



PAN AMERICAN HEALTH ORGANIZATION  
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WORLD HEALTH ORGANIZATION

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SECOND MEETING OF THE EPI TECHNICAL ADVISORY  
GROUP (TAG) ON POLIO ERADICATION IN THE AMERICAS  
MEXICO CITY, 15-17 JANUARY 1986

MEXICO CITY, MEXICO

FINAL REPORT



SECOND MEETING OF THE EPI TECHNICAL ADVISORY  
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Shortly after the May 1985 announcement of the hemispheric goal to eradicate transmission of wild poliovirus in the Americas by 1990, the Director of the Pan American Health Organization (PAHO) appointed a Technical Advisory Group (TAG) to provide continuing advice and support in developing and implementing strategies to achieve this goal within the context of the Expanded Program on Immunization (EPI). The first meeting of the TAG, in July 1985, included review, revision, and approval of a Plan of Action. This Plan was subsequently presented to the Directing Council of PAHO and endorsed by Resolution XXII of the XXXI Meeting in September 1985.

A major recommendation of the TAG meeting was that laboratory and surveillance issues should be addressed in detail at the next meeting and that as much information as possible should be gathered to assist in the discussions.

Since the first TAG meeting, an InterAgency Coordinating Committee, with representatives from PAHO, UNICEF, USAID, IDB, and Rotary International, has met twice. Proposals for funding have been presented to the InterAmerican Development Bank and the U.S. Agency for International Development; Rotary International has assured a supply of polio vaccine for 5 years to all countries submitting approved plans; UNICEF has intensified support for immunization activities in a number of countries; and a number of countries have undertaken intensified programs through the establishment of National Immunization Days. In all, 11 of the 20 Latin American countries are now using National Immunization Days.

In the interim between TAG meetings, a concerted effort was made to obtain further information regarding surveillance and laboratory issues. It was decided that a visit by a PAHO consultant to a country presently reporting polio would provide useful information regarding operational issues of surveillance. Brazil was chosen as it is a large country with diverse geographic, climatic and cultural conditions and one which has persistent polio activity in spite of a strong commitment to control polio and 5 years' experience with two national immunization campaigns annually. With regard to laboratory information, laboratories in 7 countries have been visited by consultants to assess their capabilities to provide the support needed for the eradication effort. Reports on these investigations provided the basis for the main discussions of the current TAG meeting.

The second TAG meeting was inaugurated by the Secretary of Health of Mexico, Dr. Guillermo Soberón Acevedo and the Country Representative of PAHO, Dr. Pablo Isaza. The meeting was chaired by Dr. D. A. Henderson, and Drs. José Manuel Borgoño and Alan Hinman served as rapporteurs. A complete list of participants as well as the agenda of the meeting is attached. What follows is a brief summary of the main agenda items and the conclusions and recommendations of the TAG.

In addition to detailed presentations on surveillance and laboratory issues, representatives from Mexico presented an overview of their surveillance system, laboratory support, the organization of operations in their forthcoming National Immunization Days for polio, and a summary of the national program for DTP and measles immunization. A summary was presented of pertinent issues from the Brazilian experience with National Immunization Days. There was also a summary of major items covered at the recent meeting of the EPI Global Advisory Group. Finally, a presentation was made concerning studies of the Ezeject disposable syringe.

In introduction, it was noted that in 1985 a provisional total of 464 cases of paralytic poliomyelitis have been reported from 14 countries in the Region, compared to 542 cases reported from 13 countries in 1984.

#### SURVEILLANCE

A summary was presented of the intensive investigation carried out in Brazil over a 4-month period. This review included a detailed analysis of all suspected polio cases reported to the national level from 1982 to 1985 as well as a judgment as to whether the cases had been appropriately categorized when reported and how they might now be classified under a new case classification system. In addition, reviews were carried out in 13 states and the Federal District. These visits, which included personnel from national levels as well as participants from other states, involved review of the general surveillance procedures and a case-by-case review of all suspected cases reported during 1983-1985. In addition, visits were made to hospitals, rehabilitation centers, and other health care providers as a form of active case finding. Mini-surveys were also carried out in several communities to assess coverage and the possibility of additional suspected cases.

