Methods for Meeting Personnel Shortages

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A CHRONIC problem in most public health agencies is the inability to recruit qualified personnel in many professional and technical categories. Physicians, dentists, nurses, sanitary engineers, nutritionists, social workers, among other classes of health manpower, are in short supply.

The shortage story is not the same in all jurisdictions. In recruiting nurses, for example, some agencies have an acute problem, others experience moderate difficulty, and a few list this as one of their minor personnel concerns. The agency with a serious nurse recruitment problem may have only moderate difficulty in recruiting physicians or dentists while the reverse is true in another jurisdiction.

The immediate and almost universal response when recruitment is difficult in a given occupational group is to raise the salaries. Frequently an inadequate salary scale is the root of the problem; often it is not. Of course, salary and fringe benefits are of major importance in recruiting well-qualified staff. If the salary schedule in the jurisdiction is far below pay standards in the community, not much can be done until the schedule is adjusted to conform more closely to the prevailing rates. My discussion will center on techniques that may be usefully explored to meet shortage problems, assuming that the salary schedule is not the major factor in creating and maintaining the shortage.

The experience of the New York City Health Department in meeting a serious shortage of nurses may provide useful clues for other agencies faced with the same or similar difficulties. Nurse recruitment became an acute problem for our agency within a few years after World War II. During the war years, many programs had to be curtailed because of personnel shortages. Doctors were in short supply and all activities had to be planned in the light of the manpower available. A number of our nurses enlisted in the armed services. In 1941, we had 797 professional nurses on full-time duty. This number declined to 740 in 1943 and remained in a range of 740 to 790 until 1947 when it dropped sharply to 672. Then the picture improved as more nurses became available for recruitment. The number of nurses slowly but steadily increased: 773 in 1948, 814 in 1949, and 860 in 1950.

The increase in nursing staff, encouraging as it was during those early postwar years, was not adequate to keep up with the expanding services of the department and rapidly rising caseloads. Program directors in school health, maternal and child health, tuberculosis, social hygiene, and other areas made demands for nursing service which the nursing bureau could not meet.

Nonprofessional Assistants

The stage was thus set for the introduction of a new class of positions in the department—a nurse aide or nurse assistant to relieve the nurse of some of the time-consuming nonprofessional chores and duties which traditionally had been viewed as part of the nurse's job. A special committee was established to review critically the many and diverse duties entrusted to the public health nurse and to classify those job components which could be carried out effec-

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tively by persons without a professional background in nursing. This review led in 1948 to the establishment of a new class of positions called public health assistants. The job specification for this title lists the following duties:

- Acting as receptionist; giving directions and general information concerning clinic or child health facilities.
- Registration and admission of patients; recording identifying data.
- Recording laboratory and other medical reports on patients' records.
- Tabulating and recording clinic visits and other activities on daily tally sheets.
- Putting and keeping clinic rooms in order before, during, and after the clinic sessions, replenishing supplies, changing linens, cleaning and sterilizing instruments and equipment, setting up and cleaning various types of trays.
- Observing signs of illness in patients and referring the patients to the physician or public health nurse promptly.
- Keeping supply closets in order; preparing supplies as necessary if not available in ready-to-use form.
- Assisting in preparation and examination of patients, including weighing, measuring height, taking temperature, escorting and chaperoning patients, and related duties.

To be eligible for appointment as a public health assistant, a candidate must have a high school diploma and at least 1 year of experience assisting a physician or nurse in a hospital, health clinic, or doctor's office.

Only 57 public health assistant positions were added to the department's budget in 1948. As experience was gained in the employment of public health assistants, the number of budgeted positions was gradually increased. At the start, since the public health assistants were chiefly assigned to clinics in the field program of the department, they were placed under the direction of the bureau of district services for training, placement, and supervision. Subsequently, as it became clear that they were working chiefly under the close supervision of public health nurses, they were placed under the jurisdiction of the bureau of public health nursing. This transfer took place in 1952. The substantial increase in the number of public health assistants is shown in table 1. The number employed has risen steadily each year, from 172 in 1953 to 451 in 1962.

