Programs and Problems in Professional Education And Inservice Training of Health Personnel

The evaluators find that the cooperative health programs of the Institute of Inter-American Affairs and the Latin American Republics have made no greater contribution toward the advancement of health and sanitation than through their training and education activities. To hundreds of individual Latin Americans, these activities have meant greater opportunity for the cultivation and exercise of their natural talents. To their countries, they have meant higher levels of technical competence and informed leadership for health and sanitation work.

TWO BROAD PRINCIPLES guided the evaluation of the training and education activities of the bilateral health programs:

1. Well-trained personnel are an indispensable part of the foundation upon which strong and effective organizations are built. Even with a good program, reasonably adequate funds, and a satisfactory plant, the services provided will be no better than the competence of the operating personnel. The persons responsible for the establishment of the *Servicios* in Latin America were fully aware of this principle, and from the beginning training was accorded a high priority.

2. Training is part of the whole fabric of health services. Training of personnel and provision of facilities for its utilization are in reality a single problem, for if training is not to lose its primary purpose, which is to assure good services, personnel when trained must have a place for employment.

This review of training and education in Latin America is the ninth in a series of excerpts from the Public Health Service's report of its evaluation of the Institute of Inter-American Affairs bilateral health programs undertaken during the decade 1942–52. Information concerning the evaluation survey and the origin and structure of the bilateral health programs can be found in the September 1953 issue of Public Health Reports, beginning on page 829. Other excerpts from the report have appeared in the October and November 1953 issues.

Availability of Personnel

An examination of the personnel situation at the time of the survey revealed that, in general, trained personnel were inadequate in number to staff existing health facilities. This was most in evidence in the field of hospital nursing.

Many large hospitals were operating without a single graduate nurse, and many more had very few. In Chile, where nursing was more advanced than in many Latin American countries, a tuberculosis hospital with a bed capacity of 460 had 16 graduate nurses and 74 auxiliaries; the nursing staff of a 380-bed general hospital consisted of 15 graduate nurses and 300 auxiliaries. In Ecuador, where nursing as a profession is of very recent origin, one 950-bed hospital was employing 3 graduate nurses and 24 trained auxiliaries, most of the nursing service being given by untrained aides.

Sanitary engineers, sanitary inspectors, and even physicians were also clearly insufficient in number if entire populations were to benefit from health services. In many of the countries visited, however, little effort to provide health services outside the large urban centers was in evidence. According to the latest figures available at the time of the survey, the entire medical profession of Bolivia was serving only one-third of the population. In Brazil, 75 percent of the physicians of the country were serving the 24 percent of the population living in towns of more than 10,000; only 25 percent of the physicians were available to meet the needs of the remaining 76 percent of the population, essentially rural. A similar situation was found in Ecuador, where 50 percent of the physicians were serving the 15 percent of the population living in the cities of Quito and Guayaquil.

The reason for the concentration of the medical profession in cities was basically economic. Only in the large urban areas could a physician earn enough to justify the time and money required to become a physician, and only there were to be found the medical facilities, such as hospitals and laboratories, which would enable him to practice the type of medicine for which he had been trained.

Training Facilities Needed

With the great need for trained personnel in urban institutions, especially for nurses, nurse's aides, and hospital administrators, and an even greater need in the rural areas for physicians, the facilities for the preparation of all types of health workers are apparently extremely inadequate. Many of the institutions claimed that there was not enough money available to permit the employment of a larger number of well-trained personnel and that the imbalance seen everywhere between the need for and the supply of well-prepared workers could not be corrected simply by establishing more educational institutions. Notwithstanding this reasoning, more facilities for training are indicated.

The basis for this judgment can be illustrated by the hospital situation. During the field survey, substantial evidence was found that the average hospital stay, and therefore the average cost per patient, could be substantially lowered by improvements in administrative, medical, nursing, and therapeutic techniques. Under good management provided by a well-trained hospital administrator, the patient stay at the university teaching hospital in Santiago, Chile, was lowered from 26 days in 1946 to 16 days in 1951. In a number of hospitals the average stay of patients with typhoid fever, typhus fever, and venereal diseases had been substantially reduced by the use of certain of the newer antibiotics.

