 2000. In order to take the steps needed to certify that indigenous poliovirus transmission has been stopped in the Region, Member States have been asked to form national certification committees. These committees will be responsible for reviewing the necessary documentation related to the laboratory surveillance of polioviruses and immunization efforts in each country before submitting the data to the European Regional Commission for the Certification of Poliomyelitis Eradication. This meeting was held to update programme managers of the national vaccination programmes, health authorities in maternal and child health, virologists in the polio laboratory network and chairpersons of the national certification committees of the newly independent states on the current status of activities in poliomyelitis eradication (including the action needed for certification). Most countries of the Region are apparently polio-free, but surveillance remains limited in some. The current priorities for polio eradication in the Region are to eliminate the last possible remaining foci of indigenous poliovirus transmission, to further improve acute flaccid paralysis surveillance and laboratory performance and to demonstrate through the certification process that poliovirus transmission has been eliminated. High-risk areas and subpopulations may require special efforts in surveillance and immunization.

Keywords

POLIOMYELITIS – prevention and control
EPIDEMIOLOGIC SURVEILLANCE
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CONTENTS

	<i>Page</i>
Introduction	1
Aims of the meeting	1
EPI: progress towards poliomyelitis eradication	2
Global EPI: policies, development and problems	2
Global initiative on poliomyelitis eradication: progress, priorities, plan of action	2
Poliomyelitis eradication in the Eastern Mediterranean Region: situation, problems and plan of action	3
Poliomyelitis eradication in the WHO European Region, 1995–1998: success and problems	4
Development of AFP epidemiological surveillance system: global progress	4
Quality of epidemiological surveillance of AFP in the European Region: success and problems	5
The IFA (information for action) programme for computerized data management in AFP surveillance	6
The experience of countries: epidemiological surveillance of AFP – analysis of the situation 1997–1998, problems and plan of action	6
Armenia	6
Azerbaijan	6
Georgia	7
Kazakhstan	7
Kyrgyzstan	7
Republic of Moldova	7
Russian Federation	8
Turkmenistan	8
Uzbekistan	8
Ukraine	9
Afghanistan	9
The work of the Moscow regional reference laboratory in 1997–1998	10
WHO European Region: work of the Regional Laboratory Network on poliomyelitis diagnosis, 1997–1998	10
The role of Rotary International in poliomyelitis eradication	10
Rotary International – a key partner: global experience	10
Experience of work by Ukraine's POLIO PLUS National Committee (PPNC)	11
Certification of poliomyelitis eradication	11
Criteria and process for certification of the European Region as a poliomyelitis-free area	11
Necessary documentation for certification	12
Preparation of the documentation for certification in Belarus	12
Registration and containment in laboratory conditions	12
Epidemiological surveillance of wild polioviruses in the period preceding certification and following poliomyelitis eradication	12
Diphtheria control: success and problems	13
Georgia	13
Kazakhstan	13
Kyrgyzstan	14
Russian Federation	14
Ukraine	14

Regional review and plan of action	15
Poliomyelitis.....	15
Conclusions	15
Recommendations	17
Diphtheria.....	18
Conclusions	18
Recommendations	18
Annex 1 Programme.....	19
Annex 2 Participants	21
Annex 3. AFP reporting, European Region for 1997 and 1998 to date, among countries with AFP surveillance	33

Introduction

The subregional coordination meeting on epidemiological surveillance and certification of poliomyelitis eradication was convened in Kiev from 15 to 17 July 1998. Sir Joseph Smith, Chairman of the Regional Commission on Certification of Poliomyelitis Eradication, served as Chairperson of the meeting, with Dr George Oblapenko as Secretary and Drs Sergei Deshevoi and Ronald Sutter as joint Rapporteurs. The meeting was opened by Dr Oblapenko. Welcoming all participants on behalf of Dr Asvall, the Regional Director, he noted that three main questions would be considered at the meeting: epidemiological surveillance of acute flaccid paralysis (AFP), certification of poliomyelitis eradication in the European Region of WHO, and approaches for further reducing diphtheria morbidity.

The working programme and list of participants are included as Annexes 1 and 2.

Dr Ljubov S. Nekrasova, first Deputy Minister of Health of Ukraine, welcomed all participants on behalf of the Ministry of Health and of the Ukrainian government. She declared that Ukraine fully supported the WHO strategy of global poliomyelitis eradication. Dr Nekrasova described in detail Ukraine's achievements in carrying out mass immunization campaigns against poliomyelitis and implementing a system for epidemiological surveillance of AFP. She was also optimistic that, with the support of WHO and other international organizations, Ukraine would be successfully certified as a poliomyelitis-free country.

Dr Bjorn Melgaard, Director of the Expanded Programme on Immunization (EPI), welcomed all participants on behalf of WHO headquarters; he noted that the World Health Organization gave top priority to programmes for the control and eradication of infectious diseases, including the global initiative to eradicate poliomyelitis by the year 2000. Dr Melgaard emphasized the need to pay particular attention and devote the utmost efforts, to improving epidemiological surveillance in order to meet the criteria for certification. He also welcomed the main partners in the initiative of global poliomyelitis eradication: Rotary International, the United Nations Children's Fund (UNICEF), the United States Centers for Disease Control and Prevention (CDC) and others who had formed a global coalition for poliomyelitis eradication.

Dr Mari Grassi, Chairman of Rotary Polio Plus, welcomed participants on behalf of Rotary International. He called on countries to make closer contact with representatives of the Rotary Club and to involve them in solving the present problems of epidemiological surveillance of poliomyelitis.

Dr Roland Sutter, in his opening speech, noted that CDC was supporting the individual countries through WHO regional offices, primarily by buying vaccines and giving advisory help. CDC was also taking part in the evaluation of poliomyelitis surveillance in individual countries of WHO's European Region.

Aims of the meeting

- Review the results of work on epidemiological surveillance of AFP and the laboratory network.

- Consider the plan of action for 1998–2000 in the light of the experience gained.
- Discuss the results of the missions on assessment of epidemiological surveillance of AFP.
- Compare experiences on AFP surveillance.
- Identify problems and possible solutions for improving AFP surveillance and preparing for the certification of poliomyelitis eradication in the newly independent states (NIS).
- Discuss the most important issues of the EPI (diphtheria).

EPI: progress towards poliomyelitis eradication

Global EPI: policies, development and problems

WHO, as a specialized agency, plays a major role in drawing up immunization-related policies and initiatives and gives technical assistance to countries with the following activities: implementation of health education measures, attainment of vaccine self-sufficiency, control of diseases, their eradication and introduction of new vaccines. Moreover, WHO plays an active role in the process of health care reform, and the task before it here is to ensure active cooperation with countries that are reforming their health systems and to give them technical help in restructuring existing services, including those for preventive immunization. One of the most tangible components of the technical assistance provided is the real use, in the course of reforms, of guidelines in policy issues and WHO's technical recommendations concerning EPI and the Global Programme on Vaccines (GPV). Despite the huge task before EPI over the next decade and beyond, preventive measures carried out in line with these recommendations will certainly be most cost-effective in the long-term.

Global initiative on poliomyelitis eradication: progress, priorities, plan of action

Considerable progress has been made towards the target of global poliomyelitis eradication by the year 2000 since the World Health Assembly adopted the programme in 1988. In the past ten years, the number of poliomyelitis cases registered world-wide has fallen by 90%, down to 5119 cases in 1998.¹ Even more important than the decline in the number of registered cases has been the reduction in the geographical extent of wild poliovirus. By the beginning of 1998, only two continents and fifty countries were still endemic for wild poliovirus, compared to five continents and over one hundred countries when the programme started in 1988. In all countries that are still polio-endemic, the main strategies advocated by WHO for poliomyelitis eradication (national immunizations days (NIDs) and AFP surveillance) have already been implemented or will be applied by the end of 1998.

