

Global immunization strategy

Report by the Secretariat

1. Vaccine-preventable diseases are responsible for about 25% of the 10 million deaths occurring annually among children under five years of age. With the availability of new vaccines, such as those against rotavirus and pneumococcal diseases, a much larger proportion of children can now be protected against a broader range of infectious diseases. Further improvements in coverage with vaccines currently used by most national immunization programmes, including measles, tetanus, pertussis and *Haemophilus influenzae* type b vaccines, are also averting deaths. Thus, vaccines help to reduce infant mortality significantly and are contributing to the achievement of the target in United Nations Millennium Development Goal 4 for reducing the under-five mortality rate.

2. In resolution WHA58.15, the Fifty-eighth World Health Assembly, recognizing the role that vaccines and immunization can play in reducing under-five mortality, welcomed the Global Immunization Vision and Strategy 2006–2015 developed by WHO and UNICEF as a framework for strengthening national immunization programmes. This report summarizes efforts by Member States to increase immunization coverage and to extend the benefits of immunization with new vaccines to an increasing number of children.

SUCCESS OF MEASLES MORTALITY REDUCTION EFFORTS

3. In resolution WHA56.20, the Health Assembly urged full implementation of the WHO–UNICEF strategic plan for measles mortality reduction 2001–2005, and, at the end of 2005, the major public health goal of reducing global measles mortality by 50% compared with the 1999 level had been surpassed, with a reduction of 60%. In resolution WHA58.15, the Health Assembly welcomed the Global Immunization Vision and Strategy, one of whose goals is to reduce global measles deaths by 90% by 2010 (or earlier) compared with 2000.¹ Between 2000 and 2006, global mortality due to measles was reduced by 68% from an estimated 757 000 deaths in 2000 to 242 000 in 2006. The largest percentage reduction in estimated measles mortality during this period occurred in the African Region (91%), accounting for 70% of the global reduction in measles mortality. In 2006, global routine coverage with measles vaccine reached 80% for the first time, increasing from 72% in 2000.

4. These public health accomplishments helped to prevent nearly 9.2 million measles deaths between 2000 and 2006, with accelerated immunization activities accounting for 2.8 million of the deaths averted. They were made possible by the concentrated focus of immunization partners on the most effective strategies to control measles rapidly and on regions with the highest numbers of

¹ Document WHA58/2005/REC/1, Annex.

measles deaths. The sharp decline in measles deaths is the direct result of (a) the commitment and dedication of Member States severely affected by measles to provide better access to routine childhood immunization; (b) Member States' measles vaccination activities in which more than 478 million children aged nine months to 15 years were vaccinated against measles between 2000 and 2006 in 47 high-priority countries; (c) technical and financial support provided through the Measles Initiative, a partnership formed in 2001 and spearheaded by WHO, UNICEF, the American Red Cross, the Centers for Disease Control and Prevention (Atlanta, Georgia, United States of America), and the United Nations Foundation; and (d) intensified surveillance of suspected measles cases with laboratory confirmation.

IMPORTANT PROGRESS WITH ROUTINE IMMUNIZATION

5. Less striking than the measles success, but equally important, have been improvements in routine immunization coverage since 1999. These have been most marked in lowest-income countries, and particularly in sub-Saharan Africa; other regions, apart from South-East Asia, have continued to sustain high levels of immunization coverage. In 2006, a record 102 million children under one year of age were vaccinated worldwide with three doses of diphtheria, tetanus and pertussis vaccine, and the number of unvaccinated children decreased to 26.3 million compared with 28.1 million in 2005. Elements that have contributed to this achievement include national multi-year planning, district-level planning and monitoring, and the establishment of national budget lines, funded with domestic and external resources, including those provided by the GAVI Alliance for immunization services strengthening. As a result, routine immunization coverage, seemingly in stagnation since the early 1990s, now shows an encouraging rising trend, particularly in sub-Saharan Africa.

6. The district planning and monitoring approach promoted by WHO is based on five key strategies that were initially repackaged in western Africa into a single strategy, which has since rapidly gained acceptance globally as the "reaching every district" strategy. As an example, with this strategy, vaccination coverage of children in Ethiopia with a third dose of diphtheria, tetanus and pertussis vaccine improved in 14 of the worst-performing districts, from an average of 35% in 2002 to 71% in 2005.

