

Vaccines & Immunizations – The Growing Need

Despite the overall success of immunization programs, almost 11 million children under the age of five die each year¹ and an estimated 30 to 40 million children in the developing world still remain uncovered by routine immunizations².

However, it has been shown that increased access to immunizations can prevent millions of deaths each year and reduce the risk of illness caused by infectious disease, according to the “The State of the World’s Vaccines and Immunization” report produced and released by the World Health Organization (WHO), UNICEF and the World Bank in November 2002¹.

Africa – Carrying the Burden of Vaccine-Preventable Disease

The continent of Africa bears the highest per capita burden of vaccine preventable disease in the world and has the highest concentration of the world’s poorest nations^{3,4}. According to the WHO, 50 percent of children in sub-Saharan Africa do not receive immunizations during their first year of life⁵. In fact, during the 1990s, while many developing countries saw immunization rates increase substantially, immunization rates in sub-Saharan Africa fell dramatically, leaving millions of children vulnerable to life-threatening diseases⁶.

- In sub-Saharan Africa, immunization rates peaked in 1990 at 55 percent and remained steady throughout the decade. By 2000, only 53 percent of children in this region were immunized with DTP⁷, the vaccine that protects against diphtheria, tetanus and pertussis (whooping cough)⁷.
- In addition, in sub-Saharan Africa, deaths among children under the age of five almost doubled over the past four decades – from 2.3 to 4.5 million per year⁸.
- In Nigeria, the most populous country in Africa, less than one in four children were vaccinated, yet only a decade earlier, more than twice as many children had been immunized. Similar declines were reported in Central African Republic (from 82 percent in 1990 to 29 percent in 2000) and in Congo (from 79 percent to 33 percent for the same 10 year period)⁹.

Partnering to Reduce the Burden of Vaccine-Preventable Disease

The Global Alliance for Vaccines and Immunizations (GAVI) was launched in January 2000 to help increase children’s access to vaccines in the world’s poorest countries. The unique public-private partnership, through its funding mechanism The Vaccine Fund, has provided aid to many of the world’s poorest nations¹⁰, improving vaccination services, and helping to provide hundreds of thousands of children with many essential vaccines. Yet, despite GAVI’s efforts, 25 percent of the world’s children continue to grow up without life-saving immunizations¹¹.

Poorly functioning health service delivery systems to deliver and monitor immunizations has been cited as one of the biggest challenges to setting up immunizations programs in developing nations⁶. According to the “State of the World’s Vaccines and Immunizations”

report⁶, some of the more significant obstacles that continue to hamper the development of this critical infrastructure include:

- Inability or lack of commitment at the national and regional levels to fund comprehensive immunization programs^{5,6}
- Lack of, or poorly functioning health service delivery systems⁶
- Absence of, or poorly-trained immunization managers⁶
- Absence of, or poorly-designed immunization management systems (storage, distribution, tracking/follow-up)⁶
- Lack of effective disease surveillance and reporting systems⁶

The Economic Implications of Vaccines & Immunizations

In the U.S., decades of nearly universal immunization against diseases such as diphtheria, measles and polio has resulted in a marked decrease in the sickness and death associated with vaccine-preventable disease¹². GAVI believes that providing such critical immunizations in developing nations offers the potential to save approximately 2 million additional lives per year, reducing the global under-5 mortality rate by 20 percent¹³. According to the organization, even relatively modest spending on immunization can increase life expectancy, bringing significant health gains and high returns that benefit both households and national economies^{14,15}. In fact, the World Bank has cited that child immunization is one of the most cost-effective health interventions available¹⁶.

- In addition, a WHO study¹⁴ has shown that life expectancy is a powerful predictor of income level and economic growth. An analysis of data for 53 countries between 1965 and 1990 found that overall, the improvement in adult survival rates was responsible for about 8 percent of total economic growth¹⁴.

Joining Forces to Meet the Immunization Challenge

GAVI and others believe investments in helping nations develop strong, sustainable systems to deliver and monitor immunizations are essential to improving health in developing regions. To date, GAVI has designated USD 900 million in Vaccine Fund disbursements to over 61 of the world's poorest countries¹⁰. Yet, according to GAVI, infrastructure in many of the developing nations is much more dilapidated than anticipated and the need for help from others will be critical in order to find sustainable solutions to the greater-than-expected deficiencies in the infrastructure of the world's poorest nations¹⁶.

As a GAVI partner, Merck is addressing this immunization challenge through the formation of The Merck Vaccine Network - Africa.

Through funding from The Merck Company Foundation, Merck Vaccine Network - Africa will support the development of in-country training in vaccine management and immunization services to help increase access to vaccines in GAVI-supported African countries.

Sustainable vaccine training centers will be established in Africa through this program. Centers will provide training in vaccine management and immunization services for mid- to senior-level immunization program managers based on curriculum and educational training source materials developed by the World Health Organization and other GAVI partners. Merck Vaccine Network - Africa will work with program grantees to ensure program relevance, sustainability, and eventually, integration with other GAVI as well as local and regional immunization initiatives.

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- ¹ World Health Organization. 2002 State of the World's Vaccines and Immunizations Report. November 2002, pg. 2
 - ² The Global Alliance for Vaccines and Immunizations Web Site. "New Models for Vaccines Delivery: An Interview with Tore Godal." Data from the World Health Organization (WHO), the Global Alliance for Vaccines and Immunizations (GAVI) and the Measles Initiative, pg. 2
 - ³ UNICEF. The State of the World's Children 2001 Report. Table 3: Health, pg. 2
 - ⁴ UNICEF. The State of the World's Children 2001 Report. Table 8: The Rate of Progress, pg. 2
 - ⁵ World Health Organization. 2002 State of the World's Vaccines and Immunizations Report. November 2002, pg. ix
 - ⁶ World Health Organization. 2002 State of the World's Vaccines and Immunizations Report. November 2002, pg. x
 - ⁷ World Health Organization. 2002 State of the World's Vaccines and Immunizations Report. November 2002, pg. 2 & 3
 - ⁸ World Health Organization. 2002 State of the World's Vaccines and Immunizations Report. November 2002, pg. 5
 - ⁹ World Health Organization. 2002 State of the World's Vaccines and Immunizations Report. November 2002, pg. 3
 - ¹⁰ The Global Alliance for Vaccines and Immunizations. 2002 Progress Report, pg. 1
 - ¹¹ World Health Organization. 2002 State of the World's Vaccines and Immunizations Report. November 2002, pg. vii
 - ¹² CDC National Immunization Program Web Site. Parent's Guide to Childhood Immunization Introduction, pg. 1 & 4
 - ¹³ The Global Alliance for Vaccines and Immunizations. Achieving Our Immunization Goal Executive Summary. April 2003, pg. 3
 - ¹⁴ The Global Alliance for Vaccines and Immunizations Web Site. Health, Immunization , and Economic Growth, Research Briefing 1, pg. 1
 - ¹⁵ The Global Alliance for Vaccines and Immunizations Web Site. Health, Immunization , and Economic Growth, Research Briefing 2, pg. 1
 - ¹⁶ The Global Alliance for Vaccines and Immunizations Web Site. "New Models for Vaccines Delivery: An Interview with Tore Godal." pg. 4

November, 2003

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