The main priorities of the global eradication programme range from the introduction of strategies to the improvement of work quality and intensity in the main reservoirs of wild poliovirus in the world: equatorial Africa (Congo, Ethiopia, Nigeria) and south Asia (Bangladesh, India, Nepal, Pakistan). Growing attention has been paid to countries where conflicts currently prevent full implementation of eradication strategies (Afghanistan, Angola, Liberia, Sierra Leone, Somalia, south Sudan, Tajikistan). In practically all endemic countries, it is necessary to improve the quality of epidemiological surveillance of AFP at all levels in order to meet the criteria for certification. At the same time, all laboratories of the global network of polio laboratories must be accredited no later than the end of 1998.

¹ As at 30 April 1999, there had been 5185 cases reported in 1997 and provisionally 5673 cases in 1998.

According to experience from the American Region, once poliomyelitis eradication has been achieved and certified, other aspects of the programme become more important (such as poliovirus containment and future discontinuation of poliomyelitis immunization). After a consultation organized by WHO in 1997, an initial plan of action for poliovirus containment was drawn up; this will be presented to countries at the beginning of 1999. A plan was also adopted concerning the research required to find an answer to several questions about the best strategy for discontinuing poliomyelitis immunization in the future. In addition to the global eradication of poliomyelitis, the following important tasks must still be fulfilled to achieve full success of the programme: (i) to obtain the necessary political support for carrying out further strategies in all endemic and recently endemic countries, in order to attain global certification; and (ii) to make sure that the necessary resources are available for full implementation of the eradication programme.

Poliomyelitis eradication in the Eastern Mediterranean Region: situation, problems and plan of action

The most important event in the Region in 1997 was the successful completing of NIDs organized in Somalia and Sudan. In most countries of the Region, mass immunization coverage of children aged less than five years is above 95%. At the same time, the indicators of routine immunization coverage continue to rise (on average 82% in 1996 and 1997) and the same applies to indicators of epidemiological surveillance of AFP. In 1988, the MECACAR PLUS operation and the tight coordination of efforts for poliomyelitis eradication in the WHO Regional Office for Europe were particularly successful.

The total number of confirmed poliomyelitis cases, as communicated by the Region's Member States, increased from 535 in 1996 to 1 023 in 1997, resulting mostly from the better system of epidemiological surveillance and an outbreak of poliomyelitis in Pakistan. Other poliomyelitis cases were registered in Egypt (14), Iran (13), Iraq (28), Sudan (33), Afghanistan (14) and Somalia (1). In 1997, particular attention was paid to the prevention of cross-boundary wild poliovirus transmission. Special measures were carried out in the bordering regions of Syria, Iraq, Iran and Turkey.

In all Member States except for Somalia and Iran, systems of epidemiological surveillance of AFP were set up and are in operation. For the Region as a whole, the average incidence of non-poliomyelitis AFP cases in 1997 was 1.1 per 100 000 children aged less than 15 years. However, the range of rates was very wide (from 0 to 1.6 per 100 000). Out of 2867 cases of AFP, 84% of stool specimens were investigated in laboratories. In 53% of cases, adequate specimens were collected. In 1997, wild polioviruses were discovered in six countries: in Pakistan (types 1, 2 and 3), Egypt, Iraq, Sudan (type 1), Afghanistan (types 1 and 2), Iran (types 1 and 3).

In accordance with the recommendations of the Regional Commission on Certification of Poliomyelitis Eradication, national committees on certification of poliomyelitis eradication were set up in many Member States.

The difficulties in eradicating poliomyelitis in the Region include the problem of military activities in several countries, and the low routine immunization coverage and inadequate AFP surveillance in several countries, especially among groups of the population living in remote areas.

Poliomyelitis eradication in the WHO European Region, 1995–1998: success and problems

The European Region of WHO is seeing convincing progress in poliomyelitis eradication. All four approaches recommended by WHO are being successfully implemented. The high level of routine polio vaccination coverage is being maintained in the vast majority of countries in the Region. In all years from 1995, mass vaccination coverage of children aged less than 4 years (under Operation MECACAR) has remained high, reaching 95%. It is only thanks to the success of this Operation that in 1997, for the first time in the history of the European Region, the poliomyelitis incidence rate reached such a low level; a total of 7 cases were registered: 6 virologically confirmed cases (type 1 poliovirus) in Turkey, and 1 clinical poliomyelitis case in Tajikistan. In view of this highly efficient action, the Member States decided to continue with their joint efforts to eradicate poliomyelitis, and proposed carrying out the MECACAR PLUS operation in 1998–2000 together with WHO/EMRO. WHO/EURO attached particular importance to the issues of improving the quality of AFP surveillance and developing the Regional Laboratory Network (polioLABNET). At present, AFP surveillance is carried out in 35 countries in the Region. Several national seminars have been convened with health experts in all countries involved in the MECACAR operation. Since January 1998, weekly reporting on AFP cases has been introduced in the Region. In 1997, national laboratories within the Regional Laboratory Network began to be accredited. "Mopping-up" operations started to be carried out in the countries of the Region in 1995. To improve efficiency, the WHO Regional Office for Europe (WHO/EURO) has been coordinating the efforts with those countries with common borders outside the Region.

In the 34 countries where poliomyelitis morbidity has not been registered for many years, documents are being drawn up for submission to the Regional Commission on Certification. To date, national certification committees have been set up in 42 countries of the Region.

The basic problems hampering the successful development of the programme are of two sorts: political and operational. The former relates to the varying levels of political/community tension in a few countries of the Region (for example, Tajikistan, Turkey and others); in a few countries, economic problems do allow full support of national actions for poliomyelitis eradication. Operational problems include incorrect or incomplete understanding by medical staff of the concept of AFP surveillance as a new type of epidemiological surveillance.

Development of AFP epidemiological surveillance system: global progress

To eradicate poliomyelitis, the World Health Organization recommends that countries should carry out epidemiological surveillance of cases of acute flaccid paralysis (AFP).² The strategy of epidemiological surveillance of AFP, and not only of "presumed poliomyelitis", serves two clear purposes. First, epidemiological surveillance of AFP has led to an increase in the ability of the epidemiological surveillance system to detect all forms of paralytic poliomyelitis, including atypical cases, and thus to efficiently detect the transmission of wild poliovirus among the population. Secondly, epidemiological surveillance of AFP makes it possible to obtain objective data allowing us to control the quality of surveillance measures at national level or among large groups of the population. The main quality indicators of AFP surveillance are:

² The case definition of AFP reads as follows: "All cases of acute flaccid paralysis, including Guillain-Barré syndrome, in children under 15 years of age and all cases of presumed poliomyelitis in people of all ages."

- completeness of reporting (target: $\geq 90\%$ of expected regular reports, including zero reporting i.e. when no AFP cases are seen);
- the ability of the system to detect AFP cases (target: ≥ 1 non-poliomyelitis AFP case per 100 000 children aged less than 15 years);
- percentage of AFP cases where two stool specimens are collected for virological detection of enteroviruses (target: $\geq 80\%$ of AFP cases have adequate³ stool specimens collected);
- completeness of control observations (target: $\geq 80\%$ of AFP cases must be subject to repeat investigation in order to detect residual paralysis at a minimum of 60 days after symptoms of paralysis are first found);
- quality of work of the laboratory service (target: all virological investigation of specimens from AFP cases must be carried out in an accredited laboratory of the Global Poliomyelitis Laboratory Network).

