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European Forum on Immunization: report of Second General Meeting, Munich, 2–3 June 1997

Introduction

The European Forum on Immunization (EFI) was created in October 1995 at the WHO in Geneva as a non-profit organization to promote vaccines and vaccination1. It has a strictly scientific basis and independent status. Its aims are to bring together leading European specialists and groups in order to improve and strengthen immunization practice through the collection and exchange of information and evaluation of existing immunization programmes in Europe. Its second meeting held in Munich in June 1997 reviewed poliomyelitis, measles elimination, side-effects after immunization and contraindications against immunization as well as the position of the European Commission. This report focuses on measles elimination, presented at this second meeting by Colette Roure, the Regional Adviser EPI WHO Regional Office for Europe.

Measles

Progress towards elimination

The global burden of measles is much greater than that of most other infectious diseases: it killed more than one million children in 1994 globally, more child deaths than any other vaccine-preventable disease. Neither the public nor health professionals sufficiently regard measles as a significant disease and both groups often see it only as a disease of children. However, measles is an example of the serious consequences that can result from poorly implemented programmes. If vaccine coverage is inadequate the number of older susceptible people will grow and measles epidemics will recur, especially among adolescents and adults, with a high price in morbidity and mortality.

Previous goals for measles reduction and control have not been met, although the decrease in the number of cases and deaths has been dramatic. Nevertheless, the commitment to elimination has been made and remains. The European Advisory Group of Expanded Programme on Immunization (EAG) has endorsed a strategic plan for regional elimination of measles by the year 2007. Short-term objectives aim at reducing the estimated proportion of susceptible people in the population to the following low levels by the year 2005: (1) 15% of 1–4 year-olds, (2) 10% of the 5–9 year age group and (3) 5% in both the 10–14 year age group and adults.

Coverage of > 95% for both doses of vaccine should thereafter been maintained for a sufficient period of time. Elimination of measles will depend on all countries reaching these goals.

Strategy

The strategy adopted to meet these goals comprises the following elements:

1. The establishment of the political commitment to measles elimination (including continued surveillance)

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1Its partners include the Confederation of European Specialists in Paediatrics, the European Society for Paediatric Infectious Diseases, the European Public Health Association, European Vaccine Manufacturers, the International Green Cross and the Communicable Diseases and Immunisation Programme of the World Health Organization’s European Regional Office. The EFI at present focuses on the Member States of the European Union together with Switzerland and Norway. Chairman: Prof. U. Schaad, University Children’s Hospital, Römergasse 8, CH-4005 Basel, Switzerland Tel.: +41-61-691 26 26, Fax: +41-61-685 60 01

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2. The development of a plan that is based on local epidemiological data
3. The attainment and maintenance of high vaccine coverage rates
4. The strengthening of surveillance
5. The estimation of the age-specific proportions of the population susceptible to measles
6. The choice of appropriate strategies to accelerate measles control and to maintain the measles-free state.

Political commitment

Raising support for measles elimination campaigns will be greatly helped by cost-benefit analyses and an understanding of the burden of disease. Health economists at the University of Antwerp in collaboration with epidemiologists have modelled ten different scenarios for a hypothetical western European country, with various past and future coverage rates and different strategies. The results clearly show that raising the coverage of measles vaccination to the levels needed for elimination is a cost-effective use of health resources, especially if epidemics are prevented. Some strategies would even result in net savings to the health payer.

Measles elimination plan

Only with good local data on the epidemiology of measles, including prospective local morbidity studies, and on the immune status of the population can each country develop a sound plan for elimination, identifying the surveillance needs and potential strategies. The plan should also be based on the results of health-economic studies, which show the advantage of high coverage (>95%) with the first dose of measles vaccine before introduction of a second dose. This latter step of introducing a second dose could be prepared by a mass campaign to protect susceptible people in older age groups. Experiences gained with two-dose programmes that achieve very high coverage with both the first and second dose have also demonstrated the usefulness of such strategies (without country-wide mass immunization campaigns). Countries will need to identify the reason for poor coverage rates and the steps necessary to improve them before adapting immunization plans to local circumstances.

Use of the combined MMR vaccine would obviously be a public health advantage but in some parts of the WHO European Region such as the Newly Independent States and especially the Central Asian Republics vaccine delivery is a problem. UNICEF does not yet support the supply of MMR vaccines.

Surveillance

Surveillance is vital and must be strengthened. Six main activities are necessary:
1. The monitoring of vaccine coverage with age-specific data for both first and second doses
2. National reporting of suspected cases
3. The use of a standardized case definition
4. Establishment of laboratory resources
5. Monitoring of laboratory testing (the rate of testing and the proportion of cases confirmed), and
6. Regular feedback and analysis of data.

Age-specific immunity

Each country needs to determine the age-specific proportion of the population susceptible to measles. Two-dose immunization campaigns, with targets of >95% coverage, will be needed for all school-age children. Coverage of <90% will not prevent the accumulation of susceptible people but will lengthen the time between epidemics.

Categorization of countries

Countries in the Region can be divided into three groups according to the current progress they have made towards measles elimination and control (Table 1). Those countries close to elimination of measles (Group 1) are the Czech and Slovak Republics and Finland, although the Slovak Republic had an outbreak in May 1997 with more than 300 cases. Hungary is very close to this stage of measles elimination. Group 2 countries, with good control but the potential for outbreaks, include Belarus, Sweden and the UK, with Croatia, Norway and Slovenia near to joining. Group 3 countries have poor control.

<table>
<thead>
<tr>
<th>Group</th>
<th>National reporting of suspected cases</th>
<th>Laboratory confirmation</th>
<th>Coverage (first dose)</th>
<th>Coverage (second dose)</th>
<th>Inter-epidemic period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>Sensitive</td>
<td>95% (for 5 years)</td>
<td>95%</td>
<td>&gt;5 years</td>
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<tr>
<td>2</td>
<td>Yes</td>
<td>of &lt;50% of suspected cases</td>
<td>90% (for 5 years)</td>
<td>–</td>
<td>&gt;5 years or stable incidence</td>
</tr>
<tr>
<td>3</td>
<td>No</td>
<td>No</td>
<td>&lt;90%</td>
<td>–</td>
<td>&lt;5 years</td>
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