The Yale Study

Experience of Public Health Workers

By EDWARD M. COHART, M.D., WILLIAM R. WILLARD, M.D., and ERLEEN F. JAMISON, M.P.H.

•Few workers entered public health at the beginning of their careers. About one-fourth had had at least 10 years' experience in other fields before coming into public health. Most commonly such experience was in hospitals and related institutions and in business and industry.

•The most frequent determinants in the choice of a public health career were chance, personal contacts, and the inherent attraction of the work. Only 2 of 595 workers could attribute their choice of this career to formal vocational guidance.

•Laboratory personnel differed from other health department personnel in that a relatively high proportion of them entered public health fortuitously at the beginning of their careers.

•The average health department staff worker had spent 9.2 years in public health. Personnel at higher administrative levels had an average of 14.6 years of public health experience.

•High-echelon personnel felt, to a much greater extent than did staff personnel, that opportunities to learn about administration and about the community had been their most valuable experiences. Staff personnel stressed opportunities for learning specific techniques.

•Salaries of high-echelon personnel tended to increase with years of experience, except in the medical and administration services. This did not hold true for staff personnel, among whom the worker with long experience not infrequently earned less than his less-experienced co-workers.

These were the findings of the study of the work experience of public health workers that was conducted in the course of the Yale Public Health Personnel Research Project. Such information is one of the foundations for a better understanding of the problems involved in the recruitment and efficient utilization of workers. The findings of the present study cannot be considered conclusive, but they do offer clues for further investigation. Moreover, the study served to demonstrate the application of the method evolved by the Yale project for obtaining knowledge of the public health worker and his job.

Detailed data from the study of work experience are presented in the following pages. The information was secured from more than 600 professional and semiprofessional workers in State and local health departments and visiting nurse associations in Connecticut, Maryland, Michigan, and New York. The sample and the method used were described in the May issue of *Public Health Reports*, pages 447–452.

Total Work Experience

Ninety percent of public health personnel in high administrative positions (supervisor and

Dr. Cohart and Dr. Willard, co-directors of the Yale Public Health Personnel Research Project, are, respectively, associate professor of public health, Yale University School of Medicine, and dean of the College of Medicine at Syracuse, State University of New York. Miss Jamison, a research assistant with the Yale project, has been consultant in maternal and child health, nursing division, Philadelphia Department of Public Health, since 1953. *The Yale study was supported by research grants from the National Institutes of Health, Public Health Service, and the National Tuberculosis Association.*

Table 1. Duration of total work experience of personnel in State and local health departments [1]

Administrative level and service	Number supplying information	Percent with stated number of years' experience			
		1–4	5–9	10–19	20 or more
High-echelon					
Medical	67	3	4	34	59
Nursing	80	1	8	39	52
Sanitation	38	0	3	42	55
Laboratory	28	4	0	32	64
Administration	15	0	27	27	46
Health education	8	0	12	50	38
Statistics	10	10	10	30	50
Other	31	3	6	42	49
Total	277	2	7	37	54
Staff					
Medical	12	8	25	17	50
Nursing	96	16	23	21	40
Sanitation	65	11	18	29	42
Laboratory	85	32	28	22	18
Health education	14	14	14	50	22
Statistics	21	14	20	33	33
Other	24	17	17	33	33
Total [2]	317	19	22	26	33

[1] Includes visiting nurse associations.
[2] Total percentages are only approximations, because the staff-level sample was not equally representative of all services.

higher rank) and 60 percent in staff positions (junior and senior staff) had had at least 10 years' total work experience (table 1). Half of the former and one-third of the latter had worked 20 years or longer.

Length of work experience did not differ materially for personnel in State and local health departments, nor did it differ significantly among the services for high-echelon personnel. At staff-level, however, the members of the laboratory service tended to have had less experience than personnel in the other services. Three-fifths of this group, as compared with one-third of the workers in the other services, had had less than 10 years' experience.