Public health assistants are used widely in all programs of the department. They work in child health stations, in tuberculosis and venereal disease programs, in the school health service, and in the specialty clinics, such as

Table 1. Number of nurses and public health assistants, New York City Department of Health, 1953–62

Year	Full-time nurses			Public health nurses on session basis [1]			Staff nurses on session basis [2]			Full-time equivalents of contract nursing	Total full-time nurses and full-time equivalents	Number of public health assistants
	Public health	Staff	Total	Number of sessions	Number of nurses	Full-time equivalents	Number of sessions	Number of nurses	Full-time equivalents			
1953	735		735								735	172
1954	704		704								704	215
1955	685		685								685	304
1956	515	162	677	12, 500	46	35					712	351
1957	486	174	660	13, 500	76	36				8	704	373
1958	481	156	637	13, 750	97	37				18	692	413
1959	456	121	577	17, 875	110	50				17	644	411
1960	434	115	549	18, 000	113	50				15	614	412
1961	449	103	552	18, 412	106	51	11, 724	70	40	24	667	431
1962	414	133	547	18, 062	110	50	15, 247	93	53	25	675	451

[1] 4-hour session.
[2] 5-hour session.

NOTE: Full-time equivalents $= \frac{\text{hours per session} \times \text{number of sessions}}{1,450}$.

those set up for diabetes and glaucoma testing, cancer detection, nutrition, and adult health maintenance. Under the supervision of a physician or public health nurse, they execute a wide range of nonprofessional tasks that formerly were the responsibility of the nursing staff.

The late director of our nursing bureau, Miss Patricia I. Heely, in a detailed review of 7 years' experience with the use of public health assistants, commented:

"Having come through most of the stumbles and snags, we believe that public health assistants are an integral and necessary part of our health team. . . . Public health nurses have been freed from the details of housekeeping and clinic management and have been relieved of great quantities of clerical work. It is true that they have an additional job of supervision, but most nurses find this a welcome exchange" (*1*).

There is no doubt that many programs and activities now carried out by the department would have to be drastically curtailed if public health assistants were not employed. The use of the less well-trained or nonprofessional employee to carry out assignments traditionally carried out by a professionally trained person is a standard technique in personnel management for partially overcoming a shortage.

In the procedure that was used in the New York City Health Department, an audit is first made of the job components of the class of positions under study. The audit reveals and delineates those components which conceivably could be performed with reasonable competence by persons without the formal training and skills of the professional group concerned. Thereafter the audit team drafts a proposed position specification that includes those duties and tasks that might properly be eliminated from the professional class of positions and be transferred to another position category. This specification is then reviewed by all interested parties. If the persons and groups chiefly concerned in the audit agree that a new job title or titles would be desirable, the next steps are clear. The new class or classes of positions are established. Employees are recruited and given orientation and training. They are assigned and put under proper supervision. In a period of trial or demonstration, the new arrangements are carefully observed and evaluated.

A similar technique used in the Veterans Administration in respect to nursing positions has been described in detail (*2*).

Part-Time Nurses

Another technique commonly employed for coping with personnel shortages is the part-time use of personnel. The New York City Health Department has used this method in a variety of ways in a number of scarce personnel categories.

For 3 years, 1948–50, the department recruited more nurses than it lost by resignation, retirement, or death. Although the number recruited did not satisfactorily meet all program needs, the trend was encouraging. For about a year, the accessions to staff just about equaled the separations. Since then the number has decreased. From a peak strength of 860 in 1950, the number of full-time professional nurses dropped to 547 in 1962, a decrease of 36.4 percent. During this downward trend, vigorous efforts were made to raise nurses' salaries to levels more closely competitive with prevailing standards. These efforts met with a fair degree of success. A new position title of staff nurse was established in order to recruit nurses without public health training. (A public health nurse in New York must have a State license as a registered nurse, plus a total of 30 credits in public health, social aspects, psychology and education, and communication skills.)

