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POLIO ERADICATION

Report on the

FIRST MEETING OF THE EASTERN MEDITERRANEAN REGIONAL COMMISSION FOR CERTIFICATION OF POLIO ERADICATION

EMRO, Alexandria, Egypt, 23 September 1995

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1. **INTRODUCTION**

The first meeting of the Eastern Mediterranean Regional Commission for Certification of Polio Eradication was held in the Regional Office for the Eastern Mediterranean in Alexandria, Egypt, on 23 September 1995, under the chairmanship of Dr Ali Ben Jaffer. Dr Deria was elected as rapporteur. The meeting was attended by members of the Regional Commission, except for Dr Al Awadi who was unable to attend. The meeting was also attended by representatives of Rotary International and Centers for Disease Control and Prevention, and by WHO staff from headquarters and the Regional Offices for the Eastern Mediterranean and Europe.

Dr M.H. Wahdan, Director of the Division of Integrated Control of Diseases, opened the meeting on behalf of the Regional Director, Dr Hussein A. Gezairy, and delivered a message from Dr Gezairy.

In his message, Dr Gezairy welcomed the members of the Commission and thanked them for accepting to undertake this responsibility. He also welcomed the representatives of Rotary International and CDC and acknowledged their partnership in support of regional polio eradication efforts.

He referred to the resolutions of the World Health Assembly and the Regional Committee for the Eastern Mediterranean, committing Member States and WHO to global eradication of poliomyelitis, and to the establishment of the Global Commission for Certification of Polio Eradication and its first meeting in February 1995.

Global certification of polio eradication would take place only after all regional commissions have certified that polio has been eradicated from all parts of the world. For a Regional Commission to be able to issue such a certificate, the Commission has to be absolutely sure that all countries of the Region have searched everywhere in their territories for evidence of the presence of the wild polio virus and there is conclusive evidence that there is no trace of it. Eight Member States of the Eastern Mediterranean Region (EMR) have already established well-balanced national committees.

Dr Gezairy emphasized the link between the national committees, regional commissions and the Global Commission and the fact that two members of the Regional Commission for the Eastern Mediterranean are also members of the Global Commission.

The agenda and the programme (Annexes 1 and 2 respectively) were endorsed. A list of participants is in Annex 3.

2. **TERMS OF REFERENCE**

The following terms of reference of the Regional Commission were defined and accepted:

1) To establish minimum guidelines for countries to document achievements towards polio eradication.
2) To review and assess country data and documentation of activities and, eventually, national committee reports on polio eradication.

3) To issue a report to the Global Commission that polio eradication from the Region has been achieved.

3. UPDATE ON GLOBAL AND REGIONAL SITUATION WITH REGARD TO POLIO ERADICATION

3.1 Progress Towards Global Eradication of Poliomyelitis

The Forty-first World Health Assembly (1988) committed Member States and the World Health Organization to eradicate poliomyelitis globally by the year 2000. Other United Nations agencies, notably UNICEF and others, in particular CDC and nongovernmental organizations--especially Rotary International--form a coalition dedicated to that goal. Significant progress has been made towards this goal.

1) Progress in immunization coverage

When the Expanded Programme on Immunization was established in 1974, it was estimated that 5-10% of children were immunized. Immunization coverage peaked in 1990, when nearly 80% of children born were fully immunized with the six EPI antigens. Global immunization coverage for three doses of OPV was 83% in 1990. Coverage with three doses of OPV had fallen slightly since 1990 and stood at 82% in 1994. Global immunization coverage remains high because immunization programmes in several large countries, notably China and India, are able to immunize more than 90% of their infants. Immunization coverage had fallen sharply since 1990 in a number of small, developing countries, particularly in sub-Saharan Africa.

2) Supplemental immunization

Commitment to conduct national immunization days (NIDs) is a concrete evidence of a country's determination to eradicate poliomyelitis. As momentum builds up, more countries are conducting NIDs. Operation MECACAR was an important factor in increasing country level commitment to conduct NIDs. In this operation, 18 contiguous countries from EMR and EUR conducted NIDs in March, April and May 1995 to commemorate World Health Day. By early 1996, at least 65 countries would have conducted NIDs. With the exception of Nepal and Yemen, all polio endemic countries in Asia are committed to conduct NIDs.

3) Incidence and geographic distribution of polio cases

The reported incidence of poliomyelitis has declined by nearly 80% since the global target was set in 1988. A total of 35 255 cases were reported in 1988 and 7 435 were reported in 1994. The reported incidence of polio declined by 27% in 1994, as compared with the 10 165 cases reported in 1993. In addition to the declining number of polio cases reported, the number of countries that are reporting zero polio cases is increasing steadily and now stands at 142.