The consequent reduction in costs in the instances cited may be said to bear a direct relationship to the quality of the personnel administering the health services. Savings brought about by improved quality of personnel would be available to increase the number of workers of all categories. The major question, therefore, may not be whether a hospital can afford well-qualified personnel, but whether it can afford to continue operations without such personnel.

Quantity vs. Quality

The problem of staffing a health institution, whether it be a hospital, health center, or other type of organization, involves quantitative as well as qualitative considerations. Again using the hospital for purposes of evaluation, though recognizing that the principles have broad applicability, it may be asserted that in no country will there ever be a sufficient number of professional nurses to perform all the traditional functions of nursing. Even in the United States, where trained nurses are far more numerous than in Latin America, this fact

is now recognized and generally accepted. It has become necessary to study and analyze nursing functions in order to decide which must be performed by the highly trained nurse and which may be safely performed by a person with less training.

The general concept today is that the nursing service of a hospital or a health program may be broken down into groups of functions. Each of these groups may be performed effectively by persons with widely different backgrounds and training. The quality of service will be improved when training is based on the requirements of the functions within each group and the groups are integrated to provide complete patient-centered care. The professionally trained nurses in such a system must be responsible for the training of personnel as well as the coordination and supervision of their work.

Considerable experimentation in the use of subprofessional personnel was being carried on in several countries of Latin America. In the Amazon Valley wide use was being made of auxiliary nurses in the hospitals and *visitadoras* in health centers. In Uruguay most of the public health nursing service of the health centers was being provided by specially trained *visitadoras* working under the supervision of graduate nurses. Many more examples might be cited, but none of them indicate that the quantitative aspects of the nursing problem have been adequately met. Furthermore, in many instances the quality of the subprofessionals' work has left much to be desired.

Further experimentation directed toward a solution of the quantitative as well as the qualitative aspects of personnel employment in Latin America is highly desirable. Nowhere is such experimentation more urgently needed, nor does it have a more favorable environment in which to thrive, than in Latin America.

Inservice Training for Professionals

Apprenticeship training was employed rather extensively in the early years of many of the *Servicios* and continues to be of considerable utility. For example, a United States sanitary engineer on the field party staff and a Latin American engineer untrained in sanitary engineering may work together as a team, the former serving as the tutor and the latter as the apprentice. Over the years a rather large group of competent Latin American sanitary engineers has been created by this method of training. It has also been employed to train physicians and graduate nurses for public health work. Sometimes apprenticeship training was supplemented by academic training through the fellowship program of the Institute. Such training offers an excellent opportunity for identifying individuals who should receive specialized academic training.

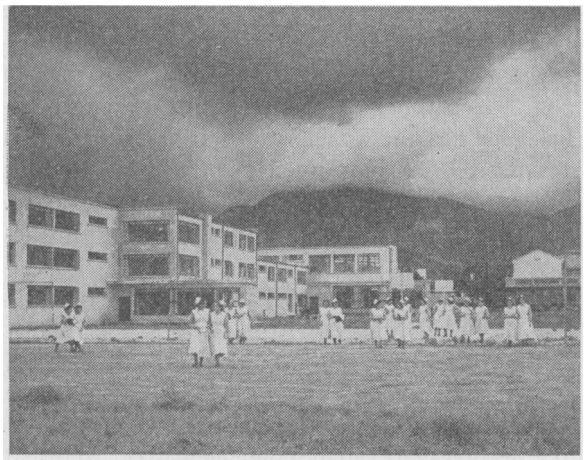
Another type of inservice training provided in a few areas of Latin America was the planned conference. For example, the nurses on the staff of the Cerro Barón Health Center in Valparaiso, Chile, were required to attend a weekly conference at which each shared her experiences with the others in regard to special problems encountered and methods used for solving them, successful or not. The advantage of this type of inservice training is that the individual experience becomes the group experience and each person profits.

The planned conference may, of course, include more than one category of worker. All the health center personnel—physicians, dentists, engineers, nurses—may be assembled at regular intervals for the purpose of sharing experiences, analyzing problems, discussing possible solutions, and planning new undertakings. Such conferences tend to weld the group together so that it thinks of itself and conducts itself as a team. A sort of mass-action phenomenon results, producing an effect which is something more than the sum of the individual activities.

