

CAREER DEVELOPMENT OF PENNSYLVANIA SANITARIANS

Harry Steigman, M.P.H., Frank A. Kohler, B.S., B. Russell Franklin, M.P.H., and Walter M. S. Tresville, Jr., B.A.

THE ROLE of the sanitarian in Pennsylvania has changed radically in many areas of the State since the survey conducted by O'Brien in 1956 (1). As a result of this change, the training program has been modified to reflect the new activities and responsibilities of the sanitarians. It has also become possible to distinguish the sanitarian from the sanitary inspector because the environmental health services they provide vary significantly. The sanitarian today is responsible for surveying and evaluating the nature and significance of sanitation problems in the communities in which he works. He is required to formulate the objectives necessary to achieve improved environmental conditions and the methods to attain these objectives. The sanitary inspector performs only inspections. This paper concerns only sanitarians, as defined above.

To investigate the progress of sanitarians in Pennsylvania as reflected in education and salaries, a survey was conducted in December 1960. It included the sanitarians in the Pennsylvania, the Allegheny County, and the Philadelphia Health Departments. It did not include sanitarians who may be employed in other local health jurisdictions or those in private industry. However, the study, which covered 318 sanitarians, included the majority of environmental health workers in the State and was a cross section having statistical significance.

Mr. Steigman is director of the division of sanitation, Pennsylvania Department of Health; Mr. Franklin is chief of the training section of the division of environmental health, Philadelphia Department of Public Health; Mr. Kohler is instructor of civil engineering, Pennsylvania State University; and Mr. Tresville is training officer for the field training center of the State health department.

Since O'Brien's study included sanitary inspectors along with sanitarians, data from the 1960 survey are not completely comparable with the 1956 data. However, they are sufficiently similar to indicate trends. In general, the 1960 data bear out the rapid changes observed by O'Brien.

Survey Findings

Population ratio. In determining the number of sanitarians employed by health departments in relation to the population they serve, the 1960 census figures were used. In Allegheny County there was approximately 1 sanitarian to 20,000 persons; in Philadelphia the ratio was 1 to 20,000; and in the State health department's direct service areas it was 1 to 32,000. These figures indicate an increase since 1956 in the ratio of sanitarians to population, but the ratio falls short of the nationally recommended standard of 1 to 15,000.

Age, education, and salary. There has been a definite shift in the age and education of the sanitarians working in the State of Pennsylvania. In 1956, the average sanitarian was 45 years of age or over, without a college degree. In 1960, the average sanitarian was less than 40 years of age and had a college degree. Of the 311 sanitarians included in this analysis, 233 had bachelor degrees, and of these, 64 had graduate degrees. This indicates better than a twofold increase in graduate degrees during the 4-year period since O'Brien's study. Table 1 shows the relationship of age to education among Pennsylvania sanitarians in 1960. The table depicts the progress in the sanitarian's education both statewide and in the three major health jurisdictions.

