Auxiliary Health Personnel: Training and Use

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FOR MANY YEARS we health administrators have been attempting to coerce, induce, incite, persuade, or compel physicians to go to the rural areas, and we are astonished that they evince signs of reluctance. We should, instead, be astonished that we succeed in getting any physicians to go to these areas. For if we train a person in the science of clinical medicine and the academic pursuit of knowledge and then attempt to place him in a position where his whole education is negated, then we are training him to job dissatisfaction. We are attempting to place the physician, an elegantly trained professional, in a somewhat inelegant position. The obvious end is dissatisfaction and frustration of the physician and poor use and maldistribution of high-level manpower in the underdeveloped territories.

There is no doubt that all countries want a physician-manned health service and that ultimately it will be achieved in the underprivileged areas. But in addition to wanting this service, they must be able to pay for it. By definition the underprivileged countries cannot immediately attain this objective. These countries have to pay not only for medical education, but must also pay for a health service that gives satisfaction to its personnel. This means providing the buildings, equipment, operational funds, and supporting staff that comprise the physician's working environment, and, most of all, allowing time for the physician to practice the type of medicine that he has been taught. There is also the need for some amenities such as educational facilities for the physician's children, adequate remuneration and housing, and means to overcome intellectual isolation. All these are heavily expensive.

But perhaps the physician is not needed to the extent that we imagine in the rural areas and many of his functions can be undertaken by lesser trained and much less costly personnel. What health administrators need to do is to apply the concepts of big business—market research, job analysis or the breakdown of the job into components that require a lesser degree of skill than that demanded for the whole, and organization and management. It is partly the image of medicine that is wrong. The emphasis is on the clinical aspects and not the managerial; today medicine demands competent management.

The Essential Distinctions

Better health may only be derived from the combination of many factors—not merely curative medicine or public health programs, but also higher incomes, more education, agricultural reform, better animal husbandry, and improved sanitation. The concept of the health team and the relationship of the physician in not only the health team but in the wider district team has been described (*1*).

There is a need to approach health from a broad ecological viewpoint. There is a differential in the acceptance of change in the various

disciplines which needs to be coordinated. Change can only be accepted at a certain rate, and it is not wise to attempt to exceed this rate. Furthermore, health services must have total outreach to all the people and not merely to a small privileged urban minority if they are to have any substantial impact on progress. In the attainment of total health, we need to assure that the quantitative demands for simple medical care do not obscure the need for quality care for those in urgent need. It is my belief that community health services develop best out of the attempt to give complete medical care to persons in their home environments.

The newly emerging countries are characterized by several common factors. These are limited economic resources, a paucity of educated manpower, rapidly expanding populations, conservative traditional cultures, a prevalence of communicable diseases, and undernutrition. Comprehensive medicine is beyond their reach today, but integrated medicine is not. The use of auxiliary health workers offers a means of achieving integrated medicine, that is, a balanced program of curative, preventive, and promotional medicine.

There are three essential distinctions in the delivery of health services. First is the distinction between human medical wants and scientific health needs. Human medical wants are very simple. They are for relief when hurt, care when sick, and reassurance and help during maternity. The majority of people in the underprivileged countries have not yet reached the stage of interest in health as such, but only want an absence of sickness. The scientific health needs are equally clear. They are control of the common communicable diseases including those of childhood, the parasitic diseases, and the vector-borne diseases; the need for planned fertility patterns, for, as Enke said, "the equivalent sum used to reduce births can be 100 times more effective in raising per capita incomes in underdeveloped countries than if invested in traditional development projects" (*2*); and the relief of protein-calorie malnutrition, which could be furthered by the marriage of agriculture and medicine (*3*).

The second distinction in the delivery of health services is that between the minor and major ills with the implication of minor and major solutions. I classify diseases into five categories for the purpose of distinguishing between minor and major ills. The symptomatic illnesses are the headaches, sore throats, bronchitides, flatulences, dyspepsias, colds, neuralgias, rheumatisms, aches and pains, colics, constipations, stomach aches, and diarrheas. A second classification is the visible ailments, including wounds, snakebites, tropical ulcers, scabies, eczemas, impetigos, burns, conjunctivitus, running eyes, caries, and goiters. A third group are those commonly known to the local population, the local entity diseases—tapeworm, roundworm, anemia, malaria, bilharzia, and gonorrhea. A fourth group are the infant and toddler diseases, such as marasmus, kwashiorkor, whooping cough, measles, and chickenpox. The final group are the suspect and referral diseases—those which must be referred to more highly trained persons for diagnosis and treatment.