Inservice training of professionals should be a constant preoccupation of the administrators of every *Servicio* since it provides the means for continuous improvement in the quality of performance.

Specialized Academic Training

In the early period of *Servicio* operations, it was necessary to send nationals abroad for specialized training. To this end, a fellowship program was established by the Institute, and hundreds of physicians, engineers, and nurses



Top: The National Superior School of Nursing at Bogotá, Colombia, was built and equipped by the Servicio. Center: Student nurses receive instruction from a Servicio staff member in La Pas, Bolivia. Lower: As part of their inservice training linked with field service, the nurses meet with their supervisor to discuss plans.

were sent to the United States. Although this program eased the situation, it did not solve the problem in any county. No fellowship program could ever hope to meet the entire need for specialized personnel; each country must solve the problem in its own way.

At the time of the survey, a number of the Latin American countries had taken steps to provide academic training in various branches of public health. The Faculty of Hygiene and Public Health of the University of São Paulo in Brazil, the School of Public Health of the University of Chile, the School of Public Health and Hygiene of the Secretary of Public Health and Assistance in Mexico, and the School of Tropical Medicine of the University of Puerto Rico were offering courses in such subjects as public health nursing, hospital administration, maternal and infant hygiene, industrial hygiene, health education, sanitation, statistics, and public health laboratory techniques. The Graduate School of the Autonomous National University of Mexico was offering courses in sanitary engineering.

There are distinct advantages to training Latin Americans in their homeland instead of in the United States. It is less expensive since both travel expenses and the cost of living are less. The period of adjustment is shorter because of the language, social, and cultural similarity between the various countries. It is recommended that wider use be made of the Latin American institutions for fellowship training, reserving the United States institutions for special cases.

The men and women who have benefited or who will benefit as a result of specialized academic and inservice training are, for the most part, the product of the various national Latin American schools of medicine, dentistry, engineering, and nursing. Public health as well as medical services, therefore, is conditioned in a very real sense by the quality of medical, dental, engineering, and nursing education.

Logically, any effort to advance a broad health program—one that neglects neither preventive nor curative medicine and one that is concerned with environmental as well as personal health—must take into account all these educational institutions.

Schools of Nursing

Establishing schools of nursing or strengthening those already in existence received considerable attention during the decade under survey. Projects were sometimes undertaken as a joint effort of the *Servicios*, the Pan American Sanitary Bureau, and the Rockefeller Foundation, in collaboration with the appropriate national ministry.

In developing a school of nursing, several factors must be considered: recruitment of students, housing, classroom and teaching facilities, and financial support for the school. Perhaps most important is a faculty capable of planning programs which meet specific needs, developing curriculums for effective learning and practice areas for supervised experience in patient care, and reevaluating the programs to determine how well the objectives have been accomplished.

The National School of Nursing of the Central University of Quito in Ecuador is an example of a project which has shown excellent results in progressive national participation and which demonstrates the possibility of interagency cooperation.

Before 1942, there was a school of nursing at the Hospital Eugenio Espejo in Quito which conducted a 3-year course. The school was directed by a physician, and all instruction was given by physicians. The curriculum was limited, and there was no opportunity for supervised clinical experience. There were no residence quarters for the students.

In 1943, at the request of the Minister of Health, two nurses were assigned to Ecuador by the Pan American Sanitary Bureau to assist in reorganizing this school of nursing or if necessary to establish a new modern school of nursing. The decision was to establish a new one. The *Servicio* agreed to reconstruct and adapt a building provided by the Ecuadorian Government to house the new school. The Rockefeller Foundation furnished some of the equipment, assisted in the initial cost of operation, and provided consultation service.

