

Poliomyelitis Vaccination

ABOUT 5 years have elapsed since the inception of the national poliomyelitis inoculation program with the licensing of Salk vaccine for commercial production in April 1955. During the past 3 years, the Public Health Service has arranged for the annual collection of poliomyelitis vaccination information by means of household sample surveys of the national population. The surveys have provided national estimates of the number of persons by age groups of those who had not had any inoculations and those who had received one, two, and three inoculations.

This monograph presents the statistics derived from the survey conducted in August 1957, the first and most extensive of the national poliomyelitis surveys sponsored by the Public Health Service. The extent of participation of the population, as indicated by the number of inoculations received, is shown by age, family income, sex, marital status, color, geographic region, and type of area. These data have been used extensively for purposes of evaluating and planning the national poliomyelitis vaccination program. They are indispensable to epidemiological studies and studies concerned with the vaccine's effectiveness. They are also sugges-

tive of factors affecting the population's participation in preventive health programs.

The early priorities of the vaccination program were important factors in establishing, by August 1957, substantial differentials in participation between population groups. Participation (the proportion that had received at least one inoculation) was highest for children 1 to 19 years of age, particularly among those 5 to 14. The level of participation was about the same for infants under 1 year and adults in the age group 20 to 40 years. Within the latter group, participation decreased with advancing age. In the age range of highest fertility, there was a substantial difference between male and female participation, reflecting higher participation for women. These results were logical consequences of priorities of the vaccination program which selected persons 5 to 9 years of age as the initial vaccination target group and then gradually extended the priorities to include adjacent age groups and pregnant women. The first poliomyelitis inoculation was rarely administered during the 6-month period after birth, accounting for the low rate of participation in infants.

Public Health Monograph No. 61

Population Characteristics and Participation in the Poliomyelitis Vaccination Program. *By Monroe G. Sirken and Berthold Brenner.* Public Health Monograph No. 61 (PHS Pub. No. 723), 37 pages. U.S. Government Printing Office, Washington, D.C., 1960, 30 cents.

The accompanying summary covers the principal contents of Public Health Monograph No. 61, published concurrently with this issue of *Public Health Reports*. The authors are with the Actuarial Analysis and Survey Methods Section of the Na-

tional Office of Vital Statistics, Public Health Service.

For readers wishing the data in full, copies are on sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. Official agencies and others directly concerned may obtain single sample copies without charge from the Public Inquiries Branch, Office of Information, Public Health Service. Copies will be found also in the libraries of professional schools and the major universities and in selected public libraries.

Within age groups, participation differentials were noted between geographic regions, areas of residence, and color groups. Generally, the proportion of the population that received at least one inoculation was lower in the South than in other regions, lower outside Standard Metropolitan Areas, and lower among the nonwhite population.

Participation in the inoculation program was strongly associated with family income. Although the pattern of participation by age was essentially the same within four broad income levels, the proportion of the population inoculated one or more times increased with income for virtually all age groups. The association between participation and income held for each region and area of residence. The relationship was much more marked for the white population than for the nonwhite population. In fact, among nonwhite children of school age, participation was not correlated with family income.

Of the 60 million persons vaccinated by August 1957, slightly more than half completed the series of three inoculations. The priorities of the vaccination program were quite evident in the differences between the age groups in the proportion that had completed three inoculations. Children in the age group 5 to 9 years had the highest completed participation rate, and those in the age group 10 to 14 years had nearly as high a completion rate. The rate was appreciably lower for preschool children and for persons 15 years and older, and it declined precipitously with advancing age. For the reproductive age groups, the completed participation rates were higher among women. Generally, completed participation rates were lower

in the South than in other regions, lower outside Standard Metropolitan Areas, lower among the nonwhite population, and lower for lower income families.

The population that had started but not completed the series of three inoculations (persons having received at most one or two inoculations) represented the current or more recent participators in the sense that they had received their first inoculation during a period that rarely extended more than a few months prior to the survey date. It is noteworthy that there was less disparity between adults and children in the proportion who had completed one or two inoculations than there was in the proportion that had completed three inoculations. For children under 20 years, the percentage that started but had not completed the series of three inoculations was about the same for preschool, school, and the 15- to 19-year age groups, although it tended to be slightly lower for the school-age group, 5-14 years, which had achieved the highest participation levels. Major differentials by geographic region, area of residence, color, and family income were not evident either. Apparently some major disparities in the levels of participation between the age groups under 20 years were not being increased further during the summer of 1957. At the adult ages, however, the reverse was noted—the disparities by age, sex, and color in the levels of participation appeared to be increasing.

A chronology of the major events and factors affecting the population's participation in the poliomyelitis inoculation program between May 1953 and August 1957 is presented in the appendix.

Editor's Correction

In the article entitled "Relationship of Excess Weight in Children and Adults," by Sidney Abraham and Marie Nordsieck, *Public Health Reports*, March 1960, figure 1, page 268, should be captioned "Adult weight status of overweight children of both sexes, 10 to 13 years of age, Hagerstown, Md., 1937-39." Figure 2, page 269, should be captioned "Adult weight status of average weight children of both sexes, 10 to 13 years of age, Hagerstown, Md., 1937-39."