In addition to the decline in incidence, the geographic range of polio is being increasingly restricted. Five emerging polio-free zones
are evident. Polio has been eradicated from the Western Hemisphere and is disappearing from West and Central Europe, North Africa, southern and eastern Africa, the Middle East and the Arabian Peninsula and the Western Pacific. Sixty per cent of the reported cases of polio are from WHO South-East Asia Region. The countries of the Indian Subcontinent, Bangladesh, India, Nepal and Pakistan, accounted for two-thirds of the world's reported polio cases in 1994. It should be noted however, that surveillance systems in many African countries have a limited capacity to detect and count any polio cases that might be occurring. Accordingly, the percentage of cases occurring in Africa may be much higher. The progress achieved in China is remarkable; in both 1989 and 1990, approximately 5000 cases of polio were reported. NIDs were conducted during the winters of 1993-1994 and 1994-1995, immunizing more than 80 million children in a single day. As a result, it has been one and a half year since the last wild polio virus was identified in that country.

4) Conclusion

As more of the endemic countries implement WHO recommended strategies for polio eradication (see Section 4.2), the disease is disappearing and the year 2000 goal for eradication seems within reach. However, global eradication cannot be certified until every country is free of the disease. The estimated additional $500 million that would be required to achieve eradication have not yet been secured and the most difficult countries have yet to begin implementation of the recommended strategies. All countries will have to work together if this goal is to be achieved.

3.2 Regional Expanded Programme on Immunization

1) Immunization coverage achievements - Regional overview

During 1994, the overall EPI performance in most of the Member States of the Eastern Mediterranean Region was acceptable. With a few exceptions, high coverage rates with the EPI vaccines were sustained. The estimated regional averages of immunization coverage among infants were 86% for BCG, 78% for DPT3, 79% for OPV3 and 76% for measles, and the reported coverage with two or more doses of TT among pregnant women was 48%. These coverage rates were slightly lower than those of 1993, and were mainly due to the continuation of the drop in coverage achievements observed in 1993 in Pakistan, Yemen and Djibouti. However, taking into consideration the additional supplementary immunization activities (for example, national immunization days and mopping up operations), the coverage rate for antigens covered in these supplementary immunization activities, especially for OPV, is higher than those reported for routine immunization.

The preliminary reported coverage data for 1995 indicated that the expected immunization coverage rates would not differ much from those of 1994, and that the coverage in the lagging countries, namely, Afghanistan, Djibouti, Pakistan, Somalia, Sudan and Yemen, would be still as low as it was in 1994.

In this respect, it should be noted that no reports about the routine immunization activities were received from Afghanistan, Libyan
Arab Jamahiriya, or Somalia. The situation in both Afghanistan and Somalia, with the civil war, is understandable and a very low coverage is anticipated. It is, however, expected that the immunization coverage rates for the Libyan Arab Jamahiriya would be about the same as those reported in 1993 as there is no indication of lower coverage rates. On the other hand, the active participation of Libyan Arab Jamahiriya in the Maghrebian immunization days would indicate even a higher coverage rates than those of the previous years. Also, Afghanistan had conducted three rounds of its first national multiple antigens immunization days (one round during November 1994 and two in early 1995) with a considerable coverage which it is hoped, would be maintained through the recently established routine activities.

The reported coverage figures for 1994 indicate that most of the Member States were able to maintain the EPI activities with the basic course of immunization reaching the majority of children before their first birthday. In this regard, the considerable observed increase in immunization coverage rates for 1994 in both Egypt and Sudan, as compared to 1993 rates is very much appreciated. Moreover, the success in increasing the immunization coverage in southern Sudan through successful peace initiatives is a great achievement for the Sudan EPI. On the other hand, it was noted with concern that some countries faced difficulties in sustaining their achievements.

Of special concern are the three countries that showed a significant towards decrease in their immunization coverage, namely, Djibouti, Pakistan and Yemen. In this respect, it should be noted that in both Djibouti and Yemen "catch-up" immunization campaigns were conducted with all EPI antigens which would indicate that the immunization coverage rates are actually higher than those reported through the routine system. Concerning Pakistan, the decrease in immunization coverage rates is mainly due to shortages in both vaccines and logistics which continued during 1994. Some shortage was also observed for the first few months in 1995 which would indicate that 1995 coverage rates would still be low.

The countrywide coverage rates in 1994 indicated that 17 of the 23 Member states in EMR reported immunization coverage with measles of over 80%. However, the infant population of these countries is only about 58% of the total regional infant population. As regards DPT immunization coverage rate, 16 countries reported immunization coverage of over 80%. Similarly, these countries represent only 52% of the total infant population in the EMR.