A few AFP cases, for which no adequate stool specimens are collected, must be categorized as "poliomyelitis-compatible" cases.⁴ This circumstance indicates the inability of the epidemiological surveillance system to ensure timely collection of adequate specimens and is used to monitor territories where there is still a threat of wild poliovirus transmission. The indicators listed above are the main criteria on which the certification of poliomyelitis eradication will be established.

Quality of epidemiological surveillance of AFP in the European Region: success and problems

Nowadays, epidemiological surveillance is the main type of activity which determines the choice of the strategies required to eradicate poliomyelitis in the European Region of WHO. Between 1996 and 1998, the quality of epidemiological surveillance of AFP improved in most WHO Member States. The average annual level of non-poliomyelitis AFP (in countries where such surveillance is carried out) was 0.31 per 100 000 children aged less than 15 years in 1995, and 0.69 in 1996. Based on 1997 data, the preliminary indicator was 1.34. However, it has been found that the proportion of cases of facial nerve paralysis isolated in the countries varies from 3% to 77%. The corrected indicator of AFP prevalence in 1997 was 1.12 per 100 000 children. To attain the regional target of eradicating poliomyelitis by the year 2000, each country must have an epidemiological surveillance system that meets the requirements of certification. Certification of the Region will be possible only when reliable information is received from each country for three years. That is why each country must this year reach minimum levels for the quality of surveillance in terms of its sensitivity in all administrative areas. Surveillance can be further improved by introducing active surveillance of AFP cases in hospitals, by constantly monitoring quality indicators and by providing feedback information. Data on epidemiological surveillance of AFP in the European Region are in Annex 3.

³ "Adequate specimens" means two stool specimens for laboratory analysis collected in sufficient quantity at an interval of at least 24 hours, not more than 14 days after the onset of paralysis and forwarded to the laboratory by means of a "reverse" cold chain.

⁴ A "poliomyelitis-compatible" case means: a case of AFP with a negative finding from investigation for wild poliovirus, yet simultaneously characterized by the following: (1) inadequate stool specimens; (2) the absence of a follow-up investigation, occurrence of residual paralysis or death; (3) the inability, in the opinion of the National Expert Commission, to remove the suspicion of poliomyelitis by analysis of existing data.

The IFA (information for action) programme for computerized data management in AFP surveillance

In cooperation with CDC in Atlanta (USA), WHO has developed a software programme known as "Information for Action" (IFA), which is made up of six modules for analysing and processing epidemiological surveillance data. This is a flexible and simple software provision for IBM-compatible computers (type 80286 and above), which makes it easy to adapt, install and use at local level. The IFA modules include data entry, data processing, analysis and preparation of reports. The feedback and support programmes can increase the efficiency with which epidemiological surveillance data is used, and it is a reliable aid for monitoring and analysing reports, even for inexperienced computer users. As a result of its adaptation to specific local conditions, the IFA programme is already used in many countries of Europe, Asia, the Near East and Africa.

The experience of countries: epidemiological surveillance of AFP – analysis of the situation 1997–1998, problems and plan of action

Armenia

The last poliomyelitis case was registered in Armenia in 1995. The vaccination coverage rate through planned immunization in the past five years has been over 90% , and since 1996 more than 95%. Since 1995, Armenia has been part of the MECACAR and MECACAR PLUS operations. Mass immunization coverage with two supplementary doses of oral polio vaccine (OPV) was between 91% and 99%. From 1996, a strategy of "mopping-up" immunization has been applied in high-risk districts (areas where in recent years poliomyelitis has been registered, vaccination coverage is low, migration is high, and the risk of import of infection is enhanced). In fact, AFP surveillance was started in Armenia in 1996, after a national seminar on epidemiological surveillance and the Minister of Health's decree establishing a national programme of poliomyelitis eradication. In 1997, other seminars were convened locally, a committee of experts was set up, a National Committee on Certification was established and weekly reporting was introduced. The registered AFP morbidity rate rose in 1997 to 1.35 per 100 000 children aged less than 15 years, and during the first six months of 1998 it was 0.6. Two adequate stool specimens were obtained in 80% of AFP cases. The main problem in improving epidemiological surveillance of AFP remains virological investigation of stool specimens in a national laboratory and their forwarding to the regional reference laboratory in Moscow.

Azerbaijan

The national programme of preventive immunization introduced by the government of the Republic is oriented towards active immunization in order to reduce wild poliovirus transmission. The level of planned immunization in the Republic in recent years has exceeded 98%. Since 1993, mass immunization campaigns have been carried out. Thanks to extensive organizational and technical measures, and also to the customary participation of the President of the Republic in the MECACAR operation, the level of mass immunization coverage rose to 98.5–98.8% in 1997–1998. An AFP surveillance system has been in place since 1997. In 1997 and 1998, the AFP incidence rate was 0.8 and 0.36 (over 5 months) per 100 000 children aged less than 15 years, respectively, (for 1997, cases of facial neuritis are included). Two stool specimens were collected in 100% of cases. In view of the registration of poliomyelitis cases in neighbouring states, it is planned to supplement the MECACAR operation in 1998–1999 with mopping-up immunization in districts on the southern border of the country. Particular attention will be devoted to areas not registering any AFP cases, and also to improving laboratory diagnosis.

Georgia

Since 1992, not a single case of paralytic poliomyelitis caused by wild poliovirus has been registered in the country. The scheduled polio vaccination coverage rate (OPV-3) has increased from 59.5% in 1995 to 98.4% in 1997. Since 1995, mass polio immunization campaigns have been carried out in the Republic within the framework for the MECACAR operation. Throughout this period, mass vaccination coverage has exceeded 91.8%. The National Centre for Disease Control has been carrying out epidemiological surveillance of AFP since October 1996. The frequency of non-poliomyelitis AFP cases is lower than one per 100 000 children aged less than 15 years (0.69; 0.54 and 0.38, respectively, in 1996, 1997 and during the first five months of 1998), and the proportion of cases where two stool specimens were collected was respectively 22.2%, 85.7% and 60%. The Republic is experiencing difficulties in referring stool specimens to the Moscow-based reference laboratory.

Kazakhstan

Epidemiological surveillance of AFP has been carried out in the Republic since 1996. The implementation of this programme is supported by the government. Since 1997, new reporting documentation has been introduced, and registration of facial neuritis has been discontinued. National and regional seminars for epidemiologists, paediatricians and neuropathologists were essential for setting up the AFP surveillance system. In May 1998, the International Team of Experts gave a positive assessment of the surveillance work performed in the Republic. Over the first five months of this year, the AFP incidence rate has been 0.4 per 100 000 children aged less than 15 years (not annualized); there have been improvements in some indicators of the quality of epidemiological surveillance. At the same time, the proportion of cases with two adequate stool specimens remains low – 76.2%. In 1998, top priority objectives are still to improve the quality of epidemiological surveillance of AFP, to strengthen active epidemiological surveillance, in particular in “silent” areas, and to investigate all specimens from AFP cases in the national polio laboratory.

Kyrgyzstan

Since 1993, no case of poliomyelitis has been registered in the Republic. The adverse situation regarding poliomyelitis in the neighbouring region, constant migrations, and growing international links call for more attention to be paid to the improvement of AFP surveillance, which is why relevant decrees were drawn up by the Ministry of Health and national (in 1997) and regional (1998) seminars were convened for regional and local experts. This led to better detection and epidemiological investigation of AFP cases. In 1997, the AFP incidence rate was 1.45 per 100 000 children aged less than 15 years, and in the first five months of 1998 it was 0.53 (not annualized). The proportion of AFP cases where two stool specimens were collected rose from 79% in 1997 to 89% this year. The priorities of the national programme of poliomyelitis eradication for the years to come include maintaining the high level of routine immunization, mopping-up immunization based on effective AFP surveillance, enhancing medical staff's qualifications, improving the cold chain, and working actively with the population.

