

a method for studying

The Public Health Worker and His Job

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THE YALE Public Health Personnel Research Project undertook to provide comprehensive knowledge of the professional public health worker and his job. Information on what the public health worker does was the major objective, but information on his training and experience, his working relationships with persons inside and outside his agency, and his personal feelings about his job was also sought. Such information, it was believed, would be useful in obtaining more efficient utilization of personnel and perhaps in recruiting and training workers, in program planning, and in personnel administration.

Job analysis, of course, is not new. The literature contains countless reports of studies of this type in industry and government. But these studies usually have been restricted to stereotyped jobs with routine work patterns. Moreover, the literature failed to reveal any comprehensive approach to the problems of job analysis and utilization of personnel in the pub-

lic health field. The work that had been done had one or more of the following orientations: concern with a specific geographic area, interest in one discipline, study of one or a few agencies, or a focus on either time or salary. Development of a method of study, therefore, was a necessary part of the Yale project.

The initial focus of the project was the health officer. As it became evident that no one job could be studied properly without regard to interrelationships between jobs, however, the scope was enlarged to include other categories of public health personnel. Furthermore, the sphere of interest in each category was broadened as the possibilities for gaining useful information became apparent. The study was concerned primarily with personnel in official agencies, but a small number of voluntary agency personnel participated also.

Originally, it was thought that it would be possible to obtain composite job descriptions at relatively small cost from an analysis of existing job descriptions. The files of public health job descriptions in the States, maintained by the Bureau of State Services of the Public Health Service in connection with grant-in-aid merit system requirements, were studied. This procedure proved unsuccessful because job descriptions rarely describe the actual job.

Therefore, a plan was substituted to study firsthand the job activities of the several categories of workers in selected State and local health departments. It was decided to conduct this investigation by interviews, occasional

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observations, and time studies. The time-study methodology is discussed in a separate article.

The Code

In order to standardize the interview and to process the information obtained, it was necessary to construct a system of classification. Trial questionnaires were used as a point of departure. On the basis of the information gathered by their use, separate codes were developed for the major service groups in public health. These codes emphasized the differences among the services, which seem to be so important in traditional public health thinking.

After more than a year's experience with these codes, it became evident that it would be impossible to analyze the data except in a very restricted service context. It was necessary, therefore, to identify the characteristics which the codes had in common, with the objective of converting the different schemes of classification into one system which would be applicable to all public health personnel.

A single code, called the universal code, was constructed. A document of approximately 100 pages, this code provides for the classification of thousands of items relating to the activities and experiences of public health workers on the job and to their prior education and training. It makes comparisons possible among the several categories of public health workers.

Provisions were made for coding and classifying in detail the following categories of data: (*a*) identifying information, (*b*) education and training, (*c*) experience, (*d*) ambitions, objectives, and feelings about the job, (*e*) technical or direct service activities, (*f*) ancillary or supporting activities, (*g*) travel, telephone, and correspondence, (*h*) activities in administration, including supervision and management, (*i*) working relationships within the agency and with other agencies, and (*j*) activities related to public education and community organization.

The Interview

The basic pattern for interviewing was non-directive. However, while the interviewee was always encouraged to talk freely, a judicious

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question or a brief comment by the interviewer assured inclusion of the desired areas of coverage. Interviewers were required to master the code before undertaking field interviews in order that they might conduct the interview without constant reference to lists of questions. The code was available at the interview, and it was used frequently to demonstrate to the interviewee the type of information desired.

To some extent the technique of the interview was determined by the person being interviewed. Some individuals talk freely and easily; others have to be prompted or directed. The interview tended to be more directive with workers engaged in semiroutine jobs than with those in nonroutine jobs. Even at such interviews, however, questions were open-end in nature and were presented so as not to indicate that a particular answer was being sought.

When a new member joined the research staff of the project, he underwent a supervised training period. This included familiarization with the code and the data to be obtained in interviewing, and review and testing of actual

interview techniques. For the first few weeks, the new member's interview experiences were reviewed by other staff members.

Particularly valuable to the maintenance of uniformity was the assignment of two or more interviewers to the same agency. This procedure made it possible for the interviewers to hold frequent discussions about the problems encountered in interviews, the interpretation and coding of the data, and the use of interview techniques. These team discussions helped to minimize interviewer biases and idiosyncracies. They also resulted in additional suggestions for the analysis of project data.

The conduct of the interview was such that the participants were made to feel that this was "their study," and they were assured that all personal and specific information was confidential and would not reach the ears of their fellow workers or administrative superiors. It was

stressed that the study was not an evaluation, but an inventory. These circumstances, we feel, contributed to greater frankness and veracity in the responses. Furthermore, the interview, by its very nature, permitted of explanation and definition which clarified both questions and responses and enhanced the validity of the resulting data.

About 9 or 10 hours were required for each person interviewed. An average of 3 hours was spent in conducting the interview; approximately 3 hours, in recording and coding the interview information; and the remaining time, in preinterview discussions and conferences, in participation in public relations, in travel, and in project housekeeping functions.