The TT2+ coverage rates are showing slight drop as compared to those of the previous years. This could be a true drop associated with the observed drop in the childhood immunization rates. On the other hand, it does not necessarily mean a reduced level of immunity against tetanus among pregnant women, considering the several years of administration of multiple doses of TT vaccine and the expected increase in the proportion of immune women in the communities.

Hepatitis B immunization is still confined to 13 Member States, namely, Bahrain, Cyprus, Egypt, Islamic Republic of Iran, Iraq, Kuwait, Libyan Arab Jamahiriya, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, United Arab Emirates and the self-ruled areas in Palestine and the
population served by UNRWA. These countries have 35% of the total regional infant population. Very high coverage rates (over 90%) were reported from six out of these 13 countries. In addition to these countries, hepatitis B immunization was integrated into the national immunization programmes of both Jordan and Tunisia in mid-1995. As a matter of fact, the need to include this vaccine in the national immunization programmes was realized by most of the Member States; yet, the main obstacle is the cost of the vaccine which cannot be met from local resources.

2) Constraints

The main constraints facing the programme remain almost the same as in previous years, and include:

- Inaccessibility for immunization of children and women living in areas of armed conflicts in some countries of EMR.

- Shortage of funds required for supplies, including vaccines and other logistics, in some Member States, with continued dependence on external support in some others.

- Lack of coordination and cooperation between preventive and curative health activities in many countries, resulting in missed opportunities to immunize both infants and mothers.

- The weak information and epidemiological surveillance system in most of the Member States. This is reflected in the inability to identify high-risk areas or to detect early and respond to outbreaks.

- Non-reporting from the private sector of both immunizations conducted and cases of EPI diseases discovered.

- The lack in many countries of efficient laboratory support facilities that could address the needs of the EPI for confirmation of diagnosis, whenever required, and for quality assurance of vaccines.

3.3 Regional Polio Eradication Programme

In 1994, 1015 cases of acute poliomyelitis were reported to WHO from 10 countries of the Region. This is the lowest number of cases ever reported in the Region, and represents a 57% decrease of cases since 1988 when the global eradication target was set. Although the 527 cases reported from Pakistan account for 52% of the regional total, reported cases in Pakistan declined by 71% from 1803 reported in 1993. The dramatic decline in reported cases occurred also in Sudan (25 cases in 1994 against 252 in 1993). Poliomyelitis cases declined slightly in Egypt (120 cases in 1994 against 150 in 1993) and the Islamic Republic of Iran (93 cases in 1994 against 107 in 1993).

It is gratifying to note that Bahrain, Cyprus, Djibouti, Kuwait, Libya, Morocco, Oman, Qatar, Palestine, Tunisia and United Arab Emirates reported zero cases in 1994. Five countries (Cyprus, Kuwait, Libyan Arab Jamahiriya, Morocco, and Qatar) have reported zero cases for three consecutive years.
During 1994, significant progress had been made in implementing the eradication strategies, namely:

- Increased basic immunization coverage with three doses of OPV to over 80% and maintenance of this achievement in 16 countries. However, there are a number of countries whose achievements in this regard are far below the expected level.

- Supplemental immunization activities. National immunization days, were implemented in six countries in 1994. During 1995, NIDs were already being implemented or under way in 19 countries of the Region.

- Acute flaccid paralysis (AFP) surveillance was now in place in 19 countries of the Region. In an increasing number of countries, the sensitivity of AFP surveillance is approaching the expected annual level of one case of non-polio AFP per 100,000 children under 15 years of age.

- Laboratory-based surveillance, an essential element for polio virus eradication, has also improved considerably in the Region. In 1994, 74% of AFP/polio cases reported in the Region were investigated in the network laboratories.

Excellent achievements were being observed in immunization coverage and in the number of cases of polio in the three groups of countries forming the polio-free zones in the Region. These are the Arab countries of the Gulf (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and UAE); the Maghreb countries (Libyan Arab Jamahiriya, Morocco and Tunisia); and the third zone composed of Islamic Republic of Iran, Iraq, Jordan, Lebanon, Pakistan, Palestine, and Syrian Arab Republic.

It is expected that more and more countries would become polio-free, and, by the end of 1998, very few countries would still have endemic polio.

In 1994, the Regional Director initiated steps for the establishment of a Regional Certification Commission and national committees.

Although the regional achievements are encouraging, several constraints remain which, if not tackled properly and in a timely manner, may affect early eradication of polio from the Region. These include:

1) Inadequate translation of political commitment into action; this is reflected in insufficient funding for purchase of OPV, especially for supplemental immunization activities.