Republic of Moldova

Poliomyelitis cases resulting from wild poliovirus have not been registered in the Republic since 1991. The favourable epidemiological situation in the country is being maintained thanks to a high level immunization coverage of children. During the NID (1996), coverage with two doses of OPV for children aged less than five years exceeded 90%. Routine immunization

coverage with three doses of OPV of children aged less than one year rose from 96.8% in 1996 to 98.4% in 1997. AFP surveillance has been carried out since 1995. The prevalence rate of non-poliomyelitis AFP has risen from 0.4 per 100 000 children aged less than 15 years in 1995, to 0.9 in 1997 and 1.8 in 1998 (first six months). The proportion of AFP cases subject to virological investigation with two stool specimens rose from 0% in 1994 to 86% in 1997. Moreover, since 1981, virus circulation in sewage is being monitored. There are still problems in the Republic which prevent achievement of a high level of epidemiological surveillance. This is sometimes linked to late seeking of medical care by parents or the absence of information from participating doctors. Over the first six months of 1998, timely collection of two stool specimens was carried out in only 70% of cases. Several organizational questions have not been solved, concerning the efficient delivery of samples and the reception of results of virological investigation from the regional laboratory. The National Polio Laboratory is not yet equipped with modern materials and equipment.

Russian Federation

AFP surveillance was introduced in the Russian Federation in 1994 through the incorporation of information on registered cases in the national statistical report. Since the second half of 1997, monthly reporting has been in place at federal level, epidemiological and virological investigation are being carried out, and specific information is provided about detected patients. Since 1998, facial neuritis has been excluded from the reports. Virological investigation of AFP patients takes place in 83.4% of cases (1997). In the first five months of 1998, this figure went up to 93%; however, only half of them have been investigated by the network of subnational and national laboratories. Working priorities for 1997–1998 are as follows: to introduce a unified map of epidemiological investigation of AFP and to set up an electronic network for disseminating information; to computerize the analysis of available information; to optimize the work of the network of polio laboratories; to ensure efficient supply of investigation material; to carry out mopping-up immunization in the Chechen Republic and to activate the regional and federal certification committees.

Turkmenistan

In the Republic, high coverage with planned polio vaccination (four doses) has been reached; 96.7% in 1995, 95.6% in 1996 and 99.2% in 1997. Over 77.5% of administrative areas have coverage above 96%. Central and local government bodies supported implementation of the MECACAR operation in 1995–1998, with coverage of more than 90% of children. From 1996, mopping-up immunization has been carried out in “high-risk” areas, i.e. where poliomyelitis cases have been observed in the last three years, in districts with low routine immunization coverage and, since 1997, in regions bordering Iran and Afghanistan. Epidemiological surveillance of AFP has been carried out since 1996. Substantial progress was achieved by 1998: the level of AFP for the first five months was 0.42 per 100 000 children aged less than 15 years (not annualized); 95.8% of expected reports are reaching the Ministry of Health on time. The percentage of AFP cases where two stool specimens are collected for virological investigation has risen from 83.3% in 1996 to 90% in 1998. At present, a certification committee has been set up in the Republic and a plan is being drawn up for preparation of documents for the Regional Certification Commission.

Uzbekistan

The Republic of Uzbekistan has set itself the target of eliminating poliomyelitis by the year 2000. In working towards this goal, considerable progress has been made in improving and maintaining the level of planned polio immunization coverage (>97%). Since 1994, NIDs have

taken place in the Republic. The average level of coverage with additional vaccination of children aged less than four years is 98–99%. Since 1996, subnational immunization days have been organized in Uzbekistan every autumn in high-risk areas, with coverage rates of 98.8–99.2% achieved. In September 1996, a decree of the Uzbekistan Ministry of Health laid the basis for building an adequate system of AFP surveillance and for carrying out further immunization measures to eradicate poliomyelitis. A national expert committee and a certification committee have been set up. Thanks to the organizational measures taken and the holding of a series of teaching seminars, significant progress has been achieved in the detection of AFP cases. While in 1996 a total of 7 cases were recorded, for the first six months of 1998 there were 34 (0.64 per 100 000, not annualized) and adequate stool specimens were collected in 82.5% of these cases. Computerized reporting and analysis of AFP cases were introduced in line with the “IFA-polio” programme advocated by WHO/EURO.

Ukraine

AFP surveillance in Ukraine started in 1995. In 1997, only seven territories (30%) reported cases of AFP, including facial neuritis (AFP incidence was 1.47 per 100 000 children aged less than 15 years). After the exclusion of facial neuritis, the AFP incidence rate was only 0.13 per 100 000 children (not annualized), and AFP was detected in only 5 administrative areas. In March 1998, a transition was made to weekly reporting. In the first five months of 1998, AFP was registered in eight regions of the country, and the rate was 0.23 per 100 000 children. In 95.6% of cases, two stool specimens were collected for virological investigation. Mass polio immunization of children in Ukraine was carried out in 1996 (NID with coverage rates of children aged less than 3 years between 98.7% and 99.1%) and in 1998, (mopping-up immunization in eight administrative areas, with coverage of 97.7–98.7%). In 1998, a committee on conclusive diagnosis of AFP cases and a national certification committee were set up, attached to the Ministry of Health. The primary objectives in 1998 are to maintain high polio vaccination coverage, to ensure epidemiological surveillance of AFP in all areas of the country, to ensure that the national and two sub-national poliovirus laboratories are functioning properly, and to prepare documents for certification.

Afghanistan

Afghanistan comes under WHO's Eastern Mediterranean Region and has common borders in the north with three countries in the European Region – Turkmenistan, Uzbekistan and Tajikistan. Cases of acute paralytic poliomyelitis are still registered throughout the Republic, including in regions bordering with Turkmenistan (Herat) and Tajikistan (Badakhshan). Afghanistan has common borders with two other endemic countries – Pakistan and Iran. In 1998, in the 46 districts having common borders with Pakistan and Iran, sub-NIDs were carried out with the aim of preventing cross-border transmission of poliovirus. Over 344 000 children were vaccinated. According to evaluation (1997), routine OPV vaccination coverage rate was 45%. The evaluation of AFP surveillance carried out in June 1998 showed that the system introduced in the country in 1994 works well despite a few problems, although it was also noted that the focal points in the system are not always visited on a regular basis. Moreover, the system is based on rewarding the staff for every case detected, which can cast doubt on the reliability of data obtained. Priorities for 1998 in the country are to strengthen the system of epidemiological surveillance, to distribute equipment for a reverse cold chain, to train personnel and to expand the programme to new focal points.

The work of the Moscow regional reference laboratory in 1997–1998

The Moscow-based Institute of Poliomyelitis and Virus Encephalitis was given the status of a regional reference laboratory (RRL) in 1994. At present, 13 national laboratories come under the regional network and work with the Institute. The RRL carries out the following types of virological investigations of polio: investigation of native stool specimens from AFP patients, contacts and healthy children, and analysis of virus isolates from humans and the environment. In 1997–1998, a total of 284 stool specimens from AFP patients, contacts and healthy people, were investigated, of which 44 (15.5%) were positive. In addition, 70 virus isolates from 30 AFP patients, one isolate from a contact person and 59 isolates from healthy people and the environment were studied. In all the investigated groups, polioviruses were detected in 63 cases, Coxsackie B virus in 10 cases and echovirus in 18 cases. All detected polioviruses were vaccine-related. Like all other RLs, the Moscow-based laboratory undergoes proficiency testing each year. In 1997, the laboratory passed this test at a rate of 96% for virus isolation and identification and of 100% for type differentiation. In addition to virological investigation, the Moscow-based RRL provides WHO-recommended standard cell lines and also takes part in distributing standard reagents (diagnostic sera, reference strains, proficiency tests) to other national laboratories in the network.