From 1942 to 1949 one of the United States nurses assigned to Ecuador was director of the school of nursing. During 1947 and 1948, an Ecuadorian nurse, a graduate of the first class, was sent to the United States for a year's graduate study. In 1949 she became assistant director of the school and in 1950 became the director. The Institute nurse continued to give consultation but gradually turned over more and more of the responsibility to the new director. By early 1952 the Government was completely supporting the school of nursing as a part of the university, and the *Servicio* was providing some scholarships to students. An advisory committee composed of representatives of the university and the Ministry of Health was working with the school faculty in setting up and maintaining standards. There has been a continuous attempt to keep the requirements for admission, the provisions for clinical experience, and the curriculum content in line with the needs of the country. At the end of 1951, 98 nurses had graduated from the school and 60 students were enrolled.

At the time of the survey the Institute was cooperating in the building programs of 8 schools of nursing: 1 each in Guatemala, El Salvador, Colombia, and Ecuador, and 4 in Brazil. Assistance was being given to the operation of 12 schools: 1 each in Colombia, Haiti, Ecuador, Uruguay, Paraguay, and Venezuela, and 6 in Brazil. Some technical consultation on nursing education has been provided in all countries, even when no nurse has been specifically assigned for that purpose.

It is doubtful whether the schools of nursing in Latin America should be patterned after those in the United States. Rather, it seems wise to prepare nurses especially (*a*) for work in those particular fields which constitute the major health problems in their countries and (*b*) for the training and supervision of auxiliary personnel in hospitals and health centers.

In view of the needs of the countries, it is strongly recommended that continued support be given to schools of nursing. This support may take the form of (*a*) construction of buildings to house schools and, when considered necessary, to provide housing for the students; (*b*) improvement of practice areas, which may include use of funds for reconstruction of buildings or purchase of equipment to provide basic essentials for patient care and assistance in improving the efficiency of operation of existing institutions; and (*c*) assistance, on a consulta-

tion basis, in the administration of the school, curriculum planning, and preparation of instructional personnel.

Medical Education

Analysis of medical education in Latin America was based upon what were regarded as certain essentials of a good school of medicine. Though far from complete, the following guides were found useful:

1. Limitation in the number of students, with appropriate methods for their selection. In most of the countries visited there was no limitation of matriculants. Chile, where the number was restricted to correspond with the teaching facilities, was an outstanding exception.

2. Selection of faculty members on the basis of teaching ability and scientific productiveness. They should enjoy reasonable security in respect to income and tenure. The faculty of the departments responsible for the basic sciences should be able to devote their attention exclusively to their departments without the need to seek additional employment. Relatively few of the schools of medicine observed in Latin America are so staffed.

3. Sufficient school-plant space in lecture rooms and especially in laboratories to accommodate the maximum number of students permitted to matriculate. The scientific equipment and supplies of laboratories should be adequate to permit good instruction in the basic subjects. Hospital wards of all types should be freely available for teaching clinical subjects. Workable relationships should be established with the local health services so that the social and preventive aspects of medicine may be taught. The hospital facilities for teaching clinical medicine were found to approximate adequacy more frequently than any of the other facilities.

4. A good library. Few of the schools observed were adequately equipped.

5. A budget large enough to sustain good operation and administration. Budgets of Latin American schools were reasonably adequate in only a few schools.

In a number of countries, it was apparent that much thought and effort were going into measures for the betterment of medical education. The country was rare in which no attention was being directed to the subject.

Service and Training

Schools of medicine everywhere have a crucial decision to make. Shall they devote their efforts to meeting the countries' needs quantitatively, or shall the quality of their product have priority?

As already mentioned, in many Latin American countries medical services are available to only a part of the population. For this reason there has developed a school of thought advocating the production of more and more physicians even at a sacrifice of quality and insisting that a poorly trained physician is better than no physician at all. This extreme position, as well as the opposite one, appears to be untenable if the best interests of the people are to be served. The solution of the problem in Latin America probably is to be found somewhere between these extremes.

The survey indicated that an important reason for the divergence of views respecting the aims of medical education stemmed from the fact that institutions responsible for education rarely were responsible for providing medical services for the people. A variety of agencies, official and voluntary, were operating in the hospitals, the health centers, and other institutions providing medical services. In most of Latin America, the ministry of health had the chief responsibility; yet, it was rare for this ministry to have more than a very minor voice in shaping policy regarding the number and quality of physicians to be trained to man those services. The ministry of health, the ministry of education, and the schools of medicine should study and plan jointly in order that the product of medical education may be prepared to carry on the type of services needed.