2) Insufficient acceptance by some national decision-makers that polio eradication requires additional coordinated strategies between countries, such as timely and coordinated NIDs.

3) The still inadequate epidemiological surveillance in some countries which does not permit early detection and timely investigation of all AFP cases or effective response to suspect cases.

4) War and social unrest in some countries which are threatening the regional polio eradication initiative.
5) Exchange of information between countries and with WHO requires further strengthening to be adequate for timely coordination of the activities involved in polio eradication.

In the discussion that followed several points were highlighted by the members of the Regional Commission.

1) The large number of cases of polio still reported from the Region, particularly from some countries, is of great concern.

2) The decrease in immunization coverage, especially in the countries where polio virus circulation is still very widespread, needs to be addressed.

3) There is a need for strategies that suit the situation in lagging countries.

4) There is a need to carefully consider the recommended dates of NIDs, taking into consideration the seasonality of enterovirus infections and other important factors. In this regard it was emphasized that NIDs are a supplemental immunization activity and that routine immunization and surveillance should not be jeopardized by NIDs.

4. BACKGROUND

4.1 Strategies for Polio Eradication

It was indicated that progress towards the goal of polio eradication to be achieved globally and regionally will be the result of implementing four major strategies:

1) Achieving and maintaining high OPV coverage through the routine programme;

2) Implementing national immunization days;

3) Initiating acute flaccid paralysis surveillance, with laboratory surveillance for wild polio viruses among suspected cases and contacts;

4) Mopping-up immunization.

Routine Immunization. Routine immunization is a critically important polio eradication strategy which has the potential to reduce wild polio virus circulation to the point where eradication is feasible.

National Immunization Days. NIDs are used to interrupt wild polio virus transmission. Key technical features of NIDs include administering two doses of OPV annually, one month apart, during the low season for enterovirus transmission, targeting all children less than 5 years of age, regardless of prior immunization history; administering vaccine over a short period of time; and achieving high coverage.

Acute Flaccid Paralysis Surveillance. Important components of AFP surveillance include complete and timely case-detection, case-investigation, case follow-up at 60 days, and case-confirmation by an expert committee. Since polio cannot always be clinically distinguished from non-polio causes of AFP, all cases of AFP in children less than 15
years of age should be considered suspected polio until proven otherwise. Surveillance monitoring indicators are useful to monitor the sensitivity of AFP surveillance.

Laboratory surveillance for wild polio viruses among suspected cases and contacts is critically important. A national, sub-regional, regional, and global laboratory network has been established to perform polio virus isolation, polio virus typing, intratypic differentiation, and genotypic characterization. Laboratory performance indicators are useful to assess the sensitivity of laboratory surveillance.

**Mopping-up.** Key technical features of mopping up include administering two doses of OPV at one month interval to all children less than five years of age residing in high-risk areas. High-risk areas are defined as areas with recurrent polio cases, areas of low immunization coverage, urban slums, and other areas with poor access to immunization services. Mopping-up should be initiated only after NIDs had been conducted for several years and wild polio virus circulation has been limited to certain well-defined geographic areas of the country.

In the discussion that followed the presentation on strategies the following points were highlighted.

- The rate of non-polio AFP of 1 per 100,000 under the age of 15 years is a measure of sensitivity of surveillance.
- The set of indicators are useful to judge the performance of the programme relevant to the various strategies.

**4.2 Virology of Poliomyelitis**

Dr Barbara Hull introduced the subject.

She said that the feasibility of eradicating poliomyelitis is based on consideration of a number of biological facts. These include the lack of natural non-human hosts or vectors, or of a long-term carrier state; the limited survival in the environment; the existence of effective vaccines which induce long-lasting immunity; and the limited antigenic variation over time which maintains virus susceptibility to antibody induced by vaccine strains developed 40 years ago.

The factors that favour survival of the virus and present a challenge are the high infectivity and high concentration of virus excreted, the long duration of excretion and relative resistance of the virus, and the silent circulation in the 99% of infected children who do not develop the typical paralysis.

The virus belongs to the enterovirus family of the Picorna viruses, small (27nm) RNA viruses which can replicate in the intestine. The three types can invade the central nervous system mainly through the blood. The major route of transmission is faecal-oral, and the outcome of infection can range from asymptomatic seroconversion to permanent flaccid paralysis or death.

Certification of polio eradication is the process of proving that the organism no longer exists and the key activity is surveillance for
wild polio virus. The first aim is to identify cases and to differentiate them from other causes of flaccid paralysis. This evolves into detecting foci of virus circulation which can be targeted for mopping-up immunization. Finally, the last lines of transmission must be interrupted.