WHO European Region: work of the Regional Laboratory Network on poliomyelitis diagnosis, 1997–1998

Strengthening the national reference laboratories is the most important direction for the work of the European laboratory network. Annual accreditation of NLs has been carried out since 1997. Out of 34 NLs investigated by WHO representatives, 21 were fully accredited. Seven laboratories need substantial support. The most important criterion for accreditation is proficiency testing, where the level in the Region rose from 65% (1995) to 87% (1997). The laboratories in the CIS countries have begun to receive consumables for sample analysis, diagnostic sera and cell lines. In addition, work is continuing on training virologists. The steps envisaged must help to strengthen the RLN and ensure reliability of the results obtained. In 1997 and in the first quarter of 1998, 782 AFP cases were investigated in the RLN, and 60 polioviruses and 49 enteroviruses were detected. Among the polioviruses detected, 8 were type 1 wild strains (all isolates from Turkey).

The role of Rotary International in poliomyelitis eradication

Rotary International – a key partner: global experience

Rotary International is a full partner in the Global Programme of Poliomyelitis Eradication. For over a decade, Rotary International has been allocating resources for the purchase of huge quantities of polio vaccine for mass immunisation (NID) and has been conducting a social mobilization campaign. Volunteers at Rotary International have assisted with in the purchase and maintenance of refrigeration equipment and containers for the transportation and storage of vaccines during NIDs, mobilized millions of volunteers to work in immunization posts and have even themselves taken part in giving children poliomyelitis vaccination. Today, Rotary members are even more involved in health education and in the development of efficient systems of epidemiological surveillance, monitoring and outbreak analysis. Since the 1930s, Rotary International has gained enormous experience in carrying out short- and long-term humanitarian programmes all over the world. Moreover, individual Rotary clubs have announced projects in their countries, provided funds for laboratory equipment and helped field medical staff buy computers, software, motorcycles and other equipment. This has proved to be possible thanks to

the new "POLIO PLUS Partners" project, designed to develop support and assistance from poliomyelitis-free countries to countries that are endemic. Since the project started in 1995, a further sum of US \$4 million has been allocated to poliomyelitis eradication in 46 endemic countries. Rotary considers that by the time poliomyelitis is eradicated, more than US \$400 million will have been spent on the programme. But it will not be possible to count the hundreds of thousands of hours of voluntary work by Rotary members and the efforts they are making to see the dream of poliomyelitis eradication come true.

Experience of work by Ukraine' s POLIO PLUS National Committee (PPNC)

Since its creation in October 1995, Ukraine's POLIO PLUS National Committee has set itself overall goal of associating the country with the measures being taken by Rotary International and its partners – WHO, UNICEF, CDC - within the framework of the MECACAR operation. The club is working closely with Ukraine's Ministry of Health and leading national experts in epidemiology and virology. Thanks to the efforts of PPNC jointly and to the devotion shown by medical staff at all levels, excellent results were achieved by the 1996 NID. The fund allocated US \$120 000 to print 2.6 million cards inviting people to come for vaccination, tens of thousands of illustrated and informative posters and labels, audio and video material. In addition, club members organized a twenty-minute interview for two private TV channels, in which they urged people to take part in the campaign. About US \$15 000 was allocated to the purchase of equipment for setting up a national reference laboratory in the country; the equipment is to be delivered this year.

Certification of poliomyelitis eradication

Criteria and process for certification of the European Region as a poliomyelitis-free area

National certification committees bear a serious responsibility in the process of certification of countries as poliomyelitis-free areas. Each committee will have to present convincing evidence to the Regional Commission that local wild polioviruses have been eradicated in their countries and also to show that, should the infection reappear, it would rapidly be detected and efficient measures taken. In its turn, the Regional Commission will have to demonstrate to the Global Commission that all countries in the European Region have been poliomyelitis-free for at least three years. It is essential that, even after all countries in the world are declared poliomyelitis-free, control of polioviruses and epidemiological surveillance will continue until it is possible to discontinue immunization safely, perhaps in 2005 or later.

The essential criterion for certification is the absence of wild poliovirus circulation in the country for at least three years, despite a careful search for it. The basis of the search of polioviruses is routine, ongoing epidemiological surveillance of AFP. Such surveillance must guarantee the inclusion of all patients who may be suspected of having acute paralytic poliomyelitis. In this connection, all investigations must be carried out in laboratories which have proved their ability to detect polioviruses. This is the "gold standard" of data quality.

In April this year, the first four countries in the non-endemic group presented the necessary set of documents to the European Regional Commission. The remaining countries in this group will have to present these documents before the end of 1998. For the group of recently endemic countries of central and eastern Europe, the deadline set is 1999. Endemic countries will have to transmit documents to the Regional Commission at the end of the year 2000.

Necessary documentation for certification

National documentation for the certification of poliomyelitis eradication will consist of three elements:

- (1) standard documentation on the basis of which the Regional Commission decides whether the absence of poliovirus can be certified in the country;
- (2) supporting documentation which develops or supplements aspects of the standard documentation;
- (3) special investigations and supplementary measures; this element will be of particular importance to those non-endemic countries where full epidemiological surveillance of acute flaccid paralysis could not be set up, and for endemic countries with an insufficiently high level of AFP surveillance.

Standard forms and instructions on the preparation of documentation will be included in the practical guide *Manual of operations – national documentation for certification of poliomyelitis eradication*.

Preparation of the documentation for certification in Belarus

Since 1997, a system for addressing the certification of poliomyelitis eradication has been in place in the Republic of Belarus, which includes a national reference centre on poliomyelitis, a national commission on poliomyelitis diagnosis, and a national centre of public health and epidemiology. The work of all these structures is carried out in close contact and cooperation with other establishments in the Republic and international organizations working on this problem. The relevant documentation has been drawn up to record and register this work. Two sets of documents are particularly important. The first one includes documents on the detection, registration and analysis of AFP cases. The second provides for the collection of information with regard to monitoring of circulation of wild polioviruses. The documentation is established on the basis of national experience and WHO recommendations and is ultimately aimed at meeting the international criteria and standards with which the process of poliomyelitis eradication can be certified.

Registration and containment in laboratory conditions

After the global eradication of poliomyelitis, laboratories will remain the only source of poliovirus. Safe handling and prevention of transmission of the virus and of potentially infected material are becoming an important question of principle. In this connection, a draft plan of action has been drawn up to prevent the spread of wild poliovirus from laboratories. This work is scheduled to be carried out in several phases. The first (started in 1998) must ensure the safe handling of people with poliovirus infection and of potentially infectious material. The second phase (starting within a year after detection of the last wild poliovirus) provides for maximum prevention of the spread of wild polioviruses and of potentially infected material from laboratories. Finally, the third phase (starting after the discontinuation of OPV immunization) must prevent the spread of wild and vaccine-related poliovirus strains.

Epidemiological surveillance of wild polioviruses in the period preceding certification and following poliomyelitis eradication

AFP is still the "gold standard" system of poliovirus surveillance and quite clearly will remain so for a decade. Despite the fact that AFP surveillance has improved in practically all countries of the former Soviet Union, it is necessary to continue work on further improving its

quality in order to reach the targets of the programme and to achieve the certification of countries as poliomyelitis-free. Alternative methods, including environmental surveillance, have some serious limitations. These limitations do not currently let us interpret the negative results and assess the sensitivity of the system. Despite the fact that research which will yield the necessary information has not yet been completed, most experts agree that environmental sampling will apparently not become a required component of the Global Programme of Poliomyelitis Eradication. However, in some cases, for example in countries using only inactivated polio vaccine (IPV), environmental surveillance can provide further useful information.