In sophisticated society much illness is self-diagnosed and self-medicated. A survey in Great Britain and the United States (*4*) showed that in a population of 1,000 adults, in an average month 750 experience an episode of illness and 250 of these consult a physician. The rest diagnose and treat themselves. But in an unsophisticated society where there is both more illness and more ignorance concerning what to do about it, there is a much greater need for advice and help in treating these simple ambulant diseases.

The third essential distinction in delivering health services is in the training and use of auxiliaries in the assistant role when they are working directly subordinate to a more highly

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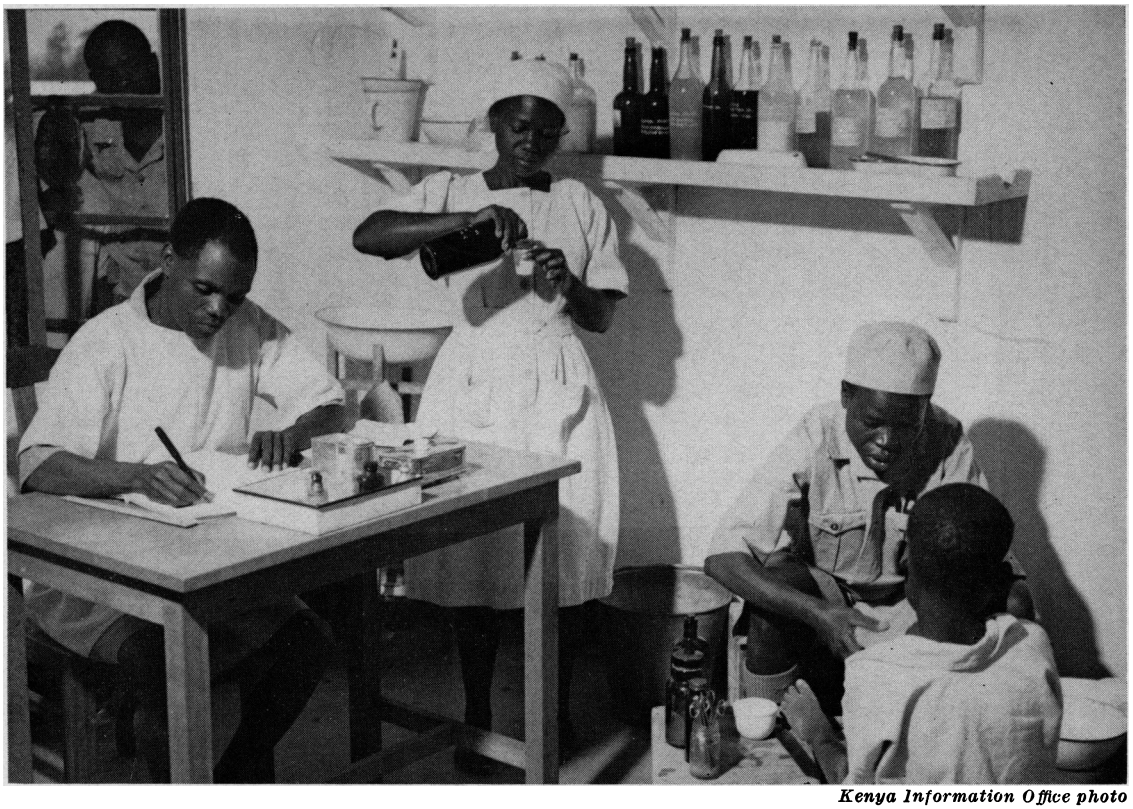

Kenya Information Office photo

Auxiliary staff at general outpatient clinic of a health center in Kenya

trained person and in the substitute role with supervision remote at best and completely absent at worst.

Delivery of Health Services

There are, broadly speaking, two methods of delivering rural health services and achieving total outreach. One is to develop an absolute standard for medical and health personnel. As time goes by the number of persons meeting these standards increases and their reach spreads from the center to the periphery to cover the whole population. The other is to commence at the economic and educational level which the country can afford, train personnel on a less rigid standard, begin with total outreach, and over a period of time raise the standard of education until professional quality is reached. At a distant end point both these methods will achieve the same result of quality care to all the people all the time. It is what happens to the people during the interim until this objective is reached that matters.