Knowledge of the properties and natural history of the polio virus governs the surveillance requirements. The best sources of virus, the best specimens to collect and the various laboratory methods that can be used to detect it are known.

As polio virus disappears, the search becomes more intensive and additional tests are used, including sophisticated molecular methods which are based on the predictable rate of change of the viral genome during the course of infection. Genetic analysis can be used to monitor the disappearance of families or genotypes from particular geographic locations and it can indicate the source of importations, thus guiding global action.

4.3 Regional Laboratory Network

Dr Walter Dowdle introduced the subject.

Successful polio virus eradication/certification requires high performance by all national/regional programme components working together as a team. The national polio virus laboratory works with other team members to focus eradication efforts on confirming the diagnosis of poliomyelitis, monitoring wild virus circulation, and identifying geographic areas and populations at high risk. Ultimately, it is the laboratory that will provide the basic documentation required for certification.

In support of the nine EMR national laboratories, there are three regional reference laboratories (Egypt, Pakistan, and Tunisia) and a sub-regional reference laboratory in Kuwait. The reference laboratories provide confirmation of polio virus identification and determination of the isolates as vaccine or wild in origin. They also serve as national laboratories in their respective countries. Six specialized reference laboratories in the global laboratory network are providing support to reference laboratories in all Regions and for virus genetic characterizations of greater precision.

The capabilities of the EMR polio virus laboratory network have continued to expand with considerable progress in performance quality and testing capacity. Of particular note has been the major progress in communication and collaboration among programme components. However, not all laboratories have progressed at the same pace. The range in capabilities between some laboratories in the Region remains wide. Reasons for laboratory deficiencies vary, but none is insurmountable.

Certification of eradication in countries and regions rests on the quality of surveillance, the absence of laboratory evidence of wild polio virus, and the documented capacity to detect polio virus if it was in circulation. Certification of laboratory capacity will be based on many factors, including such criteria as personnel training, experience and proficiency, laboratory practices and procedures, quality assurance,
testing accuracy, record-keeping, reporting performance, and collaboration with the national and regional eradication effort. Because certification of laboratory capacity will bear on the length of time that these criteria will have been met, all laboratories in the Region need to begin now to achieve the required high level of performance.

In the discussion that followed on this item and on the previous item, the following were highlighted.

1) Performance indicators should be adhered to and their achievement should be ensured.

2) Although there are considerable efforts to ensure the availability of necessary supplies for laboratories, there were shortages, on some occasions, mainly due to administrative problems.

3) The necessity to identify resources for ensuring the availability of supplies, personnel training and development.

4) Strengthening linkage between the laboratory and epidemiology sections, particularly at national level. Ideas on such linkages are:
   - Appointment of a regional laboratory coordinator
   - Making laboratory reports monthly
   - Organizing meetings involving responsible laboratory officers and national officers.

4.4 First Meeting of the Global Commission

Dr Wahdan introduced the subject.

The main terms of reference for the Global Commission were to define the parameters and processes by which polio eradication will be certified in order to guide regional commissions and national committees to establish their data collection process. He indicated that the Commission defined global polio eradication as eradication of the wild polio virus and not the clinical cases it can cause. The essential criterion upon which certification of polio eradication will be based is the surveillance of AFP as the basis for surveillance of cases of polio caused by the wild virus. Within this principle, the Commission defined two major technical areas within which detailed and accurate data will be required before certification, namely (a) surveillance of cases, and (b) surveillance of wild polio viruses.

For the surveillance of cases, the rate of AFP among children under 15 years of age will indicate adequacy of surveillance of AFP, provided 80% of the reports are received in a timely fashion and 80% of the cases are investigated within 48 hours and all suspected polio cases are subjected to detailed clinical, epidemiological and virological examination and 60-day follow-up examination done for residual paralysis.

For surveillance of wild polio viruses, the laboratories involved should have high levels of competence and specimen collection, transport and testing procedures must be validated. Certification will be based on
evidence of no wild polio virus isolation from two stool samples of AFP cases taken within 14 days of onset of illness, provided 80% of cases of AFP are investigated.

The Global Commission also specified the necessary documentation to provide the essential data for certification. This includes: general documentation, documentation on immunization, on AFP cases, on polio cases, on surveillance, on laboratories and on laboratory procedures.

The Global Commission also discussed the process of certification at the three levels: national, regional and global. The regional Commission is the only agency below the Global Commission with the authority to certify that polio eradication has occurred.