It should be noted that since 1956 the basic

Table 1. Relationship of age to education among Pennsylvania sanitarians, 1960¹

Age group (year)	Did not attend high school	Attended high school but not college	Attended college	Received bachelor's degree	Received graduate degree				
					M.S.	M.A.	M.P.H.	Ph.D.	Others
Statewide									
Under 25.....	0	0	21	21	0	0	1	0	0
25-29.....	0	4	81	81	1	0	7	0	1
30-34.....	0	0	52	49	3	1	7	0	0
35-39.....	0	6	41	41	4	1	12	0	3
40-44.....	0	9	24	18	2	0	5	0	1
45-49.....	0	8	9	8	1	0	3	0	1
50-54.....	4	7	8	8	1	0	3	1	1
55-59.....	5	5	4	3	0	1	0	1	1
60 and over.....	9	10	4	4	1	0	0	0	0
All ages.....	18	49	244	233	13	3	38	2	8
Pennsylvania Health Department									
Under 25.....	0	0	12	12	0	0	1	0	0
25-29.....	0	3	38	38	0	0	2	0	1
30-34.....	0	0	30	27	0	1	4	0	0
35-39.....	0	3	9	9	1	0	3	0	0
40-44.....	0	5	7	5	0	0	1	0	0
45-49.....	0	6	4	3	0	0	1	0	0
50-54.....	3	1	2	2	0	0	0	0	0
55-59.....	2	3	1	0	0	0	0	0	1
60 and over.....	3	3	3	3	1	0	0	0	0
All ages.....	8	24	106	99	2	1	12	0	2
Allegheny County									
Under 25.....	0	0	6	6	0	0	0	0	0
25-29.....	0	0	24	24	0	0	1	0	0
30-34.....	0	0	8	8	2	0	0	0	0
35-39.....	0	2	16	16	1	1	4	0	2
40-44.....	0	2	9	7	1	0	3	0	0
45-49.....	0	0	1	1	0	0	0	0	0
50-54.....	0	1	3	3	0	0	1	0	0
55-59.....	0	1	2	2	0	0	0	0	0
60 and over.....	4	5	1	1	0	0	0	0	0
All ages.....	4	11	70	68	4	1	9	0	2
Philadelphia County									
Under 25.....	0	0	3	3	0	0	0	0	0
25-29.....	0	1	19	19	1	0	4	0	0
30-34.....	0	0	14	14	1	0	3	0	0
35-39.....	0	1	16	16	2	0	5	0	1
40-44.....	0	2	8	6	1	0	1	0	1
45-49.....	0	2	4	4	1	0	2	0	1
50-54.....	1	5	3	3	1	0	2	1	1
55-59.....	3	1	1	1	0	1	0	1	0
60 and over.....	2	2	0	0	0	0	0	0	0
All ages.....	6	14	68	66	7	1	17	2	4

¹ Data on education were available for only 311 sanitarians.

Table 2. Relationship of age to salary among Pennsylvania sanitarians, 1960

Age group	\$4500- \$4800	\$4900- \$6000	\$6100- \$6700	\$6800- \$7800	More than \$7800
Statewide					
Under 25.....	5	14	0	0	0
25-29.....	21	50	9	2	1
30-34.....	4	29	9	5	4
35-39.....	6	21	9	5	7
40-44.....	2	17	7	3	4
45-49.....	0	12	2	1	4
50-54.....	2	12	3	0	4
55-59.....	1	12	0	1	1
60 and over.....	8	19	2	0	0
All ages.....	49	186	41	17	25
Pennsylvania Health Department					
Under 25.....	0	10	0	0	0
25-29.....	0	38	2	0	0
30-34.....	0	25	2	1	1
35-39.....	0	11	0	2	0
40-44.....	0	10	0	2	0
45-49.....	0	9	0	1	1
50-54.....	0	7	1	0	0
55-59.....	0	6	0	1	0
60 and over.....	0	8	1	0	0
All ages.....	0	124	6	7	2
Allegheny County					
Under 25.....	5	1	0	0	0
25-29.....	21	1	1	1	0
30-34.....	4	1	2	1	0
35-39.....	6	5	5	1	1
40-44.....	2	5	2	0	2
45-49.....	0	1	0	0	0
50-54.....	2	1	0	0	1
55-59.....	1	2	0	0	0
60-64.....	5	5	0	0	0
65-69.....	3	3	0	0	0
All ages.....	49	25	10	3	4
Philadelphia County					
Under 25.....	0	3	0	0	0
25-29.....	0	11	6	1	1
30-34.....	0	3	5	3	3
35-39.....	0	5	4	2	6
40-44.....	0	2	5	1	2
45-49.....	0	2	2	0	3
50-54.....	0	4	2	0	3
55-59.....	0	4	0	0	1
60 and over.....	0	3	1	0	0
All ages.....	0	37	25	7	19

minimum requirement for entering the field of sanitation with the State or county health departments is a bachelor's degree in either the biological, chemical, dairy, sanitary, or food sciences. The city of Philadelphia requires a bachelor's degree in either sanitary, dairy, or food science, or a bachelor's degree in biological science plus 1 year's experience.