Diphtheria control: success and problems

Georgia

A diphtheria epidemic hit Georgia, like many other NIS, at the beginning of the 1990s, reaching its peak (429 cases – 7.9 per 100 000 population) in 1995. Efforts to administer mass vaccination to children and adults led to an increase in the immunization level from less than 60% in 1992–1995 to 83–92% in 1996–1997, and to a decrease in the level of morbidity. However, this reduction happened slowly – 33% decrease between 1995 and 1997. Moreover, there are grounds for thinking that not all diphtheria cases, or even deaths from the disease, are registered in the country. The main problems today are still insufficient vaccination coverage in individual regions, inaccurate data on population size and migration processes (in particular in Abkhazia and Tbilisi), the high death rate, and insufficient implementation of WHO recommendations on standard treatment of patients and preventive measures in foci of infection. The plan of measures for 1998–1999 provides, in the first place, for action to increase the level of vaccination coverage in high-risk areas and groups (through mopping-up immunization), a third round of mass immunization of adults, social mobilization and health education, training of medical personnel and improvement of the surveillance system.

Kazakhstan

A diphtheria outbreak was registered in Kazakhstan in 1992–1995. The maximum incidence rate was noted in 1995, when 1105 people fell ill (6.8 per 100 000). Mass vaccination of people from 3 to 55 years (overall, about 10 million people were vaccinated) led to a reduction of the incidence rate to 1 per 100 000 in 1997. In the first five months of 1998, this rate was 0.27 per 100 000. The incidence rate has fallen throughout the republic, but not at a uniform pace, and only one region has become free of diphtheria. Despite the general decline in morbidity, the case fatality rate rose from 5.9% in 1995 to 8% in 1997 and reached 12.5% in the first five months of 1998. The main reasons for fatality remain primarily the late seeking of medical care by patients and, consequently, the late start of specific treatment. Since 1997, monthly monitoring of the vaccination level among children has been introduced, making it possible to increase vaccination coverage beyond 95% throughout the country. Since 1995, the Republic has been fully self-sufficient with regard to the necessary vaccines, diagnostic preparations and equipment for controlling diphtheria.

For 1998–1999, the following targets have been set by the Republic's Health Committee: to maintain the achieved level of 95% for planned immunization coverage of children; to continue planned vaccination of adults; to organize travelling vaccination teams for immunization in rural areas; to continue to administer preventive antibiotics in foci; and to carry out monthly evaluation of the quality of epidemiological surveillance of diphtheria in the districts.

Kyrgyzstan

Thanks to a set of measures designed to eradicate the causes of the diphtheria epidemic in 1994–1998, the incidence rate was reduced by 50% in 1996 compared to the previous year, and by 35% in 1997. The main steps taken were: to increase diphtheria vaccination coverage in children and adults, to carry out three rounds of mass and mopping-up immunization, to correct the immunization schedule, to reduce the list of medical contra-indications, to improve laboratory diagnosis and methods of treatment and to carry out measures in foci of the disease. At the same time, there are still areas within the Republic where a resurgence of incidence is possible – this may be the result of ongoing high levels of population migration, a high percentage of uneducated people, including refugees, and a low level of revaccination coverage of children and adults, against a background of the continuing circulation of toxicogenic strains.

In order to further decrease the incidence rate in 1998–1999, it is planned to achieve more than 95% coverage of children with routine immunization and more than 90% coverage of adults by means of mopping-up immunization, earlier detection of cases, monitoring of the circulation of the infective agent, upgrading of medical staff's qualifications and active work with the population.

Russian Federation

The diphtheria epidemic in the Russian Federation started in 1991 and reached its peak in 1994, when 39 703 patients were registered (26.8 per 100 000). With the aim of halting the epidemic, a number of organizational and administrative documents were drawn up, according to which the list of contra-indications to diphtheria vaccination was reduced, the immunization schedule for children and adults was reviewed, the use of Td toxoid for vaccination of infants under one year was banned, and tactics for mass immunization of adults were developed and introduced. As a result, from 1993 to 1997, 132 million people were vaccinated in the country, including 92.2 million adults (91.2%). In 1991, only 68.7 % of infants under one year had been fully vaccinated against diphtheria, but in 1997 this indicator reached 95.6%.

In 1997, 4057 diphtheria patients were registered, including 1357 children. The incidence rate was 2.7 compared with 9.2 in 1996. In 1997, 111 people died of diphtheria, including 28 children. The greatest number of people with severe, toxic forms of diphtheria and of fatalities is recorded among adults. Most children (87.4%) who contracted the disease experienced mild forms of diphtheria. In the overwhelming majority of patients (91.8%) *gravis* strains were detected; *mitis* strains were found in only 8.2% of cases.

The main obstacles to the further reduction of the diphtheria incidence rate are: the size of the country, areas with armed conflicts, and the large number of forced migrants and people living in extreme conditions with no fixed abode.

The main tasks with regard to controlling diphtheria in the Russian Federation in the years to come will be: to reach and maintain 95% diphtheria vaccination coverage in all age groups; to prevent the development of outbreaks in closed communities; to improve the quality of diagnosis and to identify priority territories in need of practical help; and to enhance the qualifications of medical staff.

Ukraine

As a result of the epidemic control measures carried out, including mass immunization of adults, the level of herd immunity to diphtheria has started to rise gradually. Since 1996, a fall in

the diphtheria incidence rate has been observed. In the first five months of 1998, the number of cases fell 2.6-fold compared with the same period in 1997. In 1997, the proportion of adults with protective antibodies rose from 40% to 84%, with corresponding figures for children of 62% and 87%. Serological investigations showed that in the group aged 38–47 years, however, the level of collective immunity was still low. The main objectives for controlling diphtheria in 1998–1999 are: to increase the level of herd immunity and reduce the incidence rate. To this end, it is proposed that further vaccination measures (mopping-up immunization) will be carried out between September and December 1998 in areas where the level of herd immunity is still not sufficiently high, and that a booster diphtheria vaccination will be given to adults over 38 years in all regions of Ukraine.

Regional review and plan of action

Thanks to vigorous and coordinated efforts by countries experiencing a diphtheria epidemic, together with the Interagency Immunization Coordination Committee (IICC), a marked reduction in diphtheria morbidity has been achieved. In the first quarter of 1998, this downward trend was continuing. In all countries, active measures have been taken to reach full coverage with preventive immunization among both children and adults. Particular success was achieved in Azerbaijan, Armenia, Belarus, Estonia, Latvia, Lithuania, the Republic of Moldova, Turkmenistan and Uzbekistan. However, in six countries (Georgia, Kazakhstan, Kyrgyzstan, the Russian Federation, Tajikistan and Ukraine), further efforts are needed to control diphtheria.

Poliomyelitis

Conclusions

Over the past few years, the NIS have made substantial progress towards eradicating poliomyelitis. Most countries from the Atlantic to the Pacific oceans are evidently free of poliomyelitis, and known or potential poliovirus transmission is now limited to bordering regions in Turkey and Iraq, as well as Afghanistan, Tajikistan, Turkmenistan and Uzbekistan. Current priorities for eradicating poliomyelitis are: to eradicate the last foci of wild poliovirus transmission, to improve epidemiological surveillance and to demonstrate that eradication has been achieved in order to carry out certification.

The NIS are very grateful for the assistance received from WHO, UNICEF, Rotary International and other national and international organizations for poliomyelitis eradication and diphtheria control.