5. REGIONAL POLIO ERADICATION CERTIFICATION

5.1 Experience of the Americas in Certification

The Region of the Americas established an International Certification Commission on Polio Eradication (ICCPE) in 1990, which became actively involved first in establishing criteria for certifying that countries in the Americas are free of indigenous transmission of wild polio virus, and later in reviewing the available evidence provided by each country supporting that this objective had been achieved. The ICCPE met formally on three occasions (July 1990, March 1992, August 1994) during this process, which culminated in September 1994 with the announcement by the Chairman of the ICCPE that indigenous transmission of wild polio virus had been interrupted throughout the Americas, and, hence, polio had been eradicated from the Western Hemisphere.

The ICCPE established the following practical, operational criteria as a pre-condition for certification:

1) Absence of virologically confirmed indigenous poliomyelitis cases for >3 years under circumstances of adequate surveillance;

2) Absence of detectable wild polio viruses from communities as determined by testing of stools from normal children;

3) On-site evaluation by national certification committees appointed jointly by PAHO and respective Member Countries;

4) Establishment of appropriate measures to deal with the potential importation of cases from areas that are not free of polio.

The ICCPE, which consisted of 12 members, established a specific mode of operation:

1) For each of the seven sub-regions (areas) of the Americas, 1-2 ICCPE commissioners were given responsibility for overseeing certification procedures.

2) Areas were considered for certification only if all their Member Countries have been free of polio for >3 years.
3) "National Commissions" were organized in each country to review and oversee pre-certification activities.

4) Each country prepared a country report for review by the responsible ICCPE commissioner(s) that would serve to document the interruption of transmission of wild polio virus within each area.

National committees were charged with preparing a national report according to a previously agreed-upon format. Four strategies were believed to be essential for generating country reports that would justify certification by the ICCPE:

- adequate AFP surveillance
- surveillance of wild polio virus
- active AFP case searches in areas where confirmed or "compatible" cases occurred in the past or where reports were not received, and
- documentation of mass "mopping-up" immunization campaigns in areas of risk.

The ICCPE developed and implemented a detailed plan of action following a mutually agreed-upon chronology of activities. The most important lessons learned were:

1) A rigorous, standardized certification process must be established.
2) The certification commission must be objective and have the authority to perform an adequate evaluation of each country's situation.
3) Surveillance of AFP and wild polio virus is the most important component of the certification process.

5.2 Basic Principles and Essential Criteria for Certification

The first meeting of the Global Commission for the Certification of the Eradication of Poliomyelitis was held in Geneva on 16-17 February 1995 under the Chairmanship of Dr Jan Kostrzewski (Poland). The Commission outlined five basic principles on which global polio eradication will be defined. These are given below.

1) Certification will be on a regional or sub-regional basis by commissions convened for this purpose.

2) The Global Commission for the Certification of the Eradication of Poliomyelitis will provide guidelines that will form the basis for the work of the Regional Commissions to ensure uniformity in the criteria used to assess eradication. The Global Commission will establish a timetable within which Regional Commissions may be expected to operate. Although all regions need not necessarily be evaluated at the same time, countries already certified as having eradicated the wild polio virus must continue to immunize, maintain high levels of AFP and virus surveillance and retain the capacity to deal with importations, should they occur.

3) Certification of polio eradication will be based on assessment of documented evidence, particularly focused on the existence of effective surveillance both for cases of AFP and for wild polio viruses.
4) Certification of global polio eradication will only be made when all regions and, therefore, all countries have been certified as having achieved wild polio virus eradication. In countries which have been polio-free for many years, innovative methods might be required for assessing that wild polio virus no longer existed within their boundaries.

5) In any area, final certification of eradication will not be considered until full three years have passed since the last detected and culture-confirmed occurrence of a wild polio virus. Until global polio eradication is confirmed and, in preparation of the certification process, AFP surveillance, data collection and its documentation must continue.

The Commission stressed the importance of surveillance for AFP as the basis for surveillance for cases of polio caused by the wild polio virus. The Commission confirmed that data collected and documented must support the principle that if polio cases had occurred, they would have been detected, reported and investigated in an expeditious manner.

Within this principle, the Commission defined two major technical areas about which detailed and accurate data will be required before certification of polio eradication could be considered, surveillance for acute flaccid paralysis and surveillance for wild polio viruses. Criteria for AFP surveillance and surveillance for wild polio viruses were defined and are listed in the report of the Global Commission.

5.3 Documentation Required for Certification of Polio Eradication

Adequate documentation is necessary at each level to provide the essential data for certification. The basis of this documentation will be data collection and analysis at the country level. It is preferable that these data and subsequent documentation be standardized between countries within a region. Seven subject areas to be assessed were defined and are listed in Section 5.3.2.

5.3.1 Process for certification of polio eradication

The Global Commission decided that certification of polio eradication should be conducted at three levels—national, regional and global. Regional level does not necessarily correspond to WHO Regions and, where appropriate, sub-regional certification may be conducted in the same manner as regional certification.