Considerably more than 10 hours per person were required, however, for personnel in voluntary health agencies. The difficulties of making contacts and obtaining clearance for the

Table 1. Project coverage of public health personnel in official agencies and visiting nurse associations

State or type of agency	Total number personnel in agencies	Number included in study			Number omitted from study		
		Inter-view	Other means ¹	Total	Change in method	Exclusions ²	Total
Trial sample:							
Colorado.....	986	86		86	191	709	900
Florida.....	813	219		219	399	195	594
Total.....	1,799	305		305	590	904	1,494
Study sample:							
Connecticut.....	853	285	235	520		333	333
Maryland.....	484	186	105	291		193	193
Michigan.....	848	229	137	366		482	482
New York (one county).....	269	52	74	126		143	143
Total.....	2,454	752	551	1,303		1,151	1,151
Grand total.....	4,253	1,057	551	1,608	590	2,055	2,645
Study sample:							
State health departments.....		378	207	585			
Local health departments.....		326	261	587			
Visiting nurse associations.....		48	83	131			
Total.....		752	551	1,303			

¹ Includes reconstruction from knowledge of agency activities and short interviews, and duplication of data from other persons with like backgrounds, duties, responsibilities, and activities.

² Reasons for exclusion: Hospital service, 725; stereotyped or ancillary activities, 721; rare functions (biological production, research), 236; vacant positions, 173; less than one-half time, 93; strictly clinical, 52; trainee positions, 50; new incumbent, 5.

conduct of the study in each voluntary agency, the fact that these agencies were scattered throughout the State, and the small number of workers in any one organization, all contributed to this situation. The research staff found that introductions to State offices from national offices, and to local from State, were not particularly helpful. In each agency, much time was needed to explain the project to the participants and to obtain clearance from various boards and trustees.

Selection of the Sample

Two proposals for selecting the sample to be studied were advanced: one, that the sample be selected at random from all health departments; and the other, that the sample be selected on the basis of geography, size of the agency, and the urban or rural nature of the population served from only "good," or "better than average," agencies. Discussions concerning the relative merits of the two proposals produced a decision to use the latter. The project thus became a field investigation to inventory the activities and backgrounds of public health workers in selected "better than average" State and local health departments in the United States.

"Better than average" health departments were chosen on the basis of the value judgments of the consultants and advisers to the project. The basic criteria used were the comprehensiveness of the public health program, the adequacy of the public health staff to serve the area and its population, and the quality of staff performance. Selection was made as the result of consideration of many factors, and, therefore, "inferior" as well as "superior" practices were found in the agencies chosen.

The judgment of the State health officer and the director of local health services was relied upon for the selection of local units within each State. These judgments sometimes were augmented by the opinions of a conference committee of local health officers.

Composition of the Sample

The project obtained information on 1,648 persons actively engaged in public health enter-

Table 2. Classification of personnel¹ by service and type of agency

Service	State health departments	Local health departments and visiting nurse associations
Medical.....	47	42
Physicians.....	45	42
Others.....	2	-----
Dental.....	8	8
Dentists.....	6	4
Dental hygienist.....	2	4
Nursing.....	47	440
Graduate nurses.....	46	431
Practical nurses.....	-----	3
Physiotherapists.....	1	6
Sanitation.....	76	103
Engineers.....	41	14
Veterinarians.....	3	8
Sanitarians (holding college degrees).....	24	32
Others.....	8	49
Administration.....	14	4
Health education.....	12	10
Health educators (graduates of schools of public health).....	3	6
Others.....	9	4
Statistics.....	32	6
Statisticians (with academic statistical training).....	8	1
Others.....	24	5
Laboratory.....	222	30
Scientists (holding college degrees).....	122	21
Technicians.....	59	6
Ancillary workers.....	41	3
Secretarial.....	69	61
Nutrition.....	12	3
Social work.....	14	6
Venereal disease investigation.....	18	1
Other services.....	14	4
Total.....	585	718

¹In Connecticut, Maryland, Michigan, and New York, which comprised the sample used in most of the analyses of the data.

prises in Colorado, Connecticut, Florida, Maryland, Michigan, and New York. Of these, 1,608 were employed in official agencies and visiting nurse associations, and 40 in voluntary health agencies. (Unless otherwise stated, the term

“local health departments” is used in this report to include visiting nurse associations.) The cooperation of the participating agencies was particularly gratifying.

The geographic distribution of the sample (with the exception of the 40 persons in voluntary health agencies) can be seen in table 1. Since Colorado and Florida were visited early in the course of the project, coverage was incomplete in these States in light of the criteria eventually established for the selection of personnel and the nature of the information to be elicited. Therefore, data obtained from these States were not included in most of the analyses.

Included in the study were all full-time, paid public health workers with professional, technical, or administrative responsibility for public health administration. Generally excluded were persons whose responsibilities were limited to clinical medicine, research, or hospital management or whose activities were uncommon in public health or were strictly routine. On this basis, most clerical workers were excluded, but secretaries with technical or administrative responsibilities were included.

