FIFTH MEETING OF THE EUROPEAN ADVISORY GROUP ON THE EXPANDED PROGRAMME ON IMMUNIZATION

WORLD HEALTH ORGANIZATION
Regional Office for Europe
COPENHAGEN

TARGET 5

Eliminating seven specific diseases

By the year 2000, there should be no indigenous measles, poliomyelitis, neonatal tetanus, congenital rubella, diphtheria, congenital syphilis or indigenous malaria in the Region.

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FIFTH MEETING OF THE EUROPEAN ADVISORY GROUP ON THE EXPANDED PROGRAMME ON IMMUNIZATION

Report on a WHO Meeting

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Note

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Introduction

The Fifth Meeting of the European Advisory Group (EAG) on the Expanded Programme on Immunization (EPI) was convened in Athens on 15-17 January 1991 in order to:

- review European EPI policies on immunization strategies with respect to tuberculosis, poliomyelitis, pertussis and Haemophilus influenzae B infection;

- discuss an outline for the drafting of regional and national immunization programmes;

- agree to an immunization schedule which could serve as a model for harmonized implementation throughout the Region;

- inform EAG members of the recommendations made by the WHO Working Group on Immunization of Tourists and Other Travellers;

- adopt a draft agenda for the Fourth Meeting of National EPI Programme Managers, provisionally scheduled for 21-24 May 1991 in St Vincent, Italy.

The meeting was chaired by Professor S. Dittmann, Dr T. Sapounas served as Vice-chairman, Dr D. Salisbury as Rapporteur and Dr B. Bytchenko as Secretary.

General situation

Although the European immunization programme continues to improve, with increases in coverage and decreases in disease incidence, progress has been less than was hoped for and the programme needs to accelerate to reach the health for all (HFA) objectives. Having

been the leader in developing and implementing immunization services, Europe is now being overtaken by other regions where higher coverages and more rapid disease reduction are being reported.

In the late 1980s, diphtheria was declining in Europe, but cases are now increasing again, mainly because of a major outbreak in the USSR. There is also continuing transmission of diphtheria in Turkey.

Pertussis is not yet well controlled. In some countries vaccination coverage is extremely low and this is accompanied by large numbers of cases. One country, Sweden, does not routinely use pertussis vaccine.

Reported cases of tetanus continue to fall slowly, although neonatal tetanus has been eliminated from much of the Region; but neonatal tetanus cases have fallen by only 4% over the last five years, which suggests that there has been little improvement in those countries where this disease still occurs.

Despite the fact that the lowest ever number of cases of poliomyelitis was reported in 1989, 1990 saw an increase, with 310 cases of paralytic poliomyelitis reported from the USSR and about 40 cases in other countries (Germany, Hungary, Romania, Turkey, the United Kingdom and Yugoslavia). At least 335 cases (95.7%) were caused by wild viruses. In 1989, only 31% of Europeans were living in countries that were poliomyelitis-free.

Measles continues to be a big problem in many countries, with regular epidemics and insufficient coverage. The elimination of mumps and rubella are feasible objectives which can be achieved if measles-mumps-rubella (MMR) vaccine is made available for target groups and for as many susceptible groups as possible.

Management of immunization programmes still seems unnecessarily passive in some countries; few have drawn up plans of action and too little programme evaluation has been done. There is still too much dependence on routine immunization services and, as the time available to achieve the HFA objectives diminishes, so programme managers will need to undertake a critical evaluation of their services and intensify their efforts.

Alongside the successes achieved, serious problems were identified in various countries, as follows:

- lack of modern vaccines and resources in eastern and southern European countries;
- poor disease surveillance and immunization coverage;
- conservative and reluctant attitudes towards EPI in some public health services;
- insufficient will to succeed, poor communication and poor social mobilization.

Greek immunization programme

The Greek immunization programme was presented to the Group. There have been no cases of poliomyelitis for the last three years, and Greece considers itself polio-free. The last national immunization survey was carried out in 1986; current data, therefore, depend on vaccine distribution figures. Hepatitis B vaccine will be introduced shortly as a pilot programme in a region where the prevalence of hepatitis carriers is high; discussions are taking place on whether to introduce Haemophilus influenzae B vaccine. The Group encouraged the Greek authorities to improve vaccine coverage and disease surveillance and to prepare a plan of action that will help them achieve the target 5 objectives.