Servicio Responsibility

The fact that medical education has a direct relationship to medical care raises a question as to the *Servicio's* responsibility in this field. It is strongly felt that medical education should receive more attention by the *Servicios* than in the past. The fact that no sure course of action can be forecast should only add zest to the acceptance of an unusual challenge. Study of the many functions of physicians in public service, whether in hospitals, health centers, or

other public health activities, and classification of these functions into those which physicians alone can perform and those which might safely be assigned to other categories of personnel are steps that can and should be made in the near future.

In many areas a division of responsibility has already taken place. Immunization against smallpox and other diseases and the diagnosis and treatment of such diseases as malaria, hookworm disease, and yaws were being performed by nurses and sanitary inspectors. By such procedures it has been possible to bring to remote, rural populations the benefits of modern medicine and public health. It may well be that following painstaking study or job analysis of the physicians' work, organizations could be established, with appropriate safeguards, to extend services still further to such peoples. Success in such work, of course, depends in large measure upon the availability and the quality of supervision by physicians.

Training of Subprofessional Personnel

Training of subprofessional personnel may follow the same general plan as outlined for professional personnel—an apprenticeship type of inservice training and/or academic training. The need for both should be recognized, and both should be planned to assure competence on the part of each type of worker to perform effectively the tasks required. Ultimate responsibility for the training must rest with the professional personnel.

In a number of countries, there was found a body of experience in training subprofessional workers which would prove valuable in the event that the use of this type of worker should be extended. In Brazil, for example, a 6-month course for *visitadoras* was inaugurated at the Colatina Training Center. This course included demonstrations and supervised practice as well as carefully selected basic information. In Bolivia, where efforts to assist with the development of a professional school of nursing had not been successful, primary emphasis was shifted to on-the-job training of *visitadoras*. In Paraguay, *visitadoras* were being trained in an 18-month course sponsored by the *Servicio*-operated health centers.

The survey, however, uncovered a lack of permanent inservice training for subprofessional personnel. There appeared to have been relatively little attention to recruitment of persons for training as subprofessionals, nor was there evidence that the subject had been seriously studied in the health field generally.

There was observed a disposition to question the value of the subprofessionals on the ground that their educational backgrounds and understanding were such as to limit unduly their effectiveness as workers. It is suggested, however, that the ineffectiveness of subprofessional workers may result in no small part from the type of person that has been trained. Often the recruiting procedure has taken no account of the fact that certain types of jobs call for certain qualities. The subprofessional workers who are to be prepared to assist in handling the sick must have not only reasonably high intelligence and a degree of dexterity, but kindliness, devotion, and a sense of responsibility. The sanitary inspector, who must work with people in advancing his program of environmental sanitation must be intelligent, persuasive, dexterous, inventive, and friendly.

The problem is how to identify in recruits these innate qualities. There are obvious difficulties to scientific recruitment, but this does not mean there are no advantages. The health administrator must look to the psychologist, the cultural anthropologist, and kindred professionals to furnish the techniques whereby the human qualities that are sought can be identified and possibly measured. Once a selection has been made among potential recruits, the process of training offers no inherent difficulty.

Fellowship Program

In addition to the training and education activities sponsored through the *Servicios*, the Institute of Inter-American Affairs directly finances and administers a fellowship program. From the initiation of the program in June 1943 through the end of 1951, 1,302 grantees had been sent to the United States for specialized training, including 753 doctors of medicine, 262 engineers, 120 nurses, 37 dentists, 15

health educators, 31 laboratory technicians, and 84 others, such as hospital administrators, veterinarians, architects, and chemists.

The significance of this program can be judged in part by the records of the recipients after their return to their own countries. Of 73 Chilean fellows, 69 (94 percent) were employed at the end of 1951 in positions for which they were trained or in similar ones; of 25 fellows in El Salvador, 20 (80 percent) were so employed; and of 28 fellows in Ecuador, 24 (85 percent) were in official positions. It was common to find that fellowship recipients had risen to positions of importance in their national health services and various ministries.

The fellowship program was well conceived and well administered, and it has resulted in strengthening the indigenous health organizations, as well