ADMINISTRATION

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According to the initial design of the sample, 10,000 families with approximately 50,000 members were to be interviewed from which 5,200 persons would be selected for clinical examination.

Ultimately, 9,797 dwellings were selected. If the 877 empty buildings are excluded, which correspond to families with permanent residence elsewhere, 8,969 dwellings remained with families to be interviewed. Of these, 97.2 per cent were interviewed for a total of 51,473 persons of which 5,258 were selected for the clinical examination, 5,189 appointments were scheduled and 5,127, or 95.6 per cent, actually underwent the examination.

These response rates are high, especially if Colombia's lack of experience with this type of study is considered. The explanation for the high rate lies in the manner in which the investigation was planned and its orientation, factors that depended on those conducting it, the characteristics of the Colombian people and the methods used. The general lines of the procedures followed are reviewed here.

ADMINISTRATIVE ORGANIZATION

The National Health Survey is a part of the larger survey on health manpower and medical education. The survey was administered and organized by the Ministry of Public Health. It sought the maximum utilization of existing resources in health services and medical education institutions.

Two administrative levels developed: central administration and field operations.

Central Administration

The personnel of the central office were: The director of the study of Health Manpower in the Ministry; the head of the household interviews, the head of the clinical examination, the chief statistician, a group of statisticians and an analyst for field operations. From time to time, two health educators and two dentists also participated.

The administrative unit planned, administered, directed and supervised. It received technical assistance from other sections of the Ministry of Health, the National Department of Statistics, the universities and different professional associations in the country. It also received international assistance from officials of the Pan American Health Organization, the United States Public Health Service (and its census division) and the Milbank Memorial Fund.

The members of the central team traveled on several occasions to become acquainted with and to observe the development of the National Health Survey of the United States.

Field Operations

Five field teams were organized for the development of the local operations. The teams were composed of persons connected with the health services and the universities and some were commissioned for a specific period of time.

Each team was composed of:

A field supervisor, director of local activities, a task for which a public health physician with experience in the area was chosen.

A public health dentist, who conducted part of the clinical examination and acted as coordinator for the clinical team. This specialist was selected for his administrative experience, availability of time away from his place of work and because of his satisfactory understanding of the completed indices of oral health.

A field administrator, who supervised the administrative aspects of the local unit, a task delegated to a supervisor of environmental health, an official who, because of his occupation, had wide experience especially in rural areas. As far as possible, the administrators were located in geographic regions with which they were already familiar because of their previous experience.

Six interviewers, medical students in their final years of study were chosen for reasons already cited.

Two medical examiners, a job given to a resident in internal medicine and another in pediatrics connected with the medical schools.

Three auxiliaries, a nurse, x-ray technician, and laboratory technician.

One receptionist, who was typically a woman from the locale, whose duties were simple and required knowledge of the area and the cultural habits of the people.

PRETEST OF THE METHODOLOGY

Several months before beginning the final field work, the methodology proposed for the development of the study was pretested. The pretest was used to train the field supervisors in the techniques of the interviews and clinical examinations. The supervisors acted as interviewers, participated in the directing of the field operations and contributed to the adjustments and modifications of the original plans.

The pretest permitted verification of the feasibility of the local operation, helped to determine the composition of the clinical team, established the effectiveness of the public relations methods and the efficiency of the field procedures. With the pilot study as a basis, the method for the selection of the local sample was made precise, and certain procedures and questions were modified. Finally, the tabulation and analysis of the data obtained in the interviews and clinical examinations served as a basis for the initial plan of tabulations.

SELECTION AND TRAINING OF PERSONNEL

In the places of employment of personnel who might be eligible to join the field survey team, a general report was given on the principles, objectives and organization of the survey and on the participation that would be expected of each group. When the number of candidates was larger than needed, a selection was made by evaluating the qualities of the candidates emphasizing their availability and interest, good personal relations, experience in handling people and responsibility in faithfully completing their assignments. Criteria were also established for each group based on academic requirements and other conditions.

Central training

Those selected for the field teams attended conferences at medical schools or the Ministry of Public Health to inform them about the principles of the study, its objectives and their specific functions. They were also trained in the detailed methods, techniques and procedures

that they would use. During the training, the participants were evaluated and again selected on the basis of their capacities.

Local retraining

In each location, before beginning work, a retraining program was conducted for all the personnel of the team to complement the training they had received initially from the central administrative teams to emphasize the principal aspects of the interview procedure and techniques, and those of the clinical examination; and to provide information about the specific operation in the locale.