New vaccines

For most countries in the Region, MMR is the first new vaccine in recent years to be introduced for routine childhood immunization. In future there will be other new viral and bacterial vaccines and considerable improvements are likely in existing vaccines. Immunization schedules will begin much sooner after birth, fewer doses of vaccine will be required and wider ranges of antigens will be available. There are possibilities for conjugating pneumococcal vaccines and meningococcal A and C vaccine, although little prospect at present for group B meningococcal vaccine. Varicella vaccine has already been shown to be safe and moderately effective in immunocompromised people, while Haemophilus influenzae B vaccine has already been introduced into routine use in Finland, Iceland and Germany. The United Kingdom has announced its intention to introduce this vaccine in 1992.

BCG vaccine

Despite the long history of BCG vaccine availability, and a worldwide requirement to report tuberculosis, there continues to be gross undernotification of this disease. Comparisons between countries are made difficult by variations in reporting practice, but there is a close relationship between the annual risk of infection and the incidence of smear-positive pulmonary tuberculosis. Some 3.5-4.5 million new cases of smear-positive tuberculosis occur each year worldwide, and a similar number of cases with other presentations, e.g. smear-negative. Total numbers of tuberculosis cases are between 14 and 18 million per annum. Prevalence is double the incidence and tuberculosis causes about 3 million deaths each year - the highest cause of death from any single pathogen.

Some 30% of the world's population is infected with M. tuberculosis; 5% of those infected will develop invasive disease. At present, BCG is the main practical approach to preventing tuberculosis in childhood, especially the severe forms, although some countries in Europe are now reporting such low notification rates that the value of BCG in preventing severe invasive diseases in young children is being questioned. The advent of HIV infection poses two major challenges for tuberculosis control - firstly in terms of tuberculosis itself, with an increased number of cases in immunocompromised individuals, and secondly in terms of the TB programme, due to constraints on resources.

Pertussis

Although pertussis is neither an HFA nor a global EPI target, this omission does not indicate a lack of priority. Pertussis causes very considerable morbidity and mortality and is responsible for half a million child deaths in the developing world. In Europe, in excess of 100 000 cases are reported, and because of the severe complication of pertussis, the burden on health from this preventable disease is likely to be far greater than can be measured directly.

There are wide variations in the utilization of pertussis vaccine, as measured by immunization coverage rates. Although it is available throughout the Region, incorporated with diphtheria and tetanus vaccine, some countries actively discriminate against its use. Whereas Bulgaria, Czechoslovakia, Hungary and Poland have very high pertussis immunization coverage rates and incidence rates of less that 1 per 100 000, Portugal, Switzerland and Turkey also report low incidence rates, but with lower levels of immunization coverage. Conversely, Denmark and Iceland, with high coverage, report incidence

rates of more than 10 per 100 000. Sweden, without pertussis immunization, is at present reporting very high incidence rates of more than 100 per 100 000.

The Group recognized that there seem to be factors causing problems with the promotion of pertussis vaccine that do not necessarily pertain for diphtheria and tetanus. These are as follows:

- complacency and apathy among health professionals and the public;
- governments that fail to support pertussis immunization actively;
- antipathy to medicine and to authority;
- negative attitudes, encouraged by the media;
- real scientific concern;
- litigation over suspected adverse events.

Poliomyelitis elimination

In 1989, some 134 polio cases were reported in Europe, of which 111 were indigenous, 7 of unknown origin, 4 imported and 12 vaccine-associated. In seven countries - Belgium, France, Romania, Spain, Turkey, USSR and Yugoslavia - wild-virus transmission probably continued.

Provisional figures for 1990 show an increase of cases, with 350 reported in 1990. Of these, 335 were indigenous, and 15 vaccine-associated. Cases were reported from the USSR (310), Turkey (22), Romania (8), the United Kingdom (4: vaccine-associated), Hungary (3: vaccine-associated), Germany (2: vaccine-associated), and Yugoslavia (1).