If two or more employees performed essentially the same activities, only one of them was interviewed as representative of the group. The job activity information for this representative worker was duplicated for each worker with similar activities. As a result, it was possible to gain the desired information about the activities of the 1,303 persons who comprise the sample used in most of the analyses by interviewing 752, or 58 percent of them.

The personnel studied belonged to the medical, dental, nursing, sanitation, administration, health education, statistics, laboratory, secretarial, nutrition, social work, and venereal disease investigation services. The term service as used in this study refers to an administrative unit defined by the methods employed rather than the programs pursued. Services are frequently but not always synonymous with discipline. Thus, most nurses are members of a nursing service, but an occasional nurse is engaged in health education, hospital administration, or sanitation, for example.

The service classification of the participants in this study is shown in table 2. In terms of numbers, the major services in both State and local health departments were medical, nursing, sanitation, laboratory, and secretarial.

Position in the hierarchy of the organization also was used in the comparison of the various activities of public health workers. The composition of the sample according to administrative level is shown in table 3. For most purposes comparisons were made between high-echelon and staff personnel, but in some instances the executive and supervisor-consultant subdivisions of high-echelon personnel were used.

Summary and Conclusions

The Yale Public Health Personnel Research Project was aimed at determining the activities of public health workers, their backgrounds,

Table 3. Classification of personnel¹ by position in the administrative hierarchy and type of agency

Position in the administrative hierarchy	State health departments	Local health departments and visiting nurse associations
High-echelon personnel	171	161
Executive personnel.....	99	80
Health officer.....	3	20
Assistant health officer.....	1	5
Program director.....	77	45
Assistant program director.....	12	6
Administrative assistant.....	6	4
Supervisor-consultant personnel.....	72	81
Consultant.....	53	19
Supervisor.....	19	62
Staff personnel	414	557
Senior staff.....	58	55
Junior staff.....	356	502
Total	585	718

¹ In Connecticut, Maryland, Michigan, and New York, which comprised the sample used in most of the analyses of the data.

and their personal reactions to their jobs. The study was an inventory, not an evaluation. In the course of the project, problems of scope, sampling, and method were encountered and were resolved more or less satisfactorily.

Interviews, with a minimum of formal direction on the part of the interviewer, were used to obtain information from the participants. A detailed universal code was developed for classifying the data, after it became evident by trial that the use of a separate code for each of several categories of personnel would limit the possibility of making comparisons.

The health departments participating in the

study were chosen as representative of "better than average" agencies. Because of the sample used, the findings may not necessarily have broad application to public health practice in the United States, but we think they do add to our meager knowledge.

One great handicap under which the project labored was the failure to provide for a complete pilot run before the major data-gathering commitments were undertaken. The development and testing of the investigative instruments and methods proved to be more significant in this study than the collecting of data.

Agencies Participating in Personnel Study

Colorado

Colorado State Department of Public Health, Colorado State Tuberculosis Association, Denver Department of Health and Hospitals, Denver Tuberculosis Association, El Paso County Health Department, El Paso Visiting Nurse Association, El Paso Tuberculosis Association, Mesa County Health Department, Mesa County Cancer Society.

Connecticut

Connecticut State Department of Health, Connecticut State Tuberculosis Association, Greenwich Department of Health, Greenwich Public Health Association, Hamden Department of Health, Hamden Visiting Nurse Association, Hartford City Department of Health, Hartford Tuberculosis Association, Hartford Visiting Nurse Association, New Britain Department of Health, New Britain Tuberculosis Association, New Britain Visiting Nurse Association, New Britain Cancer Society, New Haven Department of Health, New Haven Tuberculosis Association, New Haven Visiting Nurse Association, Waterbury Department of Health, Waterbury Tuberculosis Association, Waterbury Cancer Society.

Florida

Florida State Board of Health, Alachua County Health Department, Broward County Health Department, Clay County Health Department, Dade County Health Department, Dade Visiting Nurse Association, Franklin County Health Department,

Highlands-Glades-Hendry District Health Department, Hillsborough County Health Department, Leon County Health Department, Volusia County Health Department, Volusia Visiting Nurse Association.

Maryland

Maryland State Department of Health, Caroline County Health Department, Harford County Health Department, Howard County Health Department, Montgomery County Health Department, Washington County Health Department.

Michigan

Michigan Department of Health, Michigan State Cancer Society, Michigan Tuberculosis Association, Calhoun County Health Department, Calhoun Tuberculosis Association, Chippewalu-Luce-Mackinac District Health Department, District Health Department Number One, Kalamazoo County Health Department, Kalamazoo Tuberculosis Association, Kalamazoo Cancer Society, Oakland County Health Department, Oakland Tuberculosis Association, Ottawa County Health Department, Shiawassee County Health Department, Wayne County Health Department, Wayne County Tuberculosis Association, Wayne Out-County Chapter of the Michigan Society for Crippled Children and Adults.

New York

Nassau County Health Department.