A combination of these two methods offers much better prospects for this interim period. Experience dictates that the demand for physicians and other high level manpower always exceeds supply. The use of auxiliaries, working through a few dedicated physicians and paramedical personnel, offers a much greater prospect for improving the health of the populations in the underprivileged territories than either of the two alternative methods.

Definitions

The term "subprofessional" should be discarded and forgotten, for it is both a denigration and a disparagement of a group of very responsible persons. It encourages neither group identification nor acceptance of responsibility.

The word "professional" is used here for the physician who has had a full secondary education plus a university technical education of accepted international standard. The word "paramedical" is used for persons of comparable status, full secondary education and a university or technical education, whose work does not encompass the whole field of medicine.

Such persons are the pharmacist, dentist, and agriculturalist—professionals in their own right.

The term "subprofessional" means someone with an incomplete secondary education plus an abridged technical education and is restricted mostly to the "near-physician." These are such persons as the subassistant surgeon of India, the assistant medical officer of Fiji and Yaba, the assistant health inspector of Kenya, and the qualified registered nurse of Ghana. Implications of second rate and substandard are associated with the term "subprofessional." The auxiliary is quite a different type of worker in that he complements the professional but does not supplant him. Again I stress that the term "subprofessional" should be abandoned.

The term "auxiliary" means helper, and such persons preferably are of middle school education (7 to 9 years) and have a technical education that is limited in breadth, depth, and time. It is not an abridged professional or paramedical education, but it is training for a specifically defined area of work and level of competency. Finally, the word "ancillary" is used in reference to persons who are not medically trained but who are nevertheless essential to organized medical services—the ward maids, kitchen staff, ambulance drivers, and so on.

It is essential that terms be introduced for auxiliaries which are clear in their meaning, descriptively appropriate, and not derogatory. For example, "practical nurse" and "enrolled nurse" are far more acceptable than "assistant nurse" yet are distinct from "registered nurse" without being derogatory.

The word "assistant" is an anathema when used as a prefix, but appears to be acceptable as a suffix, such as in "medical assistant." However, the term "medical assistant" has become so misunderstood and arouses so much emotionalism that I would suggest it be replaced with the word "apothecary," an old-fashioned word meaning storekeeper.

There should be a wide, clear gap between the auxiliary on the one hand and the professional on the other. I would make an analogy between this relationship and that of the noncommissioned ranks to the officers in the armed forces. The distinction between the two categories is clear, discipline is maintained, but the way is open for the exceptional candidate in times of stress to move from the noncommissioned to the officer ranks.

Types of Auxiliaries

The types of auxiliaries are single-purpose workers, multipurpose workers, and all-purpose village-level workers. The various types have arisen in response to the needs of the times. For example, single-purpose workers were trained because of the need to mount specific disease control and eradication programs and were recruited from pools of unlettered persons. Perhaps the Service de Lutte Contre les Grandes Endemies of the French-speaking African territories is the most famous and ancient exponent; the latest is the use of such workers in the anti-malaria programs. With the passing of time single-purpose workers have had to work with four, five, or even more diseases. These workers have limited usefulness and are difficult to absorb into the general health services when their specific programs end.

Multipurpose workers are generally drawn from the literate pool at various educational levels. They represent a more flexible approach to the development of auxiliaries and have a retraining potential. The all-purpose or village-level worker is in reality no more than an epidemiologic intelligence scout and, though useful at the start of developing total outreach, needs to be replaced by a more competent person at the earliest possible moment.

Auxiliaries generally fall into four grades: those who are unlettered, those who have 1 to 6 years of education, those with 7 to 9 years of education, and those with a secondary school education. It is with the auxiliaries with a secondary education that the dangers of a separate subprofessional category become apparent.

Countries may have the choice of a one-tier, two-tier, or three-tier structure of personnel in their health services. The one tier may be either the professional or the auxiliary. The two tier is the professional plus the auxiliary, and the three tier is the auxiliary plus the professional and paramedical divided into a two-tier structure—the diplomate with 3 years of university education and the graduate with 4 years of education. There is much to be said for this three-tier system, employed, for ex-

Kenya Information Office photo

Auxiliary public health nurse instructs at child health clinic of a health center in Kenya

ample, by sanitarians in Thailand. In Thailand there is a junior health worker of limited scope and abilities, a diplomate sanitary engineer of 3 years' university education, and a graduate sanitary engineer. Successful diplomate engineers are given further training and become graduate engineers. However, those engineers who earn the diploma but fail to qualify for the degree may, after a period in the field, retake the examination and gain entrance to the final year of school. Their prospects are not, therefore, unalterable if they do not qualify the first time.