7. The strategy of child health days, led by UNICEF, has also helped to promote routine immunization. Consistent with the emphasis of the Global Immunization Vision and Strategy on linking immunization with other health interventions, child health days are regular events designed to deliver an integrated package of preventive services such as immunization, vitamin A supplementation, deworming, growth monitoring and distribution of insecticide-treated bednets. They have become routine in many African countries, have achieved high coverage and have been shown to reduce inequalities in access to basic health services. Child health days are usually conducted twice a year and the integrated package that they offer is defined according to epidemiological needs and local circumstances. Preliminary analysis of experience so far in Ethiopia, Uganda and the United Republic of Tanzania shows that child health days have helped to deliver multiple interventions effectively (including immunization), to improve routine immunization coverage, and to reduce operational costs per child reached.

8. Vaccination weeks to promote immunization coverage using new and existing vaccines are regularly organized in the Region of the Americas and the European Region. Endorsed by all Member States in the Region of the Americas in 2003, vaccination weeks have already reached more than 147 million children and adults in that Region, especially in difficult-to-reach populations, isolated communities and towns with low immunization coverage. During the second European Immunization

Week in April 2007, 25 Member States in the European Region were involved, underlining the importance of immunization through workshops, debates, training courses, exhibitions and media events. In northern India, vaccination weeks are held regularly for raising immunization coverage levels.

NEW AND UNDERUSED VACCINES

9. The introduction of new and underused vaccines continued to make progress. By the end of 2006, 164 Member States had introduced hepatitis B vaccine into their routine infant immunization programme, and global coverage with three doses of hepatitis B vaccine had reached 60%. Similarly, the *Haemophilus influenzae* type b vaccine is now in routine use in 108 Member States, and global immunization coverage is increasing. These developments are accompanied by Member States' increasing uptake of newly licensed vaccines against rotavirus diarrhoea and human papillomavirus infection and of the pneumococcal conjugate vaccine. The fast progress in introducing new vaccines has been facilitated by Member States' growing recognition of the value of the protection conferred by vaccines and immunization. Such progress has also been made possible by the establishment of global financing mechanisms, including the GAVI Alliance, and the important role played by regional procurement mechanisms, for example the Revolving Fund for Vaccine Procurement in the Region of the Americas.

10. More vaccines will soon become available on a large scale for use, among others, against meningococcal diseases, Japanese encephalitis and typhoid. In addition, governments, multilateral agencies, foundations, and research institutions, among others, have substantially increased their investment in the development of new vaccines. As a result, various new vaccines are likely to be available for introduction in the next 10 years. These include, in particular, vaccines against dengue, tuberculosis and malaria. However, countries increasingly have to decide which of these life-saving tools they should finance and use on a routine basis.

FURTHER EFFORTS REQUIRED

11. In spite of progress, much remains to be done if the full potential of immunization is to be exploited in achieving Millennium Development Goal 4.

12. Measles remains a leading cause of death among young children. In 2006, there were an estimated 242 000 measles deaths globally. This figure can be reduced if the strong political commitment seen since the beginning of the decade is sustained. In addition, diseases for which vaccines have recently become available represent a high burden. About 1.1 million deaths of children under the age of five could be prevented through immunization with new vaccines against pneumococcal disease and rotavirus diarrhoea. Vaccines against human papillomavirus infection could prevent nearly 250 000 annual deaths of women from cervical cancer.

13. According to WHO/UNICEF estimates, more than 26.1 million young children did not receive the first scheduled dose of measles vaccine through routine immunization services in 2006. Intensified efforts to ensure that at least 90% of infants receive this dose before their first birthday would save many additional lives. In addition, countries such as India and Pakistan, with large populations and high measles mortality, should be supported in their efforts to reduce measles mortality. Indeed, some financial resources have already been pledged towards these two countries' efforts: in addition to increased resource allocation for immunization by Member States, US\$ 147 million has been raised

through the International Finance Facility for Immunisation and an additional US\$ 100 million has been pledged by Measles Initiative partners.