EDUCATING AND REPORTING ACTIVITIES

While the health educators were being oriented to work in specific areas, thorough reports on the purposes of the National Health Survey and the Study of Health Manpower were given to the press, radio and television.

Meetings held with different professional associations and other important public groups, at both national and local levels, allowed these groups in turn to inform the community about the purposes and advantages of the study and to solicit and guarantee cooperation from the community.

PRIOR VISITS

Officials from the central office made two such visits to each primary sampling unit with the following purpose:

First, to determine the selected segments of the sample, to elaborate the detailed draft of these, to identify methods of communication and transportation, to advance first contacts with the interviewees and to begin the informational activities.

Second, to provide information, request cooperation, select sites for offices, find quarters for personnel and study means of transportation.

CENTRAL TIMETABLE FOR ACTIVITIES

In working out the timetable consideration was given to distance between work units, the customary means of transportation, weather and local events. In certain places it is impossible to travel during the rainy season, while in others the chief means of transportation is by

water. Possible conflict with regional festivals and harvests was taken into consideration.

The limited time of doctors and medical students, who could be separated from their regular work only for relatively short periods of time, also had to be considered. This resulted in the development of a detailed and tightly scheduled timetable which fortunately was filled to the letter. Five teams worked simultaneously, staggering their activities to facilitate supervision.

The operation was carried out between September, 1965, and July, 1966, in three stages separated by the New Year and Holy Week holidays.

LOCAL TIMETABLE FOR ACTIVITIES

The local timetable took into consideration particular circumstances in each location.

Work began with the arrival of the supervisor and field administrator and lasted for three weeks. The interviews were started two to three days before the clinical examinations so that a sufficient number of patients would have been chosen for the examination since they were selected by a special sample system at the same time as the interviews. The examinations were even given on holidays to facilitate the attendance of workers. The simultaneous operation of the household survey and the clinical examination facilitated the cooperation of the community, stimulated the team's spirit and helped to overcome the problems of a procedure that required two contacts with the patient. The activities of the teams were reevaluated daily.

Local resources and available installations and teams were frequently used. However, all measurement instruments for children and adults were installed to obtain uniform results that would be unaffected by the different types of instruments or by their limited local availability.

Other Means of Obtaining Cooperation

All the participating personnel were given instructions about the courteous and considerate treatment of those being interviewed and examined. To avoid delays in assisting the patients, appointments were scheduled and the patients were requested to arrive a half hour before the appointed time. Also, every effort was made to examine patients who arrived at unscheduled times.

Employers and teachers were requested to grant permission for their employees and students to attend the examination. In some instances a day's wages was paid.

Vehicles were placed at the disposal of individuals in accordance with distance and common modes of transportation; these included animals, motor vehicles, launches and, in one unit, even airplanes from airports located in rural areas. When public transportation was available, the fare was paid on request.

If in the course of the clinical examination a disease was diagnosed, the patient was given drugs and directed to existing health services for the treatment to be continued. In each case the results of the examination were referred to the doctor or the designated institution.

People with low incomes who attended the clinical examination were given CARE packages of groceries, which stimulated attendance among these groups.

The low "mortality" rate of the samples should be attributed not only to these stimuli, but also to certain characteristics common to the Colombian people, such as an excellent understanding of the goals of the survey, and widespread acceptance of the recommendations of their leaders and authorities. Civil and ecclesiastical authorities, the medical corps and leaders on the national, departmental and municipal levels gave unanimous and decisive support. The general lack of medical attention services made attendance at the medical examinations attractive for many people who had never previously received a thorough physical examination.

DATA PROCESSING

The information collected was periodically sent to the central office by the safest means of transportation. Material was frequently carried by officials of the survey on their trips.

As the information began to arrive from each unit, the books were systematically revised, classified and stored before being submitted to statistical analysis. The material for special examinations (laboratory, x-ray and electrocardiograms) was given to personnel connected with the medical schools and public service laboratories.

The processing of the data by computers loaned by government organizations (DANE, ICSS) and by some private institutions resulted in considerable delays and posed even greater obstacles than the field

collection of the information. Inexperience in this field, and the lack of special teams and programmers resulted in underestimating the required time, resources and personnel that were necessary for the analysis of the data.

These difficulties were overcome by the assistance provided by officials of the Pan American Health Organization and the United States National Center for Health Statistics, which conducted some of the final work with its own equipment.