



Developing Vaccines for the Poor : The IVI Experience

Cecil Czerkinsky
International Vaccine Institute

Immunization has long been recognized as one of the most impactful and cost-effective tools for preventing death and disability in developing countries. Nevertheless, there is still an unacceptable toll of deaths due to diseases that could be prevented by vaccines. In January, 2010 Bill Gates designated the current decade as the “Decade of Vaccines”, to which the Bill and Melinda Gates Foundation will contribute \$10 billion to develop and deliver vaccines for the world’s poorest children with the goal of saving more than 8 million lives by 2020.

While adequate funding to purchase vaccines and more robust health systems to deliver the vaccines will be critical to achieving the goals of the Decade of Vaccines, scientific innovation in research will be needed to generate new and improved vaccines of value to developing countries. And innovative approaches to research will be required to provide the diverse clinical, epidemiological, economic, and sociobehavioral evidence necessary for expeditious but rational introduction of new vaccines into developing countries. To be most effective, these two forms of innovative research need to be coordinated and synchronized.

A vaccine innovation paradigm, designated to achieve this coordination and synchronization, has been pioneered by the International Vaccine Institute (IVI), an international organization established under international treaty, hosted the Republic of Korea and devoted to developing and introducing new vaccines for the world’s poorest countries.

The IVI’s paradigm, termed *bench to field*, recognizes the full range of activities necessary to achieve adoption of new vaccines by those who need them the most in

a timely and appropriate manner. This new paradigm incorporates not just product development but also a wide range of studies to better define the magnitude and distribution of specific diseases in communities and early testing of new products in ‘real-world’, resource-poor situations. Critical to the paradigm is early consultation and collaboration with policymakers, health professionals, and communities to identify and generate the information, including cost-effectiveness. Also critical is a tight programmatic linkage between the more upstream activities of vaccine discovery and development and the more downstream activities of research to generate evidence for policy, to ensure that the needs and realities of product introduction and uptake are built into the vaccine development process in order to achieve success and impact quickly. A final element of great importance is an emphasis on training and capacity-building of vaccine professionals in developing countries.

The bench to field paradigm is applicable to many vaccine development efforts for the developing world and can help to contribute to the innovation that will be needed to realize the aspirations of the current Decade of Vaccines.