Two countries remain at stage C as described in the Global Eradication of Poliomyelitis Programme, notably Turkey and the USSR. Six countries are at stage B: Belgium, France, Israel, Romania, Spain and Yugoslavia. The remaining 23 countries - Albania, Austria, Bulgaria, Czechoslovakia, Denmark, Finland, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Monaco, Netherlands, Norway, Poland, Portugal, San Marino, Sweden, Switzerland and the United Kingdom - are at stage A.

During the last two years there have been improvements in poliomyelitis surveillance in Turkey. The Ministry of Health has accepted the WHO recommendations and there have been improvements in case reporting: some 44% of cases were reported within the first week after diagnosis in 1990 compared to 17% in 1989, and stool specimens were collected in 95% of suspected cases. Further intensification is required and immunization coverage must be improved in eastern and south-eastern provinces. In the USSR, the highest incidence was observed in four Republics: Turkmenia, Azerbaijan, Tajikistan and Uzbekistan. These Republics were responsible for 71% of all cases reported in the USSR. Many activities were conducted in 1989, and as a result a 1.8-fold reduction in morbidity was registered in 1989. However, immediate reporting of each suspected case is not yet occurring and in certain republics laboratory support is insufficient; there is also a lack of epidemiological analysis of the situation at district level. In 1990, 174 cases of poliomyelitis were reported in Azerbaijan, 31 in Georgia, 28 in Turkmenia and 12 in Armenia. Action has now been taken and the epidemic is under control.

As stated at the previous EAG and programme managers' meetings, there remains an urgent need to improve both coverage and surveillance. The former can be addressed by improvement in routine immunization,

national immunization days, immunization of all case-contacts and "mop-up" operations. Surveillance remains weak and data collected from 17 European countries suggest that in only 60% of those countries does notification of poliomyelitis take place within one to two weeks of the onset of paralysis. Weekly reporting is far from complete and immediate case investigation and specimen collection cannot be assured as the appropriate indicators are not in place. In the majority of European countries, there is no routine surveillance for immunization coverage by district, and computerized community-based systems for monitoring immunization coverage exist only in Bulgaria, Czechoslovakia, the Netherlands and the United Kingdom. According to immunization coverage data supplied to WHO, in 23 countries coverage exceeds 90%, in four it is between 80 and 90%, and in four others it is less than 80%. There remains very little conformity in the calculation of coverage, and countries do not indicate the likely accuracy or inaccuracy of their data.

Despite the lead from the Regional Office for the Americas, where flaccid paralysis surveillance provides a quality-control measure of the likelihood of cases of acute poliomyelitis being reported, no European programme has yet established flaccid paralysis surveillance. Very few countries are undertaking environmental surveillance for wild polio viruses.

Four European laboratories have been nominated as special reference laboratories by WHO/EPI as part of the global eradication plan: NIBSC, London, RIVM, Bilthoven (Netherlands), the Pasteur Institute, Paris, and the Higher Institute of Health (ISS), Rome. These four are likely to form the basis for regional reference laboratories for the European Region, which will be expected to maintain standards of polio virology in national laboratories under their responsibility, undertake training, provide reagents and supply reference services.

As yet there is no conformity in the type of vaccines used by individual countries. Twenty of them use TOPV; five use IPV and TOPV (Denmark, France, Israel, Luxembourg and Monaco); five use IPV alone (Finland, Iceland, Netherlands, Norway and Sweden); and one (Czechoslovakia) uses OPV. The overwhelming majority of vaccines available in the Region meets WHO requirements.

Sweden and Denmark have eliminated poliomyelitis, Sweden by the use of IPV alone and Denmark using IPV with TOPV. In neither country are vaccine-associated cases occurring, nor have cases due to wild virus occurred in immunized individuals. The use of IPV appears to be appropriate where coverage is reliably and uniformly of the highest order and where there are very few pockets of low coverage. In countries where there may be pockets of low uptake, and importation from countries where poliomyelitis transmission still occurs, OPV remains the vaccine of choice. Countries considering changing from OPV to IPV should recognize the risk of coverage falling if separate injections of DTP and IPV are required.