In 1955 we established a part-time or session position for public health nurses. The concept of part-time employment of professional staff was not new. The agency had been employing physicians and dentists on a session basis for many years. But the application to nursing staff was new. Its potential benefits were made clear when, in our interviews with nurses who had filed resignations, we found many who said they could not continue to work for the department full time because of family or other obligations but were interested in part-time work. We found the same interest in part-time duty among a number of nurses retiring from serv-

ice. In the session plan that was established for public health nurses, the session period was fixed at 4 hours. The pay rate per session was calculated by multiplying by 4 the hourly rate for the per annum position. (The current rate for a 4-hour session is $11.10.) We invited applications from trained public health nurses in the community who could devote a minimum of three sessions a week to the department.

The program got underway slowly, but within a few years more than a hundred public health nurses were employed on this basis. Later, the session concept was extended to the staff nurse, particularly for use in our school health program. The session was fixed at 5 hours, approximating the school day. (The current session rate for a staff nurse is $12.15.)

Table 1 shows the number of nurses employed each year on a session basis, and also indicates the full-time equivalents of these part-time employees. As of July 1, 1962, there were 110 public health nurses and 93 staff nurses employed on a session basis. In terms of full-time equivalents, they represented 50 public health nurses and 53 staff nurses.

Contract Services

One other significant device, contract service, was used to alleviate the nurse shortage. For many years, the department has had close working relationships with the three visiting nurse associations in New York City. The Visiting Nurse Service of New York covers Manhattan, the Bronx, and Queens; the Brooklyn Visiting Nurse Association operates in that borough; and the Visiting Nurse Association of Staten Island provides service in the Borough of Richmond. The district staffs of these associations have been provided with rent-free space in our local health centers for a long time. The nursing staffs of the visiting nurse associations and our staff frequently work together on common problems. In 1955 we asked the visiting nurse associations whether they could take over some of the home visits performed by health department staff if they were compensated for the service. They agreed to do this, and contracts were entered into with the three associations whereby association nurses performed home visits and some generalized nurs-

Figure 1. Number of nurses and public health assistants, New York City Health Department, 1953–62

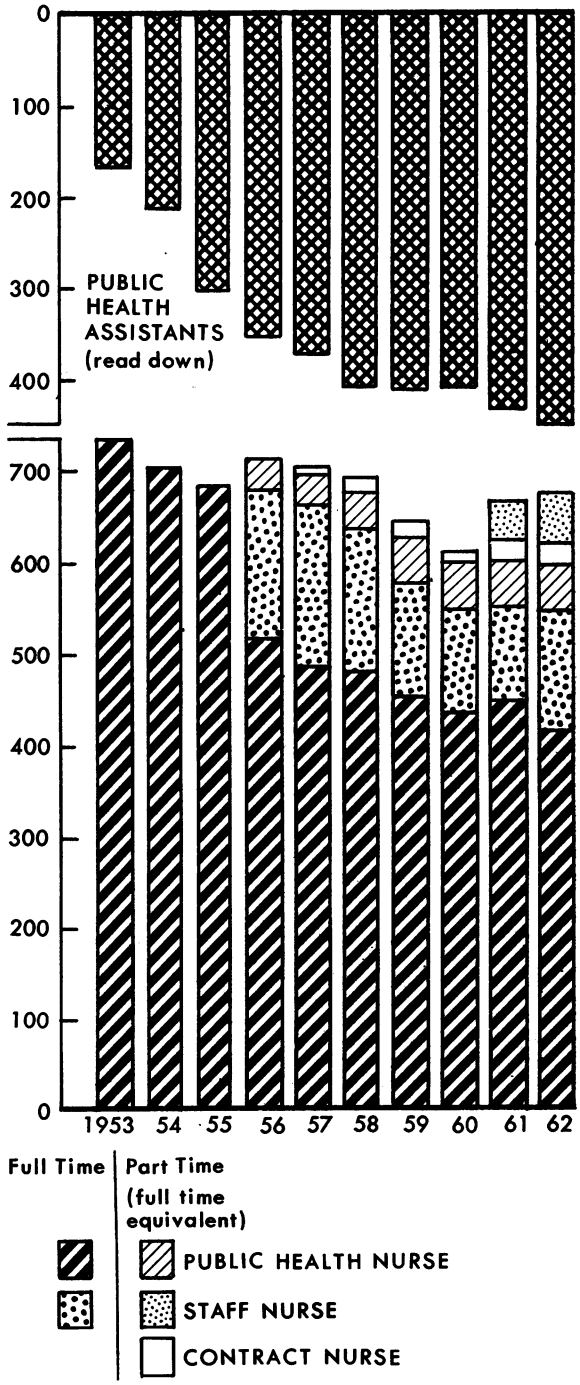


Table 2. Part-time and full-time physicians[1] and dentists,[1] New York City Health Department, 1953–62