14. With regard to routine immunization, large variations in coverage among regions and countries are still seen, and many children are yet to benefit from potentially life-saving vaccines, particularly in South Asia and sub-Saharan Africa. Globally, some 26.3 million infants did not receive three doses of diphtheria, tetanus and pertussis vaccine in 2006.

15. Efforts must focus on further increasing routine access to immunization services through the broad array of strategies that have proved themselves successful, such as the reaching every district strategy, child health days and immunization weeks.

16. As for the introduction of new or underused vaccines, whereas much progress has been made with the routine use of hepatitis B vaccine, this has taken 15 years since the Forty-fifth World Health Assembly recommended its universal use in 1992 (resolution WHA45.17). A similar time lag is unfortunately now being experienced with *Haemophilus influenzae* type b vaccine, for which global coverage remains low at 22%.

17. The need for accelerated introduction of new vaccines in all high-burden countries must be matched by adequate financial support, including support for countries with low-middle and middle incomes. Such countries are not eligible for funding from the GAVI Alliance and support for them has heretofore been insufficient or lacking.

18. More tools and research are therefore required to support Member States in their decision-making processes, especially the generation of an evidence base through detailed analysis of the impact, in terms of cost benefits and public health, of these new vaccines.

19. It is also crucial that the growing demand for new vaccines should be matched with a greater number of manufacturers (including those in developing countries) of products that have been prequalified by WHO, thus laying the foundation for a healthy market and a reliable supply of affordable products of assured quality.

20. Safe vaccines are essential, if public trust in immunization is to be maintained. The Secretariat works with Member States to strengthen the capacity of national regulatory authorities to perform routine post-marketing surveillance for vaccine safety. Continuous efforts are required to strengthen this capacity further in all Member States and to ensure prompt exchange of information about, investigation of and rapid response to adverse events following vaccination.

21. To meet the above challenges and reach the immunization objectives already expressed in the United Nations General Assembly special session on children (2002) and further enunciated in the Global Immunization Vision and Strategy, strong disease surveillance and programme monitoring systems are required. WHO and its partners have developed a global framework for vaccine-preventable disease surveillance and immunization programme monitoring. This framework combines the use of countrywide active surveillance, passive aggregate disease reporting, sentinel site surveillance, and prospective, time-limited projects to generate the comprehensive epidemiological data required to guide immunization programmes. It also outlines strategies such as ongoing monitoring of vaccine management and vaccine safety, as well as cross-sectional programme reviews to assess the state of programmes at the district and health facility levels.

22. As has been demonstrated by the global poliomyelitis eradication initiative, efficient surveillance systems can be established, even in resource-poor settings, at quite low cost relative to the cost of the intervention itself. The poliomyelitis surveillance network provides a structure for rapidly detecting and responding to diseases of national and international importance. Where appropriate, this network should serve as the platform both for an integrated disease surveillance system that provides epidemiological data on other communicable diseases, and for detection and response to emerging infectious disease threats. Funding for disease surveillance is usually disease specific and time limited. In the presence of weak national systems, parallel systems tend to be established in order to generate data suited to the needs of specific programmes. These uncoordinated efforts may address short-term needs, but are unsustainable in the long term. The global framework provides an opportunity for immunization partners to coordinate their efforts to secure sustainable funding for surveillance and programme monitoring.

REAPING THE FULL BENEFITS OF VACCINES AND IMMUNIZATION

23. The basis of the remarkable progress of the past few years, as described above, includes research and development efforts for new vaccines, a reliable supply of more affordable vaccines of assured quality, and the mobilization of substantial new resources through partnerships and innovative mechanisms such as the International Finance Facility for Immunisation and the advance market commitment established through the GAVI Alliance for a pneumococcal conjugate vaccine.

24. The achievements outlined in this report demonstrate that safe and effective health technologies exist, efficient strategies are well known, and resources can be mobilized to support the vision that vaccines and immunization should be allowed to contribute their full potential to the reduction of under-five mortality.

25. Members of the Executive Board, at its 122nd session in January 2008, noted successes achieved through immunization, areas requiring further progress, and challenges,¹ and adopted resolution EB122.R7.

ACTION BY THE HEALTH ASSEMBLY

26. The Health Assembly is invited to consider the draft resolution contained in EB122.R7.

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¹ See document EB122/2008/REC/2, summary records of the sixth and seventh meetings.