UNICEF is strongly committed both to the continued success of the Expanded Programme on Immunization and to the Children’s Vaccine Initiative, with its goal of creating new, improved and affordable vaccines for the developing world.

A child is born in a remote village, miles away from the nearest health facility, somewhere in Africa or Asia. This infant, like the other 140 million born this year, is highly vulnerable to a series of infectious diseases, yet these can be prevented by the miracle of vaccines.

First comes the risk of acquiring neonatal tetanus at birth, but the child can be protected against this by immunizing the mother before the child is born. Poliomyelitis and BCG vaccines are given together shortly after birth, followed by three doses of diphtheria, whooping cough and tetanus (DPT) and poliomyelitis vaccines at 6, 10 and 14 weeks. Measles, the greatest killer, cannot strike at birth because of transferred protection from the mother; however, after several months this protection wanes, and the measles vaccine needs to be given at nine months of age. Thus, the infant must be contacted by the health worker on five occasions during the first year of life.

Reaching 140 million children worldwide with potent vaccines five times during their first year of life is one of the greatest public health challenges (and achievements!) of our time. The vaccines must be protected from heat on the long road from the manufacturer right through to the village or immunization site by means of an extensive cold chain of refrigerators, freezers and cold boxes. This journey may be compared to the challenge of keeping cold an ice-cream cone purchased in Paris for consumption by a child in northeastern Laos.

The global immunization programme (EPI), which was initiated in 1974, has made giant steps towards universally administering vaccines to the children of the world. By 1990, more than 100 million children (80%) were receiving their full series of infant vaccines by their first birthday. These coverage levels have largely been maintained through 1991. This has resulted in more than three million deaths from the six EPI diseases being averted every year.

UNICEF’s role

UNICEF, the UN Children’s Fund, has strongly supported the EPI since the early 1980s by providing cold chain, sterilization and injection equipment, funds for training of workers, monitoring and evaluation, and – most significantly – high quality, low-cost vaccines. Between 1982 and 1992, UNICEF procured and shipped more than 6100 million doses of vaccines to nearly 100 countries; it also played a prominent role in mobilizing political, religious and community leaders to ensure that all children are immunized. Total investment in immunization activities by UNICEF over the past ten years has exceeded US$ 600 million, and
UNICEF is highly committed to the continued success of the EPI. It views immunization as a key activity or building block to enhance the development of systems capable of delivering a package of basic maternal and child health interventions universally.

The Children’s Vaccine Initiative (CVI), as described in other articles in this issue, offers a promise of making the task of reaching infants easier and more efficient. The experience of the initial two years of the CVI has demonstrated that the successful development of new and improved vaccines is not merely a high-technology research project, but is a stepwise process and should be built upon the vaccines currently in use in the global immunization programme. Cost and quality of vaccines have become the two most critical issues as demand has increased, prices from international suppliers have escalated and the effectiveness of vaccines produced in some developing countries remains uncertain. Consequently the CVI will continue to develop, support and facilitate progress along two parallel tracks: building capacity and systems to ensure high quality, affordable vaccines for the EPI programme in developing countries; and promoting and coordinating research and development for new and improved vaccines. While participating in the priority setting and overall management of the CVI, UNICEF will focus its energies and resources upon the first set of activities.

During the past decade UNICEF, WHO, Rotary International, bilateral donors and several developing countries were successful in providing adequate quantities of high quality vaccines to meet the requirements of EPI programmes in developing countries. However, during the past year the provision of adequate vaccines to meet the disease eradication goals and the continued expansion of EPI have been put in question by three separate factors: higher prices, increasing volume requirements, and a shrinking resource base.

A general strategy

A task force organized by the CVI has initiated an analysis of the global vaccine situation. Preliminary data show that more than half of the vaccines used in developing countries are produced domestically. The task force developed a general strategy for assuring vaccines for developing countries which is based on three criteria: population, wealth, and technical capacity. The largest countries, which have adequate technical capacity, will be supported in producing vaccines while smaller countries will be supported in procuring vaccines. Clearly the richer countries should be completely independent in filling their vaccine needs. Middle-income countries will receive support to become independent in vaccine production or procurement. The poorest countries will continue to rely on donations for the next several years, although all countries are encouraged to provide at least a proportion of the resources needed for vaccines. The elaboration and putting into practice of this general strategy has already started. A more detailed survey of projected vaccine requirements and use, the

source of vaccines used (local production or imported), and the sources of funding for vaccines is under way.

Teams of experts in vaccine production and quality control, as well as vaccine demand, economics and management, are visiting those countries which will be relied upon for domestic production. The teams have visited Bangladesh, China, Egypt and Viet Nam, and are visiting Brazil, India, Indonesia, Mexico, Pakistan and the Philippines during the first half of 1993. The teams assess both quality control and production capacity, in order to recommend a plan for increasing production levels to meet national requirements and to ensure that the vaccines meet WHO quality requirements. Specific proposals for donor support for each country will then be submitted for funding by interested donors. These activities are being carried out jointly by two specifically designated task forces, with operational support provided by both UNICEF and WHO.

CVI is implementing a programme called the Vaccine Independence Initiative, which assists developing countries to procure vaccines through the UNICEF system, and to pay for the vaccines either in local or hard currencies. This scheme has been implemented successfully in Morocco in collaboration with the United States Agency for International Development (USAID). Negotiations are under way in several other countries with the hope of having as many as ten countries fully operational by the end of 1993.

The CVI provides an excellent forum for multi-agency collaboration to tackle the full range of vaccine issues. UNICEF will continue to work with CVI partners so as to ensure that adequate, high quality, affordable vaccines reach the 140 million infants born every year, especially those born in remote villages in the developing world.

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