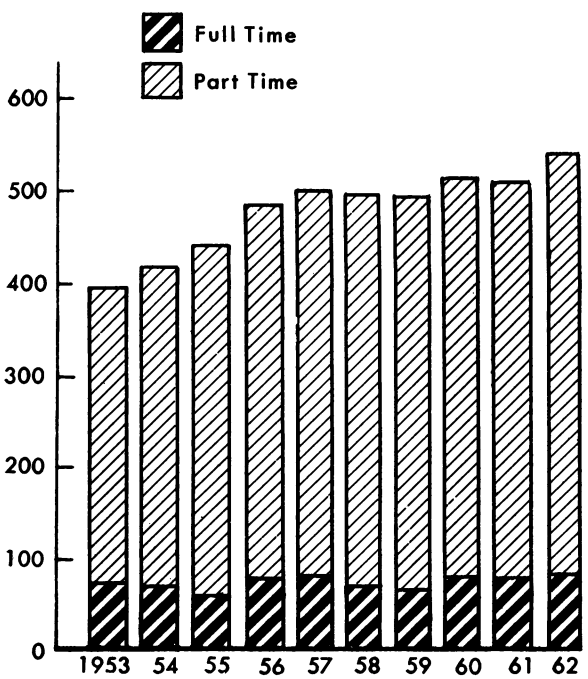
Year	Full-time physicians	Part-time physicians		Total full-time physicians and full-time equivalents	Full-time dentists	Part-time dentists		Total full-time dentists and full-time equivalents
		Number of sessions	Full-time equivalents			Number of sessions	Full-time equivalents	
1953	76	156, 276	323	399	18	28, 637	59	77
1954	73	165, 589	342	415	17	30, 620	65	82
1955	60	183, 118	380	440	17	31, 743	65	82
1956	78	196, 137	406	484	20	31, 616	65	85
1957	80	202, 075	418	498	23	33, 755	70	93
1958	73	203, 475	421	494	23	33, 506	70	93
1959	69	206, 633	427	496	23	33, 967	70	93
1960	79	208, 772	432	511	24	37, 074	77	101
1961	78	206, 293	427	505	24	41, 410	86	110
1962	81	217, 555	456	537	25	44, 844	90	115

[1] Does not include physicians and dentists in executive management.

NOTE: Full-time equivalents $= \frac{\text{hours per session} \times \text{number of sessions}}{1{,}450}$.

ing service for the department, and the department paid the actual costs of these services to the associations. This program started in 1956 and is still expanding. Expenditures under the contracts for public health services, exclusive of home care services for the New York City Department of Hospitals and the Department of Welfare, currently amount to $120,000 per year. The full-time equivalents of the services provided by the visiting nurse associations are shown in table 1.

Figure 2. Number of full-time and part-time physicians, New York City Health Department, 1953–62

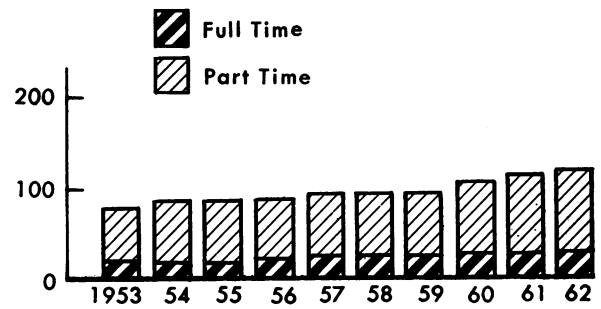


The data in table 1 reveal some significant developments. A declining trend in full-time nursing staff had become evident by 1953. Although the number of full-time professional nurses continued to decline, this has been more than offset in the past 2 years by the employment of part-time nurses and the use of contract service. When we add full-time nurse equivalents to full-time staff, we find an upward trend developing in 1961 (fig. 1).