Use of Auxiliaries

Selection and role. The purpose of the auxiliaries is simply to overcome shortages and maldistribution of health professionals and to serve the rural areas. They fulfill the quantitative demands of service at a cost that the country can afford, and they prevent the misuse of highly skilled and scarce manpower for mundane tasks.

In the selection of the auxiliary student more attention should be paid to reliability, diligence, and conscientiousness than to academic potential, because the quality of the individual is perhaps more important than what the educator tries to instill into him. The role is dual. In one role he is assistant to some more intensely trained person and has a strict limit on both functions and responsibility. If there is any sign that he is exceeding his function and responsibility, the senior person may overrule him immediately. In the role of substitute, however, there is necessarily a wider scope and more responsibility imposed, the exact degree of which is contingent upon the degree of isolation and the presence or lack of supervision. The auxiliary functioning in the substitute role has the responsibility of deciding for himself when the limits of his knowledge and skill have been exceeded. He is, in fact, in the practical business of saving lives.

Function. The function of the auxiliary is to practice empirical medicine. He uses memory and limited skills applied within a defined area of work with an assessed limit of competency. He practices diagnosis but not the finesse of differential diagnosis. For example, it is sufficient if he recognizes jaundice as such; he does not have to determine its causes. As an

assistant the auxiliary functions as a sorting station or referral post. He needs only to recognize the minor departures from health from the major ones. The minor illnesses are subjected to routine treatment regimens which are determined by central authority and administered by the auxiliary. The major ills, once they are recognized as such, are referred as urgently as possible for more skilled attention. All auxiliaries must be able to perform first aid, for the people do not always distinguish between one category of auxiliary and another.

In the role of substitute the auxiliary must be able to perform these functions as well as apply emergency medical, obstetrical, and surgical care. The extent to which emergency measures are permitted and taught depends upon the exact nature of the post and degree of isolation. In the substitute situation the auxiliary has to be taught what to do when the physician is present and what to do when the physician is not present.

Status. It is necessary that the status of the auxiliary be assured through protective legislation and representation on management councils. Lack of representation might well result in an unwillingness to accept responsibility. A promotion ladder should be available. Specific functions should be delegated, and care should be taken not to usurp these functions. When professional or paramedical personnel supervise, they should act as consultants and treat the auxiliary in the same manner that the specialist treats the general practitioner.

Reasons for failure. There are five main reasons for failure of the auxiliary to fulfill his role. The first is a failure of selection, failure to choose the most reliable candidates rather than those with the most academic potential. The second is a failure of training, a failure to train for both the assistant and the substitute roles. The third, and perhaps most important, is the failure of supervision—the disciplinary administrative element and the supportive continuing inservice training. It is inservice training that is most important, for by holding consultative clinics at regular intervals the auxiliary is both encouraged and given instructions on what to do in various situations that have occurred which he found himself incapable of handling. The fourth cause of failure is overloading the auxiliary—demanding that he diagnose and treat simple ills at an excessive rate. The fifth cause of failure is use of the auxiliary for tasks that call for skills exceeding the limits of his training. In assessing the value of auxiliaries it is, of course, essential to consider their total contribution to the delivery of health services, not just their shortcomings.

Training of Auxiliaries

Basic education. There is a lower level and a higher level of basic education outside of which one should not recruit auxiliaries. The lower level of schooling is that where the appropriate numbers can be obtained to saturate requirements; the upper level is set to insure that we do not infringe upon the pool of potential paramedical and professional personnel. At the end of primary school and the beginning of secondary school there are students who leave school, unable to continue for one reason or another. These persons, faced with limited employment opportunities, can be trained for the health service. A level of 7 to 9 years schooling is adequate for the needs of most auxiliaries and, if necessary, certain subjects of general education can be continued along with the technical education.

Technical training. The duration of technical training will, of course, vary according to the level of education reached—the higher the level of schooling, the shorter the length of technical training. Training should last somewhere between 1 and 3 years. The object of technical training is to train to applied memory and teach limited vocational skills; not to encompass an abridged medical education, but to train to a specifically defined area of work and level of competency.