Experience Outside Public Health

A large proportion of the workers did not enter public health at the beginning of their careers. Five-sixths of the personnel had worked in other fields (table 2). More than half had less than 10 years of such experience, and about 20 percent, 10 to 19 years. Less than 10 percent had had 20 or more years' experience before they entered public health. There was no essential difference between the workers in State and local agencies or between high-echelon and staff-level personnel in this respect, but

Table 2. Duration of experience outside public health of personnel in State and local health departments [1]

Administrative level and service	Number supplying information	Percent with stated number of years' experience				
		None	1–4	5–9	10–19	20 or more
High-echelon						
Medical	68	7	31	29	21	12
Nursing	84	14	36	26	22	2
Sanitation	36	20	33	31	8	8
Laboratory	27	44	15	19	15	7
Administration	15	7	20	20	40	13
Health education	7	14	0	29	43	14
Statistics	10	10	10	50	20	10
Other	31	10	13	32	29	16
Total	278	15	27	28	21	9
Staff						
Medical	12	0	50	17	25	8
Nursing	96	9	38	32	18	3
Sanitation	66	15	21	27	26	11
Laboratory	84	33	30	19	11	7
Health education	14	21	29	36	14	0
Statistics	21	29	38	19	14	0
Other	24	4	38	29	25	4
Total [2]	317	18	32	26	18	6

[1] Includes visiting nurse associations.
[2] Total percentages are only approximations, because the staff-level sample was not equally representative of all services.

again the laboratory service differed from the other services. Forty-four percent of the high-echelon and 33 percent of the staff laboratory workers, as compared with 12 percent of the personnel in the other services, had worked only in public health.

Approximately 25 percent of the personnel had worked in other fields than public health for 10 years or longer. This percentage does not appear to be inordinately high in the light

Table 3. Areas of experience outside public health of personnel in State and local health departments [1]

Administrative level and service	Number supplying information	Percent with experience in—							
		Business, industry	Government agency [2]	Schools	Colleges	Welfare, social agencies	Private practice	Hospitals, institutions	Other
High-echelon									
Medical	63	16	10	2	25	8	54	49	9
Nursing	73	12	7	20	14	7	34	67	12
Sanitation	36	56	25	8	19	0	8	0	3
Laboratory	16	44	19	12	44	0	12	12	0
Administration	15	60	47	7	0	7	0	13	13
Health education	7	57	14	29	43	43	14	0	0
Statistics	9	56	56	0	22	11	0	11	0
Other	30	20	30	37	10	37	20	53	7
Total	249	28	18	14	19	10	28	41	9
Staff									
Medical	12	33	8	17	17	0	50	50	0
Nursing	87	24	5	7	5	7	40	72	6
Sanitation	60	77	23	5	12	0	12	2	0
Laboratory	58	45	19	17	12	2	9	38	2
Health education	11	54	9	27	0	0	9	9	9
Statistics	15	80	27	47	20	0	0	0	13
Other	33	33	15	18	3	21	27	21	3
Total [3]	276	46	14	13	9	5	23	36	4

[1] Includes visiting nurse associations.
[2] Not including schools, hospitals and related institutions, and health and welfare departments.
[3] Total percentages are only approximations, because the staff-level sample was not equally representative of all services.

of the general job mobility that prevails in the United States.

The contention that most physicians in public health enter the field after a long period of private practice is not borne out by this study. Only half of the physicians interviewed had been in private practice at any time during their careers. Only one-third had spent as long as 10 years in fields other than public health, and only 10 percent, as long as 20 years.

Hospitals and related institutions and business and industry were the most common areas in which public health personnel had worked (table 3). About 40 percent had been employed in each of these areas. One-half of the physicians and three-fourths of the nurses had been employed in hospitals. More than half of the workers in most of the other services had been employed in business or industry. One in every six workers had been employed by a Government agency other than a health or welfare department, hospital, or school. One in seven had worked in a school, and a similar proportion in a college. Roughly, 5 percent had been employed by a welfare or social agency.

State and local personnel showed no major differences in past experience, but significant differences were found between high-echelon and staff workers. A larger proportion of staff than of high-echelon personnel had worked in business or industry, but the reverse was true in relation to previous employment in colleges.