Physicians and Dentists

Physicians and dentists have been employed on a part-time or fee-for-service basis by the

Figure 3. Number of full-time and part-time dentists, New York City Health Department, 1953–62



department of health as far back as detailed evidence is available. They have been employed on a per hour, per diem, and per case basis and in a variety of part-time arrangements at specified annual salaries. More recently, they have been widely employed on a 3-hour session basis, the usual time scheduled for a clinic session. This method is currently used to employ and pay most of the physicians and dentists who work for the agency. Table 2 and figures 2 and 3 show the number of full-time per annum and part-time session physicians and dentists employed during 1953–62. The full-time equivalents of the part-time physicians and dentists are also shown. Without the use of part-time medical and dental staff, the agency's programs would have to be drastically curtailed.

The use of physicians and dentists in public health agencies provides useful clues to coping with shortages in other professional areas. Positions on a session basis have also been established in the New York City Health Department for veterinarians, nutritionists, physical therapists, and dental assistants. A proposal has been submitted to our central personnel agency for the employment of public health social workers on this basis. Sanitary engineers are also in short supply, and a proposal to employ them on a limited-time basis is under consideration.

Although there are problems associated with the use of personnel on a half-time, per diem, per session, or other limited-time basis, these can be overcome by careful planning and adequate supervision. The use of scarce category personnel by contract or fee-for-service plans also should not be overlooked. Many professional people are reluctant to work for a public agency on an employer-employee basis but have no hesitation about performing services on some type of contractual arrangement. The New York City Health Department obtains the services of many outstanding specialists and consultants in this manner.

Administrative Barriers

One additional consideration is the administrative authority to carry out special employment arrangements. Such arrangements frequently upset our central budget and personnel offices. They are accustomed to full-time positions, per annum rates, competitive-service written examinations, civil service list certifications, and the like. Their concepts may need to be revised in the light of health manpower realities. Health agencies should have a great measure of flexibility in the use of appropriated funds for personnel and in the recruitment and appointment of qualified persons. Budgetary practice should permit an agency administrator to fill a budgeted vacancy with a full-time per annum worker if a qualified candidate is available. If not, the administrator should have various alternatives open to him, such as employing two half-time persons or converting the budgetary line to sessions, or employing someone on a per diem or perhaps a contractual arrangement. Without this flexibility and the authority to act quickly when qualified persons are available and interested, much of the usefulness of the techniques outlined will be lost.

Summary

Several techniques might be usefully explored by health agencies to alleviate or minimize shortage of professional personnel. Use of the less well-trained or nonprofessional employee to perform some of the duties and tasks traditionally assigned to the professional staff member should be given careful consideration. An integral part of any study to determine the feasibility of assigning certain duties to nonprofessional personnel should be a well-planned and carefully executed audit of the job components of the professional class of positions under review.

Employment of personnel on a part-time basis should also be given serious consideration. Physicians, dentists, nurses, and other personnel in short supply have been employed in the New York City Health Department on various part-time arrangements—half time, per diem, per session, fee for service, and on a contractual basis. A contract for specified nursing services with the three visiting nurse associations in New York City has proved of value in meeting the shortage problem. Some concepts and

practices of central budget and personnel offices of health departments may need revision in order to give health agencies the flexibility and the authority to act quickly and decisively when qualified persons are interested in the employment opportunities available.

REFERENCES

(*1*) Heely, P. I.: Public health assistants. Nursing Outlook 5: 408–410, July 1957.

(*2*) Veterans Administration, Department of Medicine and Surgery: Program guide—nursing service. Washington, D.C., Mar. 30, 1961.

Occupational Health Notes

Arsenic Investigation

Arsenic poisoning of a 23-year-old white woman secretary at a Kansas feed mill led to an investigation of the use of 3-nitro, 4-hydroxphenylarsonic acid and 4-nitrophenylarsonic acid as an additive in feed during milling.

The poison was believed to have reached the secretary by way of contaminated sheets of operational data sent to the office for tabulation from the feed-mixing area.

Solvent Analysis File

Requests from Pennsylvania industrial hygienists for analysis of solvent mixtures has prompted the occupational health laboratory to compile a file of solvent analysis results. The information is needed for evaluation of solvent exposure.

