The Global Health Activities of

CDC'S NATIONAL IMMUNIZATION PROGRAM (NIP)

The National Immunization Program (NIP) provides national leadership to reduce disability and death resulting from diseases that can be prevented through vaccination and supports global efforts dedicated to the same goal. NIP's global partnerships include scientific and programmatic involvement in the global efforts to eradicate polio, eliminate measles, and control other vaccine-preventable diseases. In addition, NIP coordinates advocacy efforts with global partners; conducts research, monitoring, and evaluation projects; and provides technical assistance to other countries and global agencies and funding for vaccines. NIP is the lead CIO within CDC coordinating CDC's involvement in the Global Alliance for Vaccines and Immunization (GAVI), an alliance of all major immunization partners whose mission is to improve routine immunization globally, expand the use of available vaccines, accelerate development of new vaccines for developing countries, and make immunization coverage an integral part of design and assessment of health systems.

NIP's key global partners include the World Health Organization (WHO), the United Nations Children's Fund (UNICEF), the Pan American Health Organization (PAHO), the U.S. Agency for International Development (USAID), Rotary International, the International Federation of Red Cross/Red Crescent Societies (IFRC), American Red Cross, World Bank, UN Foundation, Gates Children's Vaccine Program, and other international agencies.

Examples of how NIP contributes to CDC's global health objectives in each of five strategic areas are provided below.

Public Health Surveillance and Response

NIP's efforts to strengthen global surveillance systems for all vaccine-preventable diseases have involved more than 100 countries through both short-term consultations and longer-term technical assistance. The program's surveillance support has emphasized polio, measles, and rubella. For example, the success of polio eradication efforts depends on an effective surveillance system capable of detecting acute flaccid paralysis cases even in the absence of wild poliovirus. Thousands of health staff all over the world are involved in both facility- and community-based surveillance so that no case of polio goes undetected. Along with its partners in WHO, NIP has trained surveillance medical officers, developed new tools, and assisted with the implementation, evaluation, and improvement of surveillance systems. These efforts have yielded not only steady progress toward the goal of polio eradication, but also surveillance systems capable of monitoring other diseases (such as mortality rates for measles, rubella, neonatal tetanus, and meningitis) and trends in adverse events following vaccination.

Public Health Infrastructure and Capacity-Building

NIP is working with a number of countries to build and maintain strong immunization delivery systems, primarily for polio eradication and measles elimination/control. In these programs, surveillance and capacity-building go hand-in-hand as national medical officers and volunteers receive training and support in order to effectively prevent diseases. By improving these systems and building the appropriate infrastructure, staffing, and systems, countries are expanding their surveillance systems to include other diseases (such as tetanus), making these systems more efficient in the process. In addition, NIP participates in GAVI by providing technical support to partners and countries to introduce new vaccines and improve routine immunization coverage in the poorest countries.

Disease and Injury Prevention and Control

NIP has been involved in projects with other countries to eradicate polio, eliminate measles, and control Hib disease, rubella and congenital rubella syndrome, hepatitis B, and other vaccine preventable diseases. All projects are in collaboration with the affected countries and various international partners, such as WHO, UNICEF, Rotary International, IFRC, and other donor countries. NIP supports these disease prevention efforts through technical assistance (including secondment of staff, short-term consultants, and cooperative agreements), research collaboration, vaccine funding, and laboratory support. During the past 2 years, assignments by over 300 NIP epidemiologists, programmatic and technical consultants, and technical officers have helped host country officials organize National Immunization Days and other supplemental vaccination activities.

Polio eradication is now the largest of these disease control efforts. In addition to the numerous technical assistance efforts undertaken during the last 2 years, CDC (through UNICEF) supplied over 1.1 billion doses of polio vaccine to campaigns working to stop the transmission of polio. These efforts have contributed to recent progress, including the fact that over 190 countries have successfully eradicated polio. The number of reported polio cases has decreased by 99% since 1988, when the World Health Assembly expanded polio eradication efforts beyond the Americas. Now, efforts will focus on approximately 20 countries in Africa and Asia in which wild poliovirus transmission continues or has recently occurred.

Applied Research for Effective Health Policies

NIP conducted research in collaboration with a number of countries on congenital rubella syndrome, Hib, measles, pertussis, and polio. Findings from these studies are being used to develop and evaluate effective interventions. For example, measles elimination programs face the logistical challenge of administering vaccines by injecting large numbers of children in supplementary vaccination programs. Scientists are exploring how this can be done most effectively, including research into innovative alternatives, such as aerosol vaccine delivery methods. In addition, some countries have sought help from NIP staff in evaluating the impact of Hib vaccine and hepatitis B vaccine, which are not commonly available in developing countries.

Exchange of Information and Lessons Learned

NIP disseminates relevant findings from research or field experience as quickly as possible, so that public health officials and other scientists can act on the information. Up-to-date information and resources are posted on NIP's website and links are provided to a number of other related sites. NIP participates with WHO in a quarterly newsletter on polio eradication that highlights key issues, successes, and challenges. NIP's Deputy Director is co-chair of the Immunization Working Group for the U.S.-Mexico Binational Commission and another NIP epidemiologist serves on the Commission's Aging Workgroup, providing technical assistance regarding adult immunization issues. Program staff also have developed with Spanish colleagues a Spanish translation of *The Epidemiology and Prevention of Vaccine-Preventable Diseases*, which will be useful not only in Spanish-speaking countries but in the United States as well. NIP staff coordinate CDC's participation on the GAVI Board, and disseminate key GAVI information to other technical agencies that support global immunization.

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