There was extensive discussion covering virtually all aspects of the investigation in Brazil, which clearly had provided much important information about the practical aspect of polio surveillance. Major discussion centered around the following topics:

- case definition
- Guillain-Barré Syndrome (GBS)
- containment procedures
- case diagnosis and investigation
- laboratory support
- training needs
- needs for further investigations

The main conclusions and recommendations resulting from these discussions are summarized in a later section of this report.

## LABORATORIES

Seven laboratories have been visited thus far (in Brazil, Argentina, Chile, Mexico, Venezuela, Colombia, and Ecuador), and an additional 7-8 will be visited during January and February. In the laboratories so far visited, poliovirus isolation and identification methods are fairly well standardized, but methods for poliovirus serology and vaccine titration are less standardized. Tissue culture problems are widespread as are problems with collection and shipment of specimens. At most laboratories, the lack of supplies and equipment are also significant problems. Nonetheless, with some additional assistance, several laboratories seem capable of providing the needed support not only to their own countries but also to other countries in the Region.

Efforts are presently underway to develop a comprehensive laboratory manual--it is presently approximately one-half complete and a complete draft should be available within the next 2 months. Two courses will be held. The first course, in June 1986, in Rio de Janeiro, will cover virus isolation and serological procedures. The second course will be held in Atlanta in September 1986, and will focus on techniques in molecular virology. Each course will last 2 weeks.

## MEXICO

Separate presentations were made regarding the planned improvements in the surveillance system in Mexico, the organization and implementation of the National Immunization Days, laboratory support, and vaccine production and control. In addition, a summary was presented of the results of immunization programs to date in Mexico. The provisional total of cases reported in 1985 is 139. In recent years most cases have been due to type I poliovirus but only about 15% of cases have been confirmed in the laboratory. Approximately 40% of cases occur in persons with a history of having received two or more doses of OPV, but vaccine has primarily been delivered on a door-to-door basis and there has been concern that there may have been breaks in the cold chain. Major steps are underway to improve the reporting system and to have each suspected case investigated by an epidemiologist from the central level. Mass immunization campaigns against polio have been held since 1981, using monovalent type I vaccine in one round and trivalent OPV in the other years.

The National Polio Immunization Days, which will include vaccination days in January and March (using trivalent OPV), will be based on a different structure. Approximately 80,000 vaccination posts have been established throughout the country and these will be staffed by more than 600,000 volunteers in addition to permanent staff. Major publicity efforts have been undertaken and it is anticipated that this approach will have more satisfactory results than the previous one.

## Brazil

In the late 1970s it became apparent that the routine health services in Brazil would not be adequate to meet the goals of the EPI. Consequently it was decided to embark on an accelerated strategy through the use of National Immunization Days. At the outset these days involved only the use of OPV for several reasons, including the technical simplicity of its use, the ease of identifying the target population, the immediate impact that could be seen on disease incidence, the variety of contraindications, and the fact that polio was widely feared by the population. After four years of highly successful efforts against polio, DTP and measles vaccines were added to the National Immunization Days in most parts of the country in 1984.

Use of multiple antigens raised several new issues, including increased training needs, difficulties in identifying the target population for a given immunization site, the increased importance of immunization records, increased logistical problems as a result of the need for needles and syringes, more need to consider side effects and contraindications, and the fact that some persons fear needles more than the diseases concerned. Nonetheless, inclusion of the other vaccines has resulted in overall improvement in immunization levels and the effort has clearly been worthwhile. Although many of the new issues raised by use of multiple antigens have been resolved, further operational research is needed to solve all the problems.

## GLOBAL ADVISORY GROUP MEETING

The main topics addressed at the November 1985 meeting of the EPI Global Advisory Group in Copenhagen were:

- the progress to date and remaining problems in the European Region, particularly as regards the ambitious targets developed to eliminate indigenous polio, measles, diphtheria, congenital rubella, and neonatal tetanus.
- the necessity of intensifying activities through the use of National Immunization Days or similar strategies in order to achieve the 1990 goals of the EPI.
- a frank discussion of the roles and problems of different groups participating in the EPI, including governmental and non-governmental organizations.
- a further statement on the need to develop surveillance systems and recognition of the need to establish morbidity reduction targets for immunization programs (as is being done in the American and European regions).

## CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations which follow are meant to be used as further elaboration on the Plan of Action and to serve as additional guides in the preparation of operational manuals.

1. The TAG notes with pleasure that a considerable number of activities have been carried out since its first meeting. The support which has already been given by PAHO and by individual countries and some agencies is most encouraging. The program is at a crucial stage and promises rapid development, but early receipt of support from all collaborating agencies is vital to sustain and augment the momentum.

2. The coverage level originally described as the level which would indicate that a polio-free country was at low risk of reestablishment of transmission (80% coverage in children less than 1 year old) should be clarified to indicate that this minimum coverage should be achieved in each geopolitical unit (e.g., county, municipality).

3. Case definitions should be clarified as follows:

- a SUSPECTED case should be defined as any acute onset of paralysis in a person less than 15 years of age as well as any paralytic illness in a person of any age in which polio is suspected as a likely cause.
- a PROBABLE case is any acute onset of flaccid paralysis without another proven cause. The presence or absence of sensory loss should not be considered since it is so difficult to ascertain in infants and young children.
- a CONFIRMED case is a probable case with:
  - a) laboratory confirmation OR
  - b) epidemiological linkage to another probable or confirmed case OR
  - c) residual paralysis 60 days after onset OR
  - d) death following clinically compatible illness.

4. Guillain-Barré Syndrome (GBS) poses a particular problem in that the diagnosis seems to be made incorrectly in many settings. ANY CASE OF PARALYSIS IN AN INDIVIDUAL LESS THAN 15 YEARS OF AGE SHOULD BE CONSIDERED POLIO UNTIL PROVEN OTHERWISE. All cases of GBS (of whatever age) should have appropriate laboratory investigation to establish that the illness is not polio.

5. Containment. The geographical extent of containment activities should be determined by the local epidemiological situation but in general should extend widely around the case. The age group of

those vaccinated in containment activities should also be determined based on the epidemiological situation. This may sometimes result in vaccination of individuals older than 5 years in containment efforts.

6. Improved case finding. Improvements in surveillance are urgently required in all countries. The important role of the laboratory as a source of information must be stressed. Laboratories should report immediately to the EPI officer any specimens submitted for viral studies in which polio or paralysis is indicated on the laboratory request. The role of schools as well as hospitals and health care providers in providing information about possible polio cases should be emphasized.

7. Case investigation. From this time on, each country in the region should investigate promptly every suspected case of polio reported and obtain appropriate laboratory specimens. Each country should train a limited number of individuals (to be based at state, regional or national levels depending on size of population) to investigate all reported suspected cases and to evaluate and categorize all probable or confirmed cases. Additionally, it is important to establish a system at the national level for keeping track of suspected cases and their ultimate classification and disposition.

8. Laboratory support. Establishing and maintaining competent and reliable laboratory support is both difficult and costly. Moreover, for a laboratory to maintain expertise, a monthly average of approximately 50 specimens for enterovirus isolation is needed. Fortunately, only a limited number of laboratories (probably 5-8) is needed to support the polio eradication effort. The laboratories which will serve this function should be identified and operational before the end of 1986. Proficiency testing and other means of quality control will be essential on an ongoing basis. Centralized provision of standardized reagents (and possibly supplies and equipment) is necessary to assure comparability and quality of results. Particular attention should be paid to the proper obtaining, handling, and submission of specimens.

9. Training needs. To assist in training necessary staff at national, state, and local levels it is imperative that manuals be developed as quickly as possible. At least two manuals are needed: a comprehensive laboratory manual and a manual on surveillance and control. It is expected that both manuals will be available before the end of 1986.