It is apparent then that the first criteria in training depend on a good field analysis of the job to be done. The teacher should be thoroughly conversant with the field situation and its changing circumstances. Training must also emphasize simplicity and prepare auxiliaries to diagnosis but not the finesse of diagnosis. It must stress precise placement in the organized service appropriate to the training of the auxiliary.

Methods. Training should combine use of the school classroom and an apprenticeship

system, not the university lecture. The sandwich method of alternating theory and practice is appropriate for consolidating the auxiliary's knowledge. In practice sessions it is essential that adequate supervision be supplied and the auxiliary not be regarded as an unsupervised labor force.

Training should be for the use of selected methods and tools. For example, if it is decided that chloroquin is the drug of election for the treatment of malaria, then train to chloroquin and not to the differential niceties of the other drugs on the market. Likewise, if the health service can supply only the universal dental extractor, then there is little point in training the auxiliary to use the various types of dental extractors that exist.

Training in the initial course should be for the initial role—the assistant function. The substitute functions can be taught by postschool, inservice training and courses designed to qualify the auxiliary for promotion. It is important that further training be rewarded by better remuneration and higher status just as it is for other groups. Further, training may be directed toward general positions of more responsibility, such as for the substitute physician's role in health centers and remote health units or for specialization in ward work, surgical theater work, anesthetics, rehabilitation, and so on.

Finally, more reliance should be placed on the spoken rather than the written word. In a body of students whose background is the preservation of culture and history by the spoken word from village elders to youth, the retentive faculties for the spoken word are stronger than for the written word. Moreover, for the written word time must be allowed not only for reading and copying but also for comprehension.

Schools for auxiliaries. Auxiliaries are trained primarily in schools designed for the separate categories—the school for auxiliary midwives, the school for auxiliary nurses, the school for auxiliary pharmacists. But an alternative pattern is growing up—for example in Thailand and Africa—the comprehensive auxiliary school. This school is patterned on the university organization of having all the individual disciplines taught by separate faculties in one institution. By this means a larger institute can be developed which is more visible and impressive, in which the student body is sufficiently large to develop competition and esprit de corps. This organization of educational facilities is also essential to develop the health team outlook.

Such comprehensive auxiliary schools make it feasible to coordinate training with that in schools for the training of professional and paramedical personnel. The relationship between the auxiliary and the physician, for example, can begin at the student level. Development of such comprehensive schools also makes it possible for the person in charge of the auxiliary school to be of senior status and admissible to the higher councils of both university education and health administration. In fact, if comprehensive schools administered by such persons are not developed, the whole purpose of having a common objective between health administration and educational institutions is likely to be lost. Finally, the development of comprehensive schools makes it possible to establish an equality of standards for the different types of auxiliaries, a necessity for future administrative flexibility.

Examinations. It is essential that examinations not copy the traditional examination system of the industrialized nations, but that they lean toward testing the practical ability and vocational skills of the auxiliary. Oral and practical tests are preferable to written tests, which should be strictly limited. The examination should assess what the auxiliary can do under the given circumstances of his future work environment. The examination system for the auxiliary should not be allowed to impede his future working efficiency.

Teachers. The importance and difficulty of training teachers, who are responsible for curriculum structure, policy, and market research, and instructors, whose sole duty is giving lessons and instructing auxiliaries, has not been sufficiently stressed. It is more difficult to teach no more than a minimal core of knowledge and limited vocational skills than to teach with no limitations on material that can be introduced. The teacher is always desirous of improving the standard and quality of his students. This desire must not be allowed to override the essential common sense of training directly to the

field requirements—just that and no more. This is a difficult job. The teacher must not only be knowledgeable of the constantly changing field conditions but must also have the vocational skills he wishes to teach. Many of these requirements are best met by using the experienced auxiliary as an instructor, and this practice, of course, offers a promotion post for the auxiliary. The requirements of limited knowledge, local customs, field experience, and vocational skills are exactly those which the experienced auxiliary possesses.

The principal should be part of the policy-making bodies of health organizations and of the higher educational committees. He should be a member of the medical school faculty. He must have at least an acquaintance with the local language and culture and must be able to bridge the gap between the old and the new.

There is a great need to upgrade the teaching staffs of auxiliary schools. Teachers should have professional qualifications, postgraduate experience in the methodology of education, and considerable field experience. It is essential that they be selected because of their interest in teaching and not for other reasons. An ability to undertake field research should be a prerequisite.