- Efficient implementation of the strategy of poliomyelitis eradication, in particular NIDs under the 1995–1997 MECACAR operation and MECACAR PLUS in 1998, and epidemiological surveillance have apparently put an end to wild poliovirus transmission in most NIS.
- Routine immunization coverage has stabilized in many countries at very high levels, after the fall observed in connection with their accession to independence in 1991.
- Significant success has been achieved in NIS over the past two years in improving AFP surveillance. The AFP rate for the Region reached 1 case of non-poliomyelitis origin per 100 000 people aged less than 15 years (i.e. the threshold assuming the existence of sensitive epidemiological surveillance) before the end of 1998.

- Evaluation of epidemiological surveillance was carried out by national and international experts in all MECACAR countries (except for Tajikistan and the Russian Federation, where it is planned to carry out evaluations later this year). The evaluation gave independent confirmation that the AFP surveillance system is improving rapidly.
- A significant number of laboratories in the laboratory network (21/34 after the first year) have been accredited, and a growing number of stool specimens (about 40%) are now investigated in accredited laboratories of the network.
- Expert committees on classification of AFP cases have been set up in practically all countries.
- National committees on the certification of poliomyelitis eradication have also been set up in the countries of the Region.

However, close attention still needs to be paid to some areas. Work in these areas will speed up progress towards poliomyelitis eradication and its subsequent certification.

- The quality of AFP surveillance is different in the various countries. Some countries have excellent indicators, in particular of the incidence rate of non-poliomyelitis AFP, while other countries (Georgia, the Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan) need to make further efforts to improve this indicator, especially in high-risk areas. Moreover, even in countries with high-quality AFP surveillance, there may still be regions with low-quality indicators.
- Some countries still do not carry out weekly reporting on AFP surveillance to WHO/EURO. Moreover, the quality of such data varies and needs to be improved.
- Active AFP surveillance (i.e. weekly visits to the main medical establishments to which AFP patients are referred) is still not carried out in many countries.
- Cases of facial nerve paralysis are included in the calculation of incidence rates in some countries.
- Many clinicians are insufficiently informed about the reasons and need for organizing epidemiological surveillance.
- Stool specimens are not always investigated in accredited laboratories and their transport from some countries to regional laboratories is an ever-increasing problem.
- In some countries, national poliovirus laboratories do not submit regular reports to WHO/EURO on the work done on investigations of stool specimens from AFP cases (from 1 July 1998, such reporting must be done on a monthly basis).
- National expert committees do not always follow the WHO-recommended scheme for classification of AFP cases. The concept of "poliomyelitis-compatible" cases remains a problem in many countries. In addition, efforts must be made to establish the definitive clinical diagnosis for AFP cases.
- Many countries have not yet drawn up a plan of action in the event of the importation of wild poliovirus or emergence of poliomyelitis cases.
- There is insufficient coordination between countries of the European and Eastern Mediterranean regions with common borders.

Recommendations

- Improving the indicators of laboratory work is the main priority for the initiative of poliomyelitis eradication. All stool specimens of AFP patients must be investigated in one of the 21 accredited laboratories of the regional laboratory network. Failure on the part of individual countries can delay the certification of the whole Region.
- Regarding transport of specimens in each country, cooperation should be developed with national airlines and the WHO liaison office; the WHO Regional Office must urgently solve the emerging problems that are hampering the quick transport of stool specimens and virus isolates to regional and subregional laboratories for type differentiation.
- Improving the quality of epidemiological surveillance is still a priority in the initiative for poliomyelitis eradication in the European Region. The indicator of sensitivity of AFP surveillance (1 AFP case per 100 000 children aged less than 15 years) must be met in each NIS by the end of 1998.
- At the same time, countries must pay particular attention to improving the indicators of the quality of AFP surveillance. These indicators, and in particular the level of AFP and the percentage of cases where adequate stool specimens are collected, should be considered not only at national level but also for smaller areas (regions and large cities). "Silent areas" i.e. regions not providing any data on epidemiological surveillance, must be identified on the basis of epidemiological surveillance indicators at regional level or with the help of epidemiological maps. Poliomyelitis-compatible cases must be investigated with particular care.
- Countries must carry out reporting of AFP cases on a weekly basis and laboratory reporting on a monthly basis for WHO/EURO. A computerized system of data management, such as IFA, can assist in data analysis and transmission.
- Cases of facial nerve paralysis must not be included in the calculation of AFP rates and must not be considered as part of the AFP surveillance system.
- WHO guidelines on the action to be taken in the event of wild poliovirus importation must be disseminated in the countries. These instructions will help NIS countries design a plan of action.
- In accordance with WHO/EURO instructions, national certification committees must draw up national plans for the certification of poliomyelitis eradication. These plans of action must include proposed measures and periods of implementation.
- Active cooperation between the European and Eastern Mediterranean regions is extremely important for eradicating the remaining known or presumed reservoirs of wild poliovirus transmission in eastern Turkey and Iraq, and also in Afghanistan, Tajikistan, Turkmenistan and Uzbekistan. High-quality measures are necessary to mop up both sides of national borders on a large area and eradicate remaining reservoirs. Mopping-up measures, aimed at eliminating the remaining chains of poliovirus transmission, must be carefully planned, generally spread over a very large area and cover most people who had not previously been covered. On the other hand, preventive mopping-up in regions with low coverage can be carried out on a very limited scale.
- Countries must determine high-risk groups of people, cover these groups with strict surveillance, and possibly carry out selective examination of stool specimens, to ensure that poliovirus is not circulating among humans. If need be, further vaccination measures should be taken in these areas.

- In areas requiring heightened attention, for example in zones of military action and conflicts, further measures must be taken to strengthen epidemiological surveillance and mopping-up.
- All AFP cases must be reviewed clinically for residual paralysis at 60 days after onset. Moreover, all AFP cases must be classified according to the WHO-recommended scheme. This classification must be completed no later than 120 days after onset: a case of AFP must have a definitive clinical diagnosis (if it is classified as non-polio). Final classification must include "polio-compatible" cases and cases confirmed as poliomyelitis. Final classification must be performed by an expert committee, in particular for all AFP cases where no adequate stool sample was collected, when death has followed or when the observation was interrupted, and when residual paralysis occurs within 60 days after onset.

Diphtheria

Conclusions

As a result of the actions taken by countries affected by the diphtheria epidemic, jointly with the international community and in particular with members of the International Immunization Coordination Committee (IICC), the diphtheria incidence rate has fallen significantly. In 1994 and 1995, approximately 50 000 diphtheria cases were detected each year, while in 1997 a total of 7100 cases were registered. The downward trend continued in the first quarter of 1998, and it is expected that the total number of cases in that year will reach 2000–3000.

Based on justified epidemiological forecasts, we can calculate that the measures taken prevented more than 45 000 cases and 10 000 deaths.

However, in six countries (Georgia, Kazhakstan, Kyrgyzstan, the Russian Federation, Tajikistan and Ukraine) the registered incidence rate remains somewhat higher than in other countries. These countries described the situation and outlined measures to be taken in 1998–1999. International support is still needed, valued at US \$500 000–800 000 (vaccines, antitoxins, antibiotics, diagnostic kits).

Since October 1998, the need for antitoxin is increasing in Georgia and Tajikistan.

Recommendations

All NIS and the Baltic countries must continue their work on reducing diphtheria morbidity down to pre-epidemic levels. Vigorous efforts are particularly needed in Georgia, Kazakhstan, Kyrgyzstan, the Russian Federation, Tajikistan and Ukraine, and the measures planned for 1998–1999 must be implemented without delay.

Based on countries' requests, WHO/EURO and the IICC Secretariat will take action to ensure further assistance to them. The international community of donors must take steps to solve the problem of supplying Georgia and Tajikistan with antitoxin.