10. Immediate needs for further investigation:

- a) development and evaluation of the most appropriate means of surveillance.
- b) development of techniques to determine the appropriate extent of containment activities, both in terms of the geographical extent of the activities and in terms of the age groups of the target population to be immunized.



- c) programmatic importance of polio in persons more than 15 years old.
- d) development of methods to ascertain the absence of wild poliovirus in countries without reported cases.
- e) role of non-polio enteroviruses in causing paralytic illness.
- f) magnitude of potential misdiagnosis of polio cases as cases of GBS.
- g) development of methods to detect cases which ordinarily would not come to the attention of the health sector.
- h) frequency of occurrence of vaccine-associated cases of paralysis.
- i) development of techniques to achieve satisfactory coverage in all segments of the target population during intensified activities.

11. Mexico. The TAG noted with satisfaction the increased commitment demonstrated by the National Polio Immunization Days inaugurated in 1986 (which TAG members had the opportunity to observe) and the efforts to improve surveillance. These are clearly major undertakings which should have a substantial impact on the occurrence of disease in Mexico. It is quite possible that the improved surveillance may detect a large enough number of previously unreported cases that there may seem to be a paradoxical increase in cases, even in the face of improved immunization levels. The TAG looks forward with anticipation to future reports of activities in Mexico and to the inclusion of other antigens and individual immunization records in the program.

12. Experience in Brazil and other countries has clearly demonstrated that National Immunization Days are feasible and effective ways of improving vaccine coverage and having a dramatic impact on disease incidence, particularly polio. With appropriate planning and continuing support from the federal level, these efforts can be sustained over several years. National Immunization Days are particularly appropriate for achieving rapid results with polio and are clearly a major tool to be used in eradicating the disease from the hemisphere. In addition, National Immunization Days can have an important impact beyond immunization in mobilizing social resources, generating increased political support, and focusing public attention on preventive health activities. Although the addition of measles and DTP vaccines to the National Immunization Days raises additional operational problems, most of these can be resolved and considerable additional benefits achieved. Under all circumstances, development of reliable surveillance mechanisms is essential to demonstrate the impact of immunization programs.

NEXT MEETING

The next meeting of TAG was tentatively scheduled for the first week of September 1986, in Brasilia. Major suggestions for the agenda included a review of the laboratory and surveillance and control manuals currently under preparation, discussion of major outstanding research issues, and a review of further experience with intensified surveillance activities (e.g., from Brazil, Mexico, and perhaps other countries). In addition, it was felt that discussions should begin regarding the process for certification of eradication and that the hemispheric experience with vaccine-associated polio should be reviewed.

TECHNICAL ADVISORY GROUP (TAG) ON POLIOMYELITIS ERADICATION  
MEXICO CITY, 15-17 JANUARY 1986

Agenda

JANUARY 15 (Wednesday)

9:30 - 10:00 Inauguration  
10:00 - 10:30 Present Status of Expanded Program on Immunization  
10:30 - 12:00 Epidemiological Surveillance Issues: Presentation of  
Data from Brazil Poliomyelitis Investigation  
12:00 - 13:30 Lunch  
13:30 - 15:00 Epidemiological Surveillance Issues, continued  
15:00 - 15:30 Coffee Break  
15:30 - 17:00 Overview of National Laboratories in the Region

JANUARY 16 (Thursday)

8:30 - 10:00 Discussion of Epidemiological Surveillance Issues  
10:00 - 10:30 Coffee Break  
10:30 - 12:00 Discussion, continued  
12:00 - 13:30 Lunch  
13:30 - 15:00 Discussion, continued  
15:00 - 15:30 Coffee Break  
15:30 - 17:00 EPI in Mexico

JANUARY 17 (Friday)

8:30 - 10:00 National Vaccination Days in Mexico  
Vaccine Production in Mexico  
10:00 - 10:30 Coffee Break  
10:30 - 12:00 National Vaccination Days in Brazil  
Update on Ezeject Vaccine Applicator  
Summary of 1985 EPI Global Advisory Group Meeting  
12:00 - 13:30 Lunch  
13:30 - 15:00 Final Report and Recommendations



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Mexico City, 15-17 January 1986

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