Gas chromatography and ultraviolet, near-infrared, and infrared spectroscopy will be used to separate and identify components of solvent mixtures.

Licensure

The Detroit Department of Health is experimenting with licensure to promote industrial hygiene in small establishments. An operating license is granted only to establishments meeting environmental health requirements.

Presently under licensure are drycleaning plants, laundries, automatic coin-operated laundries and drycleaning establishments; eating and drinking establishments; users of X-ray equipment and radioactive materials; hospitals and nursing and convalescent homes; and several minor industries. Several of these industries requested licensure with adequate inspection to protect the public and their employees.

Lead Hazard Investigated

Dismantlement of a 60-year-old steel bridge in Minnesota, coated many times with lead paint, provided occasion to investigate a lead hazard.

After the spans were dropped, the structural members were cut into sections with an acetylene torch. Four air samples collected with a midget impinger at the operator's breathing level contained lead concentrations ranging from 0.4 to 0.9 mg./m.^{3}, and four additional samples obtained 2 to 3 feet downwind from the point of cutting had concentrations ranging from 0.2 to 0.5 mg./m.^{3}

Four men spent about half time cutting with acetylene torches for 3 months. One cutter was hospitalized after the project was completed. Biological specimens are being sought from him and the other three cutters.

X-Ray Units Inspected

Twenty-six X-ray units in Los Angeles schools were corrected to meet requirements after inspection of PTA-sponsored radiation facilities by the city health department's division of occupational and radiological health.

Kentucky Plan for Local Accident Prevention

Accident prevention activities are being generated in all 120 local health jurisdictions by the accident prevention program of the Kentucky State Department of Health. Local accident prevention representatives are the key to this achievement.

Accident prevention is not new to local health departments in Kentucky. Although there had been a State program since 1953 and several county health departments have had effective short-term activities, accident prevention seemed to lack priority. Brief orientation of new employees at State or district meetings and circuit-riding visits by State program personnel were not sufficient to implant accident prevention as a function with status equal to that of more venerable health department responsibilities. To remedy this situation, it was considered desirable to have one person in each local jurisdiction who had primary responsibility for accident prevention.

After consultation with other program directors in the State health department, the accident prevention program drafted a memorandum which was approved and sent by the division of local health to all county health departments. It was made clear that the representative would not be expected to do all the accident prevention work in his department, but he would assume the responsibility for helping his fellow employees to fulfill their obligations to this facet of public health. Most counties named their representatives immediately. The group of 120 representatives included a variety of disciplines: 64 sanitarians, 20 administrative assistants, 15 health officers, 14 nurses, and 7 health educators.

All the designated local accident prevention representatives were qualified public health workers, but they needed additional specific instruction and resource materials to live up to their new roles. The first step in accomplishing this was to prepare for them an initial package of resource materials with sufficient facts and ideas to spark their thinking. A monthly bulletin was started to help keep them informed of achievements and successes in other counties. The local representatives were issued durable, especially embossed binders to contain the bulletins and the other material. Additions to the binders were sent whenever new data, program ideas, and problems were brought to the attention of the State unit by other State and national organizations.

But additional training and unity of purpose were needed. A day-and-a-half meeting was held in Louisville June 13–14, 1962, for which all local accident prevention representatives were authorized travel expenses to attend. The meeting opened with a message from the office of the commissioner of health. On the working schedule were presentations by Public Health Service specialists and State personnel and "how-we-did it" talks by county representatives. All speakers were public health workers except for a representative of the State department of education who works closely with the health department on accident prevention.

At the meeting there was an effort to show how the local health departments could assume leadership in safety activities in their communities. Local representatives were also given information about the public health resources available to them through existing channels. The effects of the meeting have been demonstrated in the increased correspondence and telephone calls received by the State program.

In Kentucky, the role of the State accident prevention program as the supporter of local health departments rather than as an operator at the local level has been accepted. Accident prevention has gained a place in the organizational hierarchy at the grass roots level. It is regarded as a program that should function in a manner similar to other programs in the health department and is recognized as a legal and moral responsibility of health agencies.—VICTOR FUQUA, M.P.H., *director, accident prevention program, Kentucky State Department of Health.*