Annex 1

PROGRAMME

Wednesday, 15 July 1998

08.30	Registration	
09.00	Opening	Ministry of Health WHO/EURO WHO/HQ CDC Rotary International
Session 1	EPI: progress towards eradication of poliomyelitis	
10.00	Global EPI: policy, development and problems	Dr Bjørn Melgaard
10.30	Discussion	
10.45–11.15	<i>Coffee break</i>	
11.15	Global Polio Eradication Initiative: Progress, priorities and plan of action	Dr Bruce Aylward
11.30	Polio eradication in the Eastern Mediterranean Region: Situation, problems and plan of action	Dr Rafi Aslanjan
11.45	Polio eradication in the European Region: situation, problems and plan of action	Dr George Oblapenko
12.00	Discussion	
Session 2	AFP surveillance – the key certification strategy for the recently endemic countries	
12.15	Global progress in development of AFP surveillance	Dr Maureen Birmingham
12.30	Quality of AFP surveillance in the European Region: achievements and problems	Dr Steven Wassilak
13.00	IFA: AFP package for electronic surveillance	Dr Maureen Birmingham
13.15	Discussion	
13.30–14.30	<i>Lunch</i>	
	Country experience. AFP surveillance: Situation analysis 1997–1998, problems and plan of action (presentation 15 min, discussion 5 min)	
14.30	Armenia	
14.50	Azerbaijan	
15.10	Georgia	
15.30–16.00	<i>Coffee break</i>	
16.00	Kazakhstan	
16.20	Kyrgyzstan	
16.40	Republic of Moldova	
17.00	Russia	
19.00–21.00	Planning of diphtheria control measures 1998–1999 with participation of representatives from Georgia, Kazakstan, Kyrgystan, Russian Federation , Tajikistan and Ukraine	Chaired by Dr Sieghart Dittmann

Thursday, 16 July 1998

09.00	Tajikistan
09.20	Turkmenistan

09.40	Uzbekistan	
10.00	Ukraine	
10.20	Afghanistan	
10.40–11.00	<i>Coffee break</i>	
11.00	Performance of the RRL/Moscow in 1997–1998	Dr Olga Ivanova
11.20	The Regional LABNET: Development in 1997–1998	Dr Galina Lipskaya
11.35	General discussion	

Session 3 Role of Rotary International in polio eradication actions

12.00	Rotary International – one of the key partners: global experience	Dr Mario Grassi
12.20	Experience of the National PolioPlus Committee in Ukraine	Mr Alexey Corzhenkin
12.30	Experience of the National PolioPlus Committee in Russia	Mr Georgey Bit
12.40	Discussion	
13.00–14.00	<i>Lunch</i>	

Session 4 Certification of eradication of poliomyelitis

14.00	Criteria and the process of certification of the European Region as polio-free territory	Sir Joseph Smith
14.30	Documentation required for certification	Dr George Oblapenko
14.45	Preparation of the documentation for certification in Belarus	Dr Valerey Filonov
15.00	General discussion	
15.30–16.00	<i>Coffee break</i>	
16.00	Containment of polio viruses	Dr Maureen Birmingham
16.15	Surveillance of wild polioviruses in the pre-certification and post-eradication period	Dr Roland Sutter
16.15–17.00	Discussion	

Friday, 17 July 1998

Session 5 Epidemic diphtheria in the newly independent states and the Baltic countries: current situation and further action (country presentation 10 min, discussion 5 min)

9.00	Georgia	
9.15	Kazakhstan	
9.30	Kyrgyzstan	
9.45	Russian Federation	
10.00	Tajikistan	
10.15	Ukraine	
10.30–11.00	<i>Coffee break</i>	
11.00	Regional overview and plan of action	Dr Sieghart Dittmann
11.15	General discussion	
11.45–13.00	Demonstration of IFA: electronic data management tool for AFP surveillance	
12.00–13.00	<i>Lunch</i>	

Session 6 Conclusions and recommendations of the meeting

13.00	Discussion of the draft	
15.00	Closing remarks	
15.30–18.00	Laboratory network meeting for heads of NIS polio laboratories	Chaired by Dr Galina Lipskaya
15.30–18.00	Meeting to discuss action needed for minimizing risk of cross-border transmission of wild poliovirus (Afghanistan, Tajikistan, Turkmenistan, Uzbekistan)	Chaired by Dr George Oblapenko

Annex 2

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Annex 3

AFP REPORTING, EUROPEAN REGION FOR 1997 AND 1998 TO DATE
AMONG COUNTRIES WITH AFP SURVEILLANCE

Country	1997		1998			Accredited laboratories testing all stools ^d
	Non-polio AFP rate ^a	% with 2 stool specimens ^b	Non-polio AFP rate ^a	% with 2 stool specimens ^b	Corrected surveillance index ^c	
Albania ^e	1.11	83	0.66	33	0.22	Y
Armenia	1.45	93	0.80	75	0.60	Y+
Azerbaijan	1.08	77	0.96	88	0.84	Y+
Belarus	1.53	100	2.13	85	0.85	Y
Bosnia and Herzegovina	0.20	100	0.47	100	0.47	Y+
Bulgaria	0.61	100	1.08	75	0.75	Y
Croatia	0.32	67	0.26	100	0.26	Y
Czech Republic	0.49	78	0.64	40	0.26	Y+
Estonia	1.03	33	0.72	0	0.57	Y
Georgia	0.55	86	0.65	75	0.49	Y+
Greece ^f	–		0.00			Y
Hungary ^f	–		0.65	20	0.23	Y
Israel	1.02	18	0.60	20	0.41	Y
Italy	0.65	36	0.85	31	0.39	Y
Kazakhstan	0.69	60	0.87	73	0.76	
Kyrgyzstan	1.39	63	1.16	60	0.76	Y+
Latvia	0.00		0.00			Y
Malta ^{e, f}	3.61	0	2.51	100	1.00	Y+
Netherlands	0.35	0	0.50	0	0.08	Y
Poland	0.59	55	0.28	36	0.22	
Portugal	0.00		0.00			
Republic of Moldova	0.68	88	1.78	60	0.68	Y+
Romania	0.89	100	0.91	80	0.77	Y
Russian Federation ^e	4.07	71	2.89			
Slovakia	0.25	100	0.40	0	0.00	
Slovenia	0.00		0.00			Y
Spain ^f	0.46	100	0.77	52	0.57	Y
Switzerland	1.18	7	0.19	0	0.00	
Tajikistan	0.25	71	0.18	100	0.18	Y+
The Former Yugoslav Republic of Macedonia	0.67	75	0.33	100	0.33	Y+
Turkey	0.62	65	1.08	54	0.61	Y+
Turkmenistan	0.56	56	1.04	88	0.88	Y+
Ukraine	1.76	79	0.61	88	0.56	
Uzbekistan	0.15	86	0.69	71	0.52	
Federal Republic of Yugoslavia	0.62	64	1.74	68	0.77	Y
Total/average	1.12	69	2.12	73		

^a Rate per 100 000 children under age 15. Rate for 1998 annualized; rate for 1997 inflated by inclusion of facial paralysis for Ukraine and Russian Federation. **Bold** = meeting WHO target of 1.0.

^b Two stool specimens collected at least 24 hours apart within 14 days of onset and adequately shipped to the laboratory, % for all AFP. **Bold** = meeting WHO target of 80%.

^c Index = non-polio AFP rate up to 1.0 x (% 2 adequate specimens + [0.8 x % only 1 adequate specimen]). **Bold** = 0.6 or higher.

^d Accreditation of laboratories in 1998. Specimens may be shipped to another location (+) for testing. Annual WHO accreditation remains in progress; 27 of 37 candidate laboratories assessed so far.

^e AFP surveillance of total population; case numbers and rates given for age <15 years.

^f Beginning July (Malta), October (parts of Spain) 1997; January (Hungary), early 1998 (Greece).