National level

In each country, national committees should be convened at an appropriate time to review and oversee pre-certification activities. Committee members should be independent of the polio eradication initiative and the EPI. National committees will be responsible for assessing the documentation prepared by the national staff. Field visits may be necessary for verification of data. National committees will have no authority to certify polio eradication in the country, but will refer their opinions with supporting documentation for assessment by the Regional Commission.
Regional level

Regional Commissions will be appointed by Regional Directors and are expected to include members of the Global Commission working within their own regions. The other members are expected to represent a range of skills allied to the needs of assessing whether polio eradication has been achieved; for example, virologists, neurologists, paediatricians, public health specialists, epidemiologists, and health planners. The members of the Regional Commission will not have direct responsibility for polio eradication in the Region or in their own countries.

Regional Commissions will be the only level below the Global Commission with the authority to certify that polio eradication has occurred. Before it certifies eradication in the Region, its members must be fully satisfied that wild polio virus eradication has been achieved throughout all Member States of the Region under review. The decision to certify eradication will be based on the opinion of national committees, plus their supporting evidence, combined with visits to countries to verify the data provided and to guarantee completeness and accuracy.

Global level

Certification of global polio eradication will be announced only after all Regional Commissions have certified that each Region and, therefore, all countries have achieved polio eradication.

5.3.2 Documentation required for certification at national level

Adequate documentation is necessary at each level to provide the essential data for certification. The basis of this documentation will be data collection and analysis at the country level. It is preferable that these data and the subsequent documentation be standardized among countries within a region.

Each Regional Commission will be expected to review country data, using them in association with country/field visits as the basis for certification process. In turn, regional documentation and subsequent country certification will form the basis for eventual certification of global polio eradication.

The proposed documentation falls into a number of categories:

- Structure, responsibilities and coordination of the national units concerned with polio eradication within the country.

- Demography of the country, including population distribution, urban conurbations, urban/rural population ratios, areas underserved by health services, remote and difficult-to-access areas.

- Documentation of polio eradication activities.

- Documentation of laboratory procedures.
Within the range of documentation, seven subject areas should be assessed:

1) General documentation

- evidence of collaboration between staff of the immunization programme and the laboratory
- activities in high-risk areas
- sampling of the environment for wild polio viruses
- extension of polio-free zones.

2) Documentation on immunization

- immunization coverage, by district
- evaluation of the immunization programme
- details of national immunization days
- details of mopping-up immunization.

3) Documentation of AFP cases

- line-listing of AFP cases, by district
- completed case-investigation forms for all AFP cases
- AFP rates, by district or groups of districts
- AFP case-classification
- spot maps of AFP cases and polio-compatible cases.

4) Documentation on polio cases

- polio incidence, by district and by year
- spot maps of polio cases
- case-investigation forms for polio cases
- details of the last outbreaks, including response and mopping-up immunization.

5) Documentation on surveillance

- analysis of surveillance indicators, including:
  - % AFP cases investigated
  - % AFP cases investigated within 48 hours of detection
  - % AFP cases reported within one week of onset
  - % AFP cases with two stools tested
  - % AFP cases with two stools tested within two weeks of onset of the illness
  - % routine reports received on time
- Evaluation of the surveillance system.

6) Documentation on laboratories

- laboratory reports with dates
- number and source of samples tested
- evidence of the quality of specimen collection and transport
- quality control, including proficiency testing.
7) Documentation on laboratory procedures

Documentation should be retained to confirm the following activities:
- all enterovirus isolates, including polio viruses, retained in store for the last 3 years
- re-testing in a second network laboratory, of specimens from AFP cases which died
- re-testing in a network laboratory of specimens originally tested in a non-network laboratory
- confirmation of easy access by all areas to a network laboratory
- evidence of ability to isolate other enteroviruses, including polio vaccine virus.

5.4 Proposed Activities of the Regional Certification Commission

It is essential that the Regional Commission first consider in detail the Global Commission's directives concerning the criteria for eradication in order to adopt them, as it is essential that globally the criteria be the same. If the Regional Commission has any views that differ from those of the Global Commission they should be submitted to the Global Commission for consideration, since it will be essential to convince the Global Commission and the world that transmission of the wild polio virus has ceased in the Region.

A plan of action for the work of the Regional Commission needs to be developed, but it must remain flexible to accommodate any developments.

The following plan and mode of operation were suggested.

