Reducing measles mortality, reducing child mortality

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Global efforts to expand the use of the measles vaccine over the past 5 years has resulted in the greatest measurable reduction in under-5 mortality from measles, with annual deaths reduced by 48%, to 454 000 (range 329 000–596 000) in 2004 from 871 000 (633 000–1 139 000) in 1999.[1] This reduction also makes a small but quantifiable contribution towards Millennium Development Goal 4 (MDG-4): the reduction of under-5 mortality by two-thirds by 2015.

To achieve MDG-4, the international community and governments will have to reach more children with existing and new life-saving interventions. In the first 5 years of efforts to reach the goal of MDG-4, measurable results in reducing under-5 child mortality have been achieved mostly by expanding existing capabilities.

The history of the expanded use of measles vaccine to reduce under-5 mortality provides lessons on how to effectively expand the reach and increase the effect of currently available interventions. Key factors have been: a clear and achievable goal; a proven technology and strategy; regular and comprehensive coordination and cooperation among the main actors; and documentation and dissemination of results to ensure quality of measles immunisation campaigns and sustained financing.

The renewed resolve and effort to realise the full potential of the measles vaccine predates the MDGs. The Pan American Health Organization showed what could be achieved on an international scale when in 1994 it resolved to eliminate indigenous measles from the Americas by 2000 through the expanded use of measles vaccine.[2] Since November, 2002, there has not been endemic measles in the Americas.[3]

In 2000, the American Red Cross, Centers for Disease Control and Prevention (USA), UNICEF, the UN Foundation, WHO, the Canadian International Development Agency, and others discussed how the success in eliminating measles in the Americas might be duplicated in the rest of the world.[4] The initial financial and theoretical obstacles were formidable—measles most severely affects children in the poorest communities of countries with the least financial and human resources, and widespread skepticism commonly dictates that poverty-stricken countries would be unable to duplicate what had worked in the Americas. To overcome these obstacles and harness much needed support, it was necessary to articulate an ambitious yet achievable goal, successfully coordinate key players, show proof of concept by successful implementation in selected countries, and document and disseminate successes to ensure quality and sufficient funding.

At the beginning of 2001, in consultation with partners, WHO and UNICEF, released their report.[5] Their strategic plan, which was derived from the Pan American Health Organization strategy, put forward two primary goals: reduce annual measles mortality by half by 2005 from the 1999 baseline, and achieve and maintain measles elimination in countries and regions with an elimination goal (panel). 45 countries (34 in Africa) accounting for 94% of the global measles deaths in 1999, were targeted.

In February, 2001, the Measles Initiative for Africa was established with American Red Cross, Centers for Disease Control and Prevention (USA), UN Foundation, UNICEF, and WHO as key founding members.[4] To reduce deaths from measles, the Initiative was dedicated to funding and facilitating national measles campaigns across wide age-ranges (so-called catch-up campaigns) in the 34 target countries in Africa. In May, 2002, the UN General Assembly Special Session on Children adopted the measles mortality reduction goal and in May, 2003, the World Health Assembly endorsed Resolution WHO56·20 calling for all member states to achieve the goal.

To ensure successful implementation of the campaigns, the Initiative began weekly conference calls open to all partners and governments. These calls promoted timely and open exchange of information and enhanced cooperation and coordination of multiagency efforts. Other new mechanisms to ensure successful

***Panel:* WHO/UNCCEF strategic plan for measles[5]**

1. Provide first dose of measles vaccine to all children in successive birth cohorts
2. Provide second opportunity for measles vaccination to all children, usually through nationwide campaign targeting multiple birth cohorts
3. Implement case-based surveillance with laboratory confirmation
4. Provide optimum care of infected children, including vitamin A

implementation included a thorough review of national plans and preparations by WHO before full funding release and exclusive purchase and use of autodisabled syringes and safety boxes to improve injection safety.

In 2001, the Initiative provided funds for measles campaigns in eight countries (Benin, Burkina Faso, Cameroon, Ghana, Mali, Tanzania, Togo, and Uganda). These campaigns safely achieved over 90% coverage of the target population. Since 2001, an annual advocacy meeting has been convened each February at the American Red Cross in Washington to disseminate successes, advocate for more support, and finalise plans for the next year. The success of the campaigns and the advocacy efforts have resulted in an increased number of donors giving more funds. Annual donations increased from US$3 million in 1999 to $75 million in 2005.

The efforts in the African countries have been a resounding success, with campaign activities completed or started in all 34 target countries, resulting in about 248 million children receiving a dose of measles vaccine through a campaign. By the end of 2004, in sub-Saharan African countries, measles deaths had been reduced by 59%, to 216 000 (range 160 000–279 000) from 530 000 (387 000–689 000), and routine first-dose coverage increased to 65% from 49%.[1] Surveillance data in 19 African countries shows a 92% reduction in reported cases after implementation of the recommended strategies for measles mortality reduction.[6]

After this success and in response to emergencies such as the tsunami in December, 2004, and the earthquake in Pakistan and India in October, 2005, the partners have expanded their efforts to work together in the remaining priority countries. When WHO releases official 2005 data in the third quarter of 2006, it will be confirmed that the 2005 goal of a 50% reduction in measles deaths has been achieved.

Over the next 5 years, the goal is to implement the strategies in all countries so that measles deaths are reduced by 90% by 2010 compared with 2000. In 2006, the WHO/UNICEF joint statement[7] was released, officially confirming this as policy.

To realise the goal of MDG-4, it is not enough to decrease measles deaths. A 90% reduction in measles mortality over 10 years will only contribute a fraction of what is needed to achieve MDG-4. The success of measles mortality reduction can, however, be used as a platform for the delivery of other life-saving interventions and as a model for organisation and management of other health interventions. The concept of using efforts to reduce measles mortality as a platform for delivery of other life-saving interventions was shown in Togo. The national measles and malaria campaign in Togo in December, 2004, involved the distribution of long-lasting insecticide-treated bednets, and led to an increase in the use of bednets by women and children to 43·5%,[8] from less than 5% in 2000.[9] Current efforts to make distribution of bednets during measles campaigns the new standard in malaria-endemic areas will go a long way to reaching the original Abuja goal[10] of 60% of children and pregnant women sleeping under a bednet, and substantially contribute to MDG-4.

It is hoped that by detailing this effort, other public-health programmes to reduce child deaths can incorporate the positive lessons—a clear and achievable goal, a proven technology and strategy, regular and comprehensive coordination and cooperation among the main actors, and documentation and dissemination of results to ensure financing—to scale-up their programmes and increase their effectiveness and effect on child mortality.

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