Reason for Entering Public Health

The three most frequent determinants for entering public health were chance, personal contacts, and the attraction of the work (table 4). Each of these was given by slightly more than 20 percent of the workers. Less than this per-

centage gave favorable working conditions as their reason for entering public health. About 10 percent stated that they entered public health because of specific education and training for this career. Three other factors, namely, a "calling" to do public health work, political appointment, and the use of a public health job as a means of education or training for another career, played negligible roles.

Chance as a reason for entering public health requires no amplification. Those who gave attraction of the work as their reason for entering public health were expressing one of the two concepts: either that the content of public health work was inherently varied, challenging, and satisfying, or that the work provided opportunities for helping people. Of those who gave personal contacts as their reason for being in public health, the majority stated that these contacts were with public health workers. A small number stated that they entered public health because of casual informal counseling, but only 2 of 595 workers could attribute their entry into public health to formal vocational guidance.

The most attractive aspect of working conditions in public health appeared to be the hours of work. One-quarter of those who gave working conditions as their reason for entering public health mentioned this factor specifically. Salary and job security were each mentioned by one-sixth of these workers.

Reasons for entering public health did not vary with either governmental or administrative level. The one outstanding difference among the services was that a greater proportion of laboratory workers than of personnel in the other services entered public health fortuitously. Whereas less than one-quarter of all public health workers came into the field by chance, chance accounted for the entry of two-fifths of the laboratory workers.

Table 4. Reasons given for entering public health by personnel in State and local health departments [1]

Administrative level and service	Number supplying information	Percent giving stated reason							
		Chance	Personal contacts	Work content	Working conditions	Education and training	"Calling"	"Stepping stone"	Political appointment
High-echelon									
Medical	66	12	24	29	21	9	3	0	2
Nursing	81	9	25	28	12	21	4	1	0
Sanitation	39	18	44	5	13	13	0	5	2
Laboratory	28	39	36	0	7	11	0	4	4
Administration	14	43	0	14	36	0	0	0	7
Health education	8	38	12	25	0	12	0	0	12
Statistics	10	40	20	10	20	10	0	0	0
Other	34	24	35	24	6	12	0	0	0
Total	280	19	28	20	14	13	2	1	2
Staff									
Medical	12	8	8	17	42	25	0	0	0
Nursing	88	14	18	28	20	16	3	0	0
Sanitation	68	20	15	18	25	7	3	3	9
Laboratory	84	41	17	15	15	5	0	7	0
Health education	14	21	37	7	21	14	0	0	0
Statistics	18	55	22	11	0	6	6	0	0
Other	31	26	16	26	23	0	6	3	0
Total [2]	315	26	18	20	20	9	2	3	2

[1] Includes visiting nurse associations.

[2] Total percentages are only approximations, because the staff-level sample was not equally representative of all services.

Public Health Experience

Sixty-three percent of the personnel in administrative positions and 33 percent of the staff had had 10 or more years' experience in public health (table 5). Thirty percent of the former and 15 percent of the latter had been engaged in public health for 20 years or longer. High-echelon personnel had spent an average of 14.6 years in public health; staff personnel, an average of 9.2 years. Except for the fact that more State (84 percent) than local (44 percent) sanitation personnel in the higher administrative echelons had been employed in public health for 10 years or more, there were no significant differences between State and local personnel. Neither were there significant differences among the services.

The number of years that the personnel had spent in their present agencies is to be found in table 6. Approximately one-third of all high-echelon personnel had worked in their present agencies for less than 5 years; one-quarter, 5 to 9 years; another quarter, 10 to 19 years; and one-sixth, 20 years or longer. Roughly half of the staff personnel had been with their present agencies for less than 5 years; one-quarter, 5 to 9 years; one-sixth, 10 to 19 years; and one-tenth, 20 years or longer. There was only one significant difference between State and local personnel. Almost half of the high-echelon sanitation personnel in State health departments had worked for the same agency for 20 years or longer, but none of the high-echelon sanitation personnel in local health departments had had such experience.