While auxiliaries obviously have limited potential as teachers, they do have considerable value as instructors, both in the school and the field.

The course. The duration of the course must allow for the inclusion of further general education and adequate practical experience. During the first year a preliminary 3 months of training in lieu of aptitude testing will allow the students to become accustomed to some of the simple scientific materials such as test tubes, flasks, forceps, scalpels, and various nursing materials and equipment, and in general to become oriented to science and its accouterments. The rest of the year should include formal school room and class-laboratory education in the basic sciences and improvement of reading comprehension. These final 9 months of the first year should be devoted to practical training in laboratory classrooms, getting acquainted with the tools of the trade, and visits to clinics for observation and orientation on a basis of two-thirds theory and one-third practice.

Training should be appropriate to the setting and facilities that will constitute the future working environment. The demonstrations of practical procedures and skills should not be complicated by an overemphasis on theory. As much communal teaching as possible should take place in this year, for there are many subjects that are common to all auxiliaries, such as nutrition, health education, child care, and first aid. The first year is essentially pretechnical, whereas the second and third years are technical. During the second and third years the proportion of time devoted to theory and practice should be reversed so that ample time is permitted for the acquisition of vocational skills. A certain amount of repetition will be necessary, and for this reason theoretical instruction in the third year may best be designed as an elaboration in depth of the second year. During this period also the auxiliary's instruction should take place within the various institutions and departments in which he may be working in the future.

Thus, the same principle is used as in the training of nurses and physicians. The auxiliary must be trained within the appropriate institutions, such as hospital outpatient clinics, wards, pharmacies, and health centers. Such institutions and departments must be designed and staffed for teaching and training purposes. Little or no supervision in a heavily attended working department reduces training to a farce.

As in theoretical instruction, auxiliaries in various categories should be together as much as possible during practical training. They should also come in contact with the professional and paramedical students. Thus each auxiliary will recognize that he is not working in isolation but is an essential part of the whole.

If the training of the auxiliary is to be minimal, it must also be sufficiently comprehensive to permit an appreciation of the whole. Furthermore, it must be adequate to support additional training, permit the auxiliary to profit by experience, and permit retraining courses for changing circumstances and progress of the organized health services. The 3-year course recommended will permit this but not conflict with the requirements of economy.

If the costs of training the auxiliary exceed one-third of the cost of training the respective

professional and paramedical personnel, then much of the reason for auxiliaries is lost.

Textbooks. Textbooks designed specifically for auxiliaries are sadly lacking, although the mass of mimeographed material in various auxiliary schools around the world could be assembled in book form and translated into local languages. Programed learning also has possibilities: lectures by qualified and experienced teachers could be written, translated by auxiliary tutors into the local language, and recorded on tapes for distribution complete with slides to the outlying areas. Typescripts accompanying the tapes could serve as a revision, help slow students, and be part of the portable library. It is surprising how absent is any effort to supply the auxiliary with guideline textbooks for his work in outlying centers. Inevitably, he forgets and becomes incompetent in time without such textbooks and without supervision.

Research in training methods for auxiliaries is a vast and as yet incompletely explored field. It is pertinent to emphasize once again the hazards of overtraining the auxiliary, which tends to occur as school education expands and improves. The auxiliary becomes in effect a near professional, becomes overtrained for the job requirements, and exhibits symptoms of dissatisfaction with his status, function, remuneration, and rural location. He is then no longer the solution to the need for rendering volume of care.

The proper training and utilization of the auxiliary permits the fullest advantage to be taken of the knowledge and skills of scarce high-level manpower and enables the professional to obtain a full measure of job satisfaction.

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Training More Nurses in Public Health

The Public Health Service has awarded more than $1 million in grants to 79 schools of nursing to prepare registered nurses for staff-level positions in public health. The grants, authorized under the Public Health Traineeship Program of the Public Health Service Act, ranging from $2,400 to $104,000, will be distributed among colleges and universities in the United States and Puerto Rico.

The program is designed to help registered nurses complete requirements for a bachelor of science degree and to prepare them for a beginning position in public health nursing. It will also assist those holding a baccalaureate degree who still need to take public health courses which were not in their earlier academic programs. Support will be given for periods up to 12 months.

Among the basic requirements for applicants are professional licensure in at least one State, intent to pursue a career in public health nursing, and prior acceptance by a school receiving the traineeship grant.