

Measles, being among the most contagious of vaccine-preventable diseases, is a sensitive indicator that signals failures in the system of vaccination. Hence, it is reasonable to suspect that substantial numbers of children are at risk of pertussis, poliomyelitis, rubella, mumps, etc., as well as measles. NVAC concluded that the principal cause of the measles epidemic and the main shortcoming in the vaccination system overall was failure to provide vaccines to children on schedule, arising from:

- missed opportunities for administering vaccines, despite contacts with health care providers;
- shortfalls in the health care delivery system, resulting in specific barriers to immunization;
- inadequate access to health care;
- incomplete public awareness of, and lack of public demand for, immunization; and
- sociocultural and logistical barriers.

As a result of the recognition of these deficiencies, a number of steps have been taken. Recommendations on ways to improve access to childhood immunizations have been made by NVAC (National Vaccine Advisory Committee, 1992). The Interagency Committee on Immunization has prepared an "Action Plan to Improve Access to Immunization Services," which identifies necessary Federal actions (Interagency Committee on Immunization, 1992). Additionally, a wide range of concerned organizations have endorsed and are promoting NVAC'S "Standards for Pediatric Immunization Practices" (National Vaccine Advisory Committee, 1993).

In parallel with the above activities, the Centers for Disease Control and Prevention have provided funding for States and selected municipalities to individually develop and implement Immunization Action Plans for their jurisdictions, targeting the critical local concerns and situations.

Most recently, NVAC has completed a study of impediments at the State and local levels to children's immunization services. It found that such services were suboptimal because of public health infrastructure weaknesses and laid out a series of strategies with detailed recommendations to address the specific State and local impediments identified (National Vaccine Advisory Committee, 1994a).

## **CHILDREN AT RISK OF UNDERIMMUNIZATION**

Children living in poverty, particularly those belonging to minority populations, are at risk for under-immunization because it is difficult for the medical establishment to reach them. Such children often are not getting immunized on schedule because of limited financial resources, high stress levels, multigenerational family obligations, limited transportation and other services in their local neighborhoods, their families' nonfluency in English, discomfort with majority culture bureaucracies, and fear of inoculation. Although mainstream media may carry campaigns designed to raise community awareness, sociocultural and logistical barriers mean that such efforts often fail to reach or to motivate the families of these children.

It is not possible to precisely define the proportion of children in these circumstances, in that a variety of interacting factors contribute to the risk of underimmunization. But the situation does suggest that innovative approaches will be needed to ensure that all children are reached with vaccinations on the proper schedule.

Many children at risk of underimmunization are from families that do not have a medical "home," but which do have ongoing contact with one or more welfare or social service programs for assistance, such as income assistance; Head Start; social service counseling or case management; parenting education; family preservation/family support; the Child and Adult Care Food Program (CACFP); and the special supplemental