Three-quarters of the high-echelon personnel in public health for 10 to 19 years had worked for the same agency for a like period of time; half of those with longer public health experience had spent at least 20 years in their present agency. The experience of staff personnel was

Table 5. Duration of public health experience of personnel in State and local health departments [1]

Administrative level and service	Number supplying information	Percent with stated number of years' experience			
		1–4	5–9	10–19	20 or more
High-echelon					
Medical	67	18	24	24	34
Nursing	82	7	17	48	28
Sanitation	41	5	27	39	29
Laboratory	28	18	0	32	50
Administration	14	29	14	43	14
Health education	8	25	50	0	25
Statistics	10	30	20	30	20
Other	34	32	32	18	18
Total	284	16	21	33	30
Staff					
Medical	12	42	17	33	8
Nursing	89	43	26	13	18
Sanitation	69	48	17	15	20
Laboratory	77	44	33	18	5
Health education	13	23	46	15	15
Statistics	21	43	9	24	24
Other	33	36	18	33	12
Total [2]	314	43	24	18	15

[1] Includes visiting nurse associations.
[2] Total percentages are only approximations, because the staff-level sample was not equally representative of all services.

Table 6. Years in present agency of personnel in State and local health departments [1]

Administrative level and service	Number supplying information	Percent with stated number of years in present agency			
		1–4	5–9	10–19	20 or more
High-echelon					
Medical	68	40	25	24	12
Nursing	84	34	32	24	10
Sanitation	39	23	18	31	28
Laboratory	28	36	11	25	28
Administration	15	33	27	27	13
Health education	8	50	38	12	0
Statistics	11	36	18	27	18
Other	31	62	16	16	6
Total	284	38	24	24	14
Staff					
Medical	12	58	17	17	8
Nursing	95	54	25	12	10
Sanitation	65	54	17	12	17
Laboratory	85	53	27	15	5
Health education	14	43	36	7	14
Statistics	21	24	28	24	24
Other	24	50	17	25	8
Total [2]	316	51	24	14	11

[1] Includes visiting nurse associations.
[2] Total percentages are only approximations, because the staff-level sample was not equally representative of all services.

Table 7. Past experiences that State and local health department [1] personnel have found particularly valuable

Administrative level and service	Number supplying information	Percent in specified category						
		General learning	Knowledge of community	Administration	Philosophy	Specific technical procedures	Interpersonal relations	Other
High-echelon								
Medical	67	28	40	15	27	18	19	13
Nursing	83	41	31	36	14	13	23	24
Sanitation	39	51	28	20	13	36	15	10
Laboratory	28	29	4	36	7	29	14	18
Administration	15	27	13	67	7	0	0	20
Health education	8	12	25	12	0	62	12	25
Statistics	10	70	0	30	0	30	20	0
Other	31	6	45	19	13	13	23	32
Total	281	34	30	28	15	20	18	19
Staff								
Medical	12	25	42	8	8	8	25	17
Nursing	95	26	17	5	5	16	34	28
Sanitation	66	24	9	20	4	44	35	4
Laboratory	83	20	5	11	0	40	4	31
Health education	14	7	36	29	0	57	7	14
Statistics	20	5	5	10	0	30	15	25
Other	24	21	21	12	0	38	17	8
Total [2]	314	22	13	12	3	32	22	21

[1] Includes visiting nurse associations.
[2] Total percentages are approximations only, because the staff-level sample was not equally representative of all services.

similar. Three-quarters of those with either 10 to 19, or 20 or more years' experience had worked for their present agency for comparable periods.

Most Valuable Experiences

The workers were questioned about the attributes of their total work experience which they considered most valuable, and 1 to 3 answers were obtained from each respondent. These were classified in seven categories, as follows: (*a*) knowledge and appreciation of the community, which covers comments concerning communities and their components in general, as well as specific communities, and techniques for working with community groups and individuals; (*b*) knowledge and appreciation of organization and administration, which covers all phases of management and supervision; (*c*) development of a philosophy of public health or government; (*d*) learning about interpersonal relations and development of qualities of personality that would promote good relations; (*e*) learning specific technical procedures, including the techniques of communication; (*f*) learning about public health generally and about working in a public health organization; and (*g*) a residual category, which includes statements too general to be classified under any of the other categories.