The salaries of sanitarians have also increased considerably since 1956. Eighty-three percent of those included in O'Brien's survey were making less than \$5,000 a year, and 73 percent, less than \$4,500. At the time the present survey was completed only 15 percent were earning less than \$4,900; the remainder had annual salaries ranging from \$4,900 to \$13,000. Table 2 shows the relationship of salary to age for the 318 sanitarians covered in the 1960 survey and separately for the sanitarians in each of the three major health jurisdictions.

Training

The training and orientation program for new employees of State and county health departments who have a bachelor's degree in the biological or chemical sciences takes approximately 9 months. The first 3 months are spent in general orientation, which includes familiarization of the new recruit with the general responsibilities and functions of the health department and with the specific responsibilities and functions of its environmental health services. During the second 3 months the recruit receives training in the basic technical aspects of the work encompassed by the public health agencies. For Allegheny County and the Pennsylvania Health Department sanitarians, a 3-week field project is included in which each trainee is responsible for developing and implementing either an assigned project or one of his own choosing. For the last 3 months of his training and orientation the new sanitarian is assigned to his work area where he is closely supervised and evaluated as to his ability to apply his training experience to practical, everyday problems.

In addition to this training for new personnel the State and county health departments also give periodic, topical training courses to staff members whenever new information is

available or whenever program changes are made or program emphasis altered.

In Philadelphia the new employee begins his orientation to the field of public health in one of the district health center offices. Here, under the close supervision of a district sanitation supervisor, he learns the various elements of environmental health programs by first observing an experienced sanitarian and then by being observed while performing similar duties. His proficiency is checked by his supervisor to determine his readiness to work independently.

After 6 months of field experience in a district health center program, the new sanitarian may be assigned to a centrally operated program in accident control or radiological health for additional training. This is a short-term assignment and serves as an introduction to these particular environmental health programs.

In addition, Philadelphia has a program in cooperative education with Drexel Institute of Technology. This program began with engineering trainees and was later expanded to the biological science curriculum. In the cooperative program, the student trainee spends 6 months in a work situation with the health department. When this work assignment is completed, the trainee returns to school, and he is replaced by another student. The introduction to public health that these Drexel students have had has served as an effective recruitment tool.

In many areas throughout the Commonwealth the large official agencies have developed a summer traineeship program for college students. In this program college students are employed each summer after their freshman, sophomore, and junior years. They either receive the aforementioned training for new em-

ployees or are placed in work situations under close supervision. The three summers of training for these students are equated with the 3-month units of the regular training program. Upon graduation, the summer traineeship students are eligible for employment as sanitarians.

Summary

During the 4-year period from 1956 to 1960, there has been a definite shift in the age and education of sanitarians working in Pennsylvania. In 1956 the average sanitarian was 45 years of age or over, without a college degree. By 1960 the average age had dropped to below 40 years, and 75 percent of the staff had bachelor's degrees. Sixty-four sanitarians had graduate degrees, indicating a definite trend in which academic training at the graduate level is felt essential by the staff.

A 9-month orientation and training program has been developed for new employees. This program is intended to prepare biology and chemistry graduates for environmental health work.

In addition, the large official health agencies have developed a procedure whereby college students are employed as trainees during the summers after their freshman, sophomore, and junior years. This program orients trainees to the field of environmental health and motivates them to incorporate into their college curriculum those subjects that will be of greatest value in this work.

REFERENCE

- (1) O'Brien, H. R. : A baseline survey of Pennsylvania sanitarians and their backgrounds. Pub. Health Rep. 74 : 559-563, June 1959.