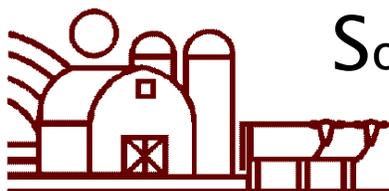


# **Rural Minority Children's Access to and Timeliness of Immunizations: 1993-2001**



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Draft

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## **Executive Summary**

Evidence indicates that rural individuals are more vulnerable to poor health outcomes. Limited access to health care services results in fewer medical visits and may make rural and minority populations particularly vulnerable to the consequences of lower access to care. This may be especially true for children who live in rural areas. Many health plans and national advisory committees currently use immunization rates as a marker for the quality of health care provided to children. The purpose of this study is to assess the quality of pediatric health care provided to rural minorities using timeliness of immunization receipt as a marker for quality.

## **Study Design and Definitions**

For this study, a secondary analysis of nine years of data from the National Health Interview Survey (NHIS) was conducted. The NHIS is an annual survey conducted by the Centers for Disease Control and Prevention (CDC) to assess current health status in the United States. As part of this interview, data regarding childhood immunizations are collected from vaccine records supplied by the parents of children included in the interview sample. For this project, survey data from 1993 – 2001 was analyzed in annual increments.

National population estimates were made regarding the up to date immunization status of children under the age of six. The percentages of children up to date with their immunizations were calculated differently for this study than the calculations often reported by the Centers for Disease Control and Prevention (CDC). The CDC defines a child as being fully immunized when they have all of the recommended immunizations by the age of 2 years. However, certain vaccination series, such as Hepatitis B and Measles/Mumps/Rubella, may be completed after 24 months. The definition used here includes all children from 3 to 71 months of age and accounts for the timeliness of the immunizations. For the purposes of this study, a child was considered up to date with immunizations if that child had received all of the vaccinations recommended by the Advisory Committee on Immunization Practice as appropriate for the age of the child and the year of the survey. Immunizations were counted as deficient if not given by one month after the child was eligible. A child is defined as up to date if he/she has received all immunizations recommended for his/her current age. We used population estimates for the up to date status for all childhood vaccines recommended each year, including newly introduced vaccinations in the years they were introduced.

## **Findings**

- Children living in rural areas are less likely to receive newly recommended vaccines within the first two years after introduction of the recommendation. After 2 years, there are few significant differences in the percentage of children who are up to date

with their childhood immunizations based on whether they live in urban or in rural areas.

- There are no significant differences in the percentages of children up to date with their immunizations between Whites, Blacks, and Hispanics living in urban and rural areas.
- By 2001 lack of health insurance was the strongest predictor for children not receiving their immunizations in a timely manner.
- When using national surveys, there is significant year-to-year variation in the percentage of children who are up to date with their immunizations.

### **Implications**

- Ensuring that more children have insurance coverage may lead to a greater percentage of children being up to date with their immunizations. Mechanisms that address insurance coverage for childhood vaccinations, such as mandatory coverage requirements, should be explored.
- The delay of receiving immunizations by rural children, while unlikely to have caused any harm in the current environment, may become critical in the event of an infectious disease outbreak or bioterrorism incident. To address the time lag in immunization, additional research is needed regarding knowledge transfer mechanisms linking rural health care providers to current medical standards and systems barriers, perhaps associated with smaller rural public health infrastructures, that may delay the translation of knowledge into practice
- Assessments of quality of care and immunizations, in particular, can benefit from multiple years of data because of year-to-year variations.