Either because their past experiences had been different or because they viewed their past experiences differently, high-echelon and staff personnel differed as to what they considered most valuable (table 7). Approximately one-third of the former and one-fifth of the latter were impressed with the general learning opportunities that their experience had provided. The opportunities for learning about the community and for learning about administration were considered important by one-third of the personnel at the higher administrative levels but by only one-eighth of those at staff level.

Whereas 15 percent of high-echelon personnel felt that their past experience was particularly valuable because of the opportunities it afforded them to develop a philosophy of public health, only 3 percent of staff personnel gave this reason. One-third of the staff personnel, as compared to one-fifth of the personnel in higher positions, emphasized the opportunities for learning specific technical procedures as being particularly valuable. Only in regard to experience in interpersonal relations were the staff and higher administrative groups similar. One-fifth of each group felt that their past experience was unusually valuable because of the experience it gave them in interpersonal relations.

There were also a number of striking differences among the services. Among high-echelon personnel, members of the laboratory service mentioned knowledge of the community infrequently. A relatively large proportion of medical personnel emphasized philosophy. A larger percentage of sanitation and laboratory personnel than of medical and nursing personnel stated that the opportunities in their past experience for learning specific technical procedures were especially valuable.

Among staff personnel, members of the medi-

Table 8. Relation between public health experience and salary of high-echelon personnel in State and local health departments [1]

Service and duration of experience in years	Number supplying information	Percent with stated salary					Mean salary
		$3,000–3,999	$4,000–5,999	$6,000–7,999	$8,000–9,999	$10,000 or more	
Medical	64	0	5	17	42	36	$9,300
1–9	26	0	0	27	35	38	9,300
10–19	16	0	1	19	44	25	8,800
20 or more	22	0	4	4	50	41	9,500
Nursing	81	28	62	10	0	0	4,500
1–9	19	47	53	0	0	0	4,000
10–19	39	20	72	8	0	0	4,500
20 or more	23	26	52	22	0	0	4,900
Sanitation	42	10	40	26	19	5	6,300
1–9	13	15	62	23	0	0	5,000
10–19	16	6	38	31	19	6	6,700
20 or more	13	8	23	23	38	8	7,200
Laboratory	28	4	50	18	14	14	6,700
1–9	5	0	40	40	20	0	6,300
10–19	9	11	44	11	11	22	6,700
20 or more	14	0	57	14	14	14	6,800
Health education	20	20	55	20	5	0	5,200
1–9	11	27	64	9	0	0	4,500
10–19	6	17	50	17	17	0	6,000
20 or more	3	0	33	67	0	0	5,800
Statistics	10	30	30	20	20	0	5,500
1–9	5	60	20	20	0	0	4,300
10–19	3	0	67	0	33	0	6,200
20 or more	2	0	0	50	50	0	7,500
Administration	14	29	43	14	14	0	5,500
1–9	6	17	50	0	33	0	6,000
10–19	6	50	33	17	0	0	4,700
20 or more	2	0	50	50	0	0	6,500
Other	33	15	67	6	9	3	5,400
1–9	21	19	71	5	5	0	5,000
10–19	6	0	50	17	17	17	6,800
20 or more	6	17	67	0	17	0	5,200

[1] Includes visiting nurse associations.

cal and health education services emphasized the opportunities for learning about the community, but such opportunities seemed to be of relatively little importance for sanitation, laboratory, and statistics personnel. Relatively few physicians and nurses mentioned learning specific technical procedures as important.

Salary and Experience

Because of salary differentials associated with service, the relation of salary to public health experience was investigated for the several services separately, as shown in tables 8 and 9. The average salary of staff nurses was less than that of any other service group of staff workers. The staff physician earned more than twice as much as staff workers in the other services. A relatively smaller differential existed between the salaries of staff and high-echelon personnel in the medical service than in the other services.