Immunization promotion

Immunization promotion is one of the outputs of an integrated immunization programme and supplies a link between policy-setting and effective results. It motivates both those who deliver the immunization service and those who take advantage of it. The purpose may be to encourage the sustainment of existing strategies, to alert the public and inform them of new strategies or national problems such as epidemics, to influence specific groups, and to mobilize subgroups such as professionals and opinion-makers. The position of promotion in the programme should be analysed, to see whether it should be a base-line activity, in other words continuous delivery of information to the whole

population, or should take the form of campaigns, nevertheless accompanying baseline activities at regular intervals. This continuity prevents the rise-and-fall phenomenon that has been associated with high profile campaigning when there is no continuous support for routine activities.

In baseline promotional activities, the factors which must be considered are:

- recruitment of candidates for immunization: the process by which every member of the target population is identified, on a continuous basis;

- pervasiveness of materials: the continuous supply of up-to-date material or information;

- conformity: all promotional material must convey a similar message, and people who give information about immunization must be consistent in their advice and up-to-date with their knowledge;

- hard-copy materials: these can be read more than once by those who receive them and can be passed on to others, which amplifies their effect.

Campaign activities are supplementary to established base-line activities. An effective campaign requires an adequate budget, clear selection of the purpose, selection of the target, selection of the objectives and selection of the media.

Immunization promotion requires adequate resources and it has been suggested that 2% of total EPI costs should be allocated to the communication budget. A multidisciplinary team is required, which should include social scientists/communication experts, market researchers, advertising experts, health education experts, health professionals and media-space buyers.

Research is the cornerstone of effective promotion. It clarifies the need to take promotive action, defines the problem and suitable solutions, develops, evaluates and refines materials, and is then used to evaluate the promotion's impact. Research costs should be included in baseline promotion and campaign costs; as a broad guide 10-15% of programme costs should be allowed. The essential steps in research are concept evaluation, pretesting of materials, tracking studies and evaluation.

Calendar of immunizations

There are almost as many immunization schedules in Europe as there are countries. This lack of conformity has practical implications, as there will be increasing population mobility throughout Europe during the next decade. While it is unlikely that a single proscriptive immunization calendar would be acceptable to all European countries, a model calendar would allow national programme managers to compare their existing schedules with a format endorsed by WHO.

Before making any modifications to existing schedules, managers should take into account the following:

- the epidemiological situation and the quality of surveillance in their country;
- the availability of vaccines;
- the quality and potency of vaccines;
- the delivery systems for vaccines;
- the cost-effectiveness of a schedule change;
- the impact of a schedule change on adverse events.

Antigens recommended in a model calendar would include diphtheria, tetanus, pertussis, polio, measles, mumps and rubella, all considered essential. The calendar must be such that newly developed vaccines such as hepatitis B and Haemophilus influenzae B can be incorporated in an operationally efficient way. Influenza vaccine and pneumococcal vaccine may be used in population-based programmes and should be considered.

Recommendations

1. The Communicable Diseases unit at the Regional Office should offer the USSR the services of a small team who could work with the authorities to investigate the diphtheria outbreak and help prescribe suitable measures.

2. As remaining tetanus cases seem to affect the older population and very few cases are occurring in young children covered by EPI, national managers should prepare data on age-specific tetanus incidence rates for discussion at the Aosta meeting. Strategies to accelerate the reduction in tetanus can only be developed if the target age groups are identified.

3. Countries should undertake a situation analysis of tuberculosis incidence and prevalence on which to base decisions about the continuation of routine BCG immunization programmes. Even if routine immunization is discontinued, BCG will still be needed for individuals at high risk.

4. All countries in the European Region should use the available pertussis vaccine in routine programmes. Since the acellular pertussis vaccine is not yet available for widespread use, DTP vaccine containing whole-cell pertussis should be promoted. There is now sufficient scientific evidence to support the view that the risk of pertussis disease far outweighs the risk of severe adverse reactions to the vaccine.

5. Any recommended pertussis vaccination schedule should include a three-dose primary series of DPT containing whole-cell pertussis vaccine, administered before six months of age and reinforced by a fourth dose given about one year later. The need for and the efficacy of additional booster doses at later ages should be assessed in individual national programmes. Side effects following these booster doses should be evaluated.

