

THE METHOD

The city in question is typical of many river valley cities in the United States. It has a population of some 40,000; it has a few large industrial plants and a large railroad yard, and about one half of the surveyed adults were employed in the plants or the yard. Bituminous coal is the fuel commonly in use.

In the selection of a relatively low pollution area and a relatively high pollution area for the house to house collection of morbidity data, we studied the data that had been accumulated for some years by the dubious method of dust pots placed throughout the city. While recognizing the uncertainties involved in using this method as an indicator of air pollution, we wish to emphasize that quantitative readings for the collected dust in the various pots had a wide range by location and were consistently rather low in some areas and very high in others. The differences were of a sufficient order of magnitude that it was felt that they could be used, to a degree, to indicate two extreme areas for the present study. It is of interest to note in this connection that the relative stability of area dustfall measurements made in different sections of an urban community is also generally borne out in a recent report by Cholak, Schafer and Hoffer.¹

The initial selection of areas for study was thus made on the basis of dustfall measurements. The choice was then narrowed down to delimited areas in high and low dustfall zones in which

TABLE 1.—*Number of Households Visited by Public Health Nurses in a House to House Survey of the Low and High Dustfall Areas*

Area	Total ¹	Nurse			
		1	2	3	4
		Number of Households			
Both areas	776	193	192	184	202
Low dustfall area.....	337	84	81	82	90
High dustfall area.....	439	109	111	102	112
Number of Persons					
Both areas	2,670	646	655	651	704
Low dustfall area.....	1,231	299	291	303	338
High dustfall area.....	1,439	347	364	348	366

¹ Five households in the high dustfall area were visited by the nurse-supervisor.

the socioeconomic conditions and the racial compositions of the residents, a considerable factor in disease incidence, were by and large about the same, based on a visual inspection. The validity of the choices made was subject to test, as indicated below.

The areas of study were further circumscribed by the shortage of funds. Since the number of families to be visited had to be relatively small so as to insure coverage in a relatively short period of time, the areas chosen were so outlined that a total of 800 family units, about 400 in each area, would be visited for questioning.

It was planned to cover the areas in about 4 to 5 weeks during the early fall. Thus, based on the estimated number of households that a nurse could probably visit in one day, five public health nurses, one of whom acted as the supervisor, were assigned to the study. Preparation of the survey forms for each day's work by the nurses was handled by a part-time clerk, who recorded the residence addresses and the family names.

Except for one, the public health nurses were strangers to the community. Since all the nurses were to make household visits in both areas, however, thus eventually covering about the same number of families in each area, it was felt that this one exception would not appreciably modify the data collected. Table 1 shows the distribution of completed household visits made by the nurses and indicates satisfactory compliance with that plan.

The survey form, which the nurses were to fill out from the answers obtained by questioning a responsible member of the household, was relatively brief, as shown in figure 1. Within the

1. Cholak, J.; Schafer, L. J., and Hoffer, R. F.: Collection and Analysis of Solids in Urban Atmospheres, *Arch. Indust. Hyg. & Occup. Med.* 2:443, 1950.