Except that a significantly larger proportion of State than of local nurses at the higher administrative levels earned $4,000 a year or more, and that a significantly larger proportion of State than of local sanitation personnel at the higher administrative levels earned $5,000 a year or more, there were no significant State-local differences. Inasmuch as 19 percent of the State nurses and 25 percent of the local nurses had had less than 10 years' experience in public health, the salary differential for nurses could not be attributed to quantitative differences in experience. The situation was different

Table 9. Relation between public health experience and salary of staff personnel in State and local health departments [1]

Service and duration of experience in years	Number supplying information	Percent with stated salary							Mean salary
		$2,000–2,999	$3,000–3,999	$4,000–4,999	$5,000–5,999	$6,000–7,999	$8,000–9,999	$10,000–or more	
Medical	11	0	0	0	9	45	36	9	$7, 900
1–9	6	0	0	0	0	50	33	17	8, 200
10–19	4	0	0	0	0	50	50	0	8, 000
20 or more	1	0	0	0	100	0	0	0	5, 500
Nursing	89	25	65	10	0	0	0	0	3, 400
1–9	61	24	66	10	0	0	0	0	3, 400
10–19	12	25	75	0	0	0	0	0	3, 200
20 or more	16	25	56	19	0	0	0	0	3, 400
Sanitation	69	6	52	17	19	6	0	0	4, 200
1–9	45	7	47	20	20	7	0	0	4, 200
10–19	10	0	60	0	30	10	0	0	4, 400
20 or more	14	7	64	21	7	0	0	0	3, 800
Laboratory	76	14	36	43	4	3	0	0	3, 900
1–9	58	19	40	34	3	3	0	0	3, 800
10–19	14	0	21	72	7	0	0	0	4, 400
20 or more	4	0	25	75	0	0	0	0	4, 200
Health education	13	0	31	61	8	0	0	0	4, 300
1–9	9	0	22	67	11	0	0	0	4, 400
10–19	2	0	0	100	0	0	0	0	4, 500
20 or more	2	0	100	0	0	0	0	0	3, 500
Statistics	21	19	52	24	0	5	0	0	3, 700
1–9	11	18	36	45	0	0	0	0	3, 800
10–19	5	20	60	0	0	20	0	0	3, 900
20 or more	5	20	80	0	0	0	0	0	3, 300
Other	33	15	42	24	9	9	0	0	4, 100
1–9	18	22	33	22	17	6	0	0	4, 100
10–19	11	9	54	18	0	18	0	0	4, 200
20 or more	4	0	50	50	0	0	0	0	4, 000

[1] Includes visiting nurse associations.

for sanitation personnel, however. Only 15 percent of the sanitation workers in State agencies, as compared to 56 percent of those in local agencies, had had less than 10 years' experience in public health.

As can be seen in table 8, there is a tendency in all the services, except medical and administration, for higher salaries for high-echelon personnel to be associated with longer experience in public health.

Table 9 shows the distribution of staff-level workers in accordance with salary and duration of public health experience. An unexpected finding here is that salary does not increase with increased experience in public health. Actually, in more than half of the services, the staff worker with 20 years' or more experience in public health earns less than the less-experienced individual. This may indicate, of course, that workers who have remained in staff positions for this long period of time have less ability than their co-workers, since, despite their experience, they have been unable to advance in the administrative hierarchy, but there may be other explanations. Only through promotion to a higher rank can the staff worker in a public health agency hope to better his earnings materially.

Summary and Discussion

As a part of the Yale Public Health Personnel Research Project, data on work experience were obtained from more than 600 professional and semiprofessional personnel in State and local health departments and visiting nurse associations in 4 States. Although the data are not of a nature to permit firm conclusions concerning utilization and recruitment of personnel, they do bring to mind several questions that warrant consideration.

Perhaps the most important of the findings were those concerning when and how persons enter the field of public health. Few workers, it was found, entered the field at the beginning of their careers. Chance was one of the three most frequently given reasons for entering public health, whereas formal vocational counseling was mentioned by only 2 of 595 workers.

Can experience in fields other than public health contribute in a significant fashion to the success of the worker in his public health job? If so, public health administrators must make a conscious effort to make maximal use of the past experience of their workers. To what extent is this being done?

If, on the other hand, experience in fields other than public health is not essential nor even beneficial to public health workers, what can be done to alter the situation? The fact that chance played a major role in directing workers into public health certainly indicates a lack of systematic planning for recruitment of public health workers. It would not be unreasonable to assume that recruitment for public health could benefit by serious study and conscious planning.