6. Coverage with the primary series and one booster dose should be at least 90%. Pertussis should be a reportable disease in all European countries.

7. In poliomyelitis elimination, the most important immediate objective will be to reduce transmission of wild polio viruses in Turkey and the USSR, and to interrupt transmission in Bulgaria, France, Romania and Yugoslavia.

8. Polio surveillance must be improved at local level, with reporting of suspected cases, proper case investigation, specimen collection and monitoring of immunization coverage. Countries should ensure that there is sensitive monitoring of immunization coverage by district, follow-up of suspected cases, and quality control of national surveillance systems.

9. Countries achieving, or close to achieving, poliomyelitis elimination should consider developing techniques for environmental surveillance. However, this is unlikely to be valuable where polio is still endemic, especially in category-C countries.

10. It will be necessary to develop the regional laboratory network, strengthen national training activities and establish criteria for the certification of polio elimination.

11. The Regional Office should provide a team to review the USSR's polio plan with the authorities, focusing on surveillance, coverage, the cold chain, vaccine quality and outbreak-control measures.

12. Social marketing of immunization through promotion and advertising is an excellent way of achieving the goals of EPI managers. The promotion of immunization demands research, the development by professionals of effective materials, targeted implementation to obtain maximum exposure, professional evaluation and adequate funding. A multidisciplinary team should be available to work routinely with EPI programme managers, undertaking both baseline and campaign-type promotional activities.

13. For the national programe managers' meeting in Aosta, a model immunization calendar should be prepared, together with supportive material that describes the individual vaccines and their relationships. This document should not only detail existing routinely recommended vaccines, but should alert managers to new vaccines which may need to be incorporated into national immunization programmes.

Annex 1

LIST OF PARTICIPANTS

Temporary Advisers

Professor Margareta Böttiger
National Bacteriological Laboratory, Department of Epidemiology, Stockholm, Sweden

Professor Sieghart Dittmann
Hatzenporter Weg 19, Berlin, Germany (Chairman)

Dr V. Fedenev
Ministry of Health of the USSR, Moscow, USSR

Dr Johannes F. Hallauer
Referatsleiter, Hygiene und Seuchenhygiene, Bundesministerium für Jugend, Familie, Frauen und Gesundheit, Bonn, Germany

Professor Jerzy Leowsky
Department of Epidemiology, Tuberculosis and Lung Diseases Institute, Warsaw, Poland

Dr G. Manes
Head, Epidemiology Section, Ministry of Health, Welfare and Social Security, Athens, Greece

Dr Ivan Masar
Chief, Department of Epidemiology, Ministry of Health and Social Affairs of the Slovak Republic, Bratislava, Czechoslovakia

Dr M.I. Narkevic
Ministry of Health of the USSR, Moscow, USSR

Professor George Papaevangelou
Professor of Epidemiology and Medical Statistics, Athens School of Hygiene, Athens, Greece

Dr Inge Pedersen
Head, Enterovirus Department, State Serum Institute, Copenhagen, Denmark

Dr Stanislava Petrova Popova
Senior Officer, Ministry of Public Health and Social Welfare, Sofia, Bulgaria

Dr Colette Roure
Conseiller technique, Bureau des maladies transmissibles, Direction générale de la santé, Ministère des affaires sociales et de la solidarité, Paris, France

Dr David M. Salisbury
Senior Medical Officer, Department of Health, London, United Kingdom (Rapporteur)

Dr T. Sapounas
Director, Public Health Division, Ministry of Health, Welfare and Social Security, Athens, Greece (Vice-chairman)

Observer

Dr P. Georgiou-Boufas
Public Health Laboratory, Athens, Greece

World Health Organization

Regional Office for Europe

Dr B.D. Bytchenko
Regional Officer for Communicable Diseases
(Secretary)

Mrs Loreta Colatosti
Programme Assistant, Communicable Diseases Unit

Dr G. Oblapenko
Medical Officer, Plan of Action for Eradication of Poliomyelitis

Headquarters

Dr A. Galazka
Medical Officer, Expanded Programme on Immunization