1) It was suggested that responsibilities be assigned to each member of the Commission to oversee certification procedures in one or more countries. It is not necessary to be involved in the member's country. The responsibility and method of work of the Regional Commission needs to be discussed in some detail. It could include working with the national committees, by organizing a meeting for all of them or by visits to individual countries to meet with them and frequent close follow-up to ensure collection and evaluation of data and other documentation to be available when the Commission considers certification.

2) It is understood that each country will be considered for certification only when it has been free from polio for at least three years. The relative importance of the various elements of the strategies for eradication would be different, but all countries should be engaged from now in the pre-certification process of collecting and validating data from AFP surveillance and the wild polio virus.

3) Although many countries have responded to the Regional Office request to establish national committees with specific terms of reference, these committees remain an intention rather than a reality with respect to work. The members of the Commission, together with the Regional Office and consultants can help in activating these national committees to become functional.
These national committees should review and oversee the pre-eradication activities, and specifically:

- Intensified AFP surveillance
- Surveillance of wild polio virus circulation, and
- Evaluation of the implementation and impact of various strategies adopted for eradication, such as NIDs.

4) The Regional Commission may consider ways and means of ensuring the availability of the necessary resources for the regional plan for eradication and identifying support to countries under difficult situations.

5) Another issue for consideration by the Commission is the establishment of appropriate measures to deal with importation of polio to polio-free areas. This responsibility could be assigned to a technical group.

6) A date for the next meeting of the Commission and its agenda and the modality of follow-up between now and the next meeting were to be agreed upon.

6. CONCLUSIONS AND RECOMMENDATIONS

The Regional Commission adopted the following conclusions and recommendations. It urged WHO staff to take necessary steps to implement them.

1. Assign responsibilities to regional commissioners for individual countries or areas. The regional commissioners may visit one or two countries before the next meeting.

2. Develop linkages with neighbouring regions, AFRO, SEARO and EURO, and modality (for example, interregional activities, or other methods of linkage such as participation of chairpersons of the Regional Commissions).

3. Organize meetings of national committees with the presence of a regional commissioner.

4. Develop a system to deal with importations. It could be a request to the Regional Director to study this issue and make recommendations.

5. Arrange the next meeting of the Commission after about 12-18 months which could be linked with meetings of other technical advisory groups or that of programme managers. The agenda would include:

- Review of the situation
- Review of the status of implementation of eradication strategies
- Review of the status of national plans for certification
- Review of the status of activities of national committees
- Appropriate recommendations.
6. Develop a log book to include the various data required for certification.

7. Send the report of the Regional Commission to Member States. While forwarding the report to Member States, the Regional Director may wish to emphasize the importance of establishing national committees where they do not exist, and revitalizing the existing ones.
AGENDA

A. INTRODUCTION

Registration
Opening

B. UPDATE ON:

Global Polio Eradication
Regional EPI Programme
Regional Polio Eradication Programme

C. BACKGROUND

Strategies for polio eradication
Virology of poliomyelitis
Regional laboratory network: Its support to eradication/certification
Briefing on the first meeting of the Global Commission on Polio Eradication

D. REGIONAL POLIO ERADICATION CERTIFICATION

The Americas' experience on certification
Basic principles and essential criteria for certification
Documentation required for certification of eradication at national level
Proposed activities of the Regional Certification Commission
Conclusions and recommendations
PROGRAMME

Saturday, 23 September 1995

A. INTRODUCTION

08:00 – 08:30 Registration
08:30 – 08:45 Opening by Dr Hussein A. Gezairy, Regional Director for WHO Eastern Mediterranean Region

B. UPDATE ON:

08:45 – 09:15 Global Polio Eradication (Dr H. Hull)
09:15 – 09:45 Status of the Regional EPI Programme (Dr T. Gaafar)
09:45 – 10:15 Regional situation of poliomyelitis (Dr R. Aslanian)

C. BACKGROUND

10:45 – 11:15 Strategies for polio eradication (Dr M. Reichler)
11:15 – 11:45 Virology of poliomyelitis (Dr B. Hull)
11:45 – 12:10 Regional Laboratory Network: Its support to the eradication/certification (Dr W. Dowdle)
12:10 – 12:30 Briefing on the first meeting of the Global Commission on polio eradication (Dr M.H. Wahdan)

D. REGIONAL POLIO ERADICATION CERTIFICATION

12:30 – 12:50 The Americas' experience on certification (Dr S. Cochi)
12:50 – 13:45 Basic principles and essential criteria for certification (Dr Harry Hull)
13:45 – 14:30 Discussion
14:30 – 15:00 Documentation required for certification of national level (Dr R. Aslanian)
16:30 – 17:30 Discussion: Proposed activities and Plan of Work for the Regional Certification Commission (Chairman: Dr M.H. Wahdan)
17:30 – 18:30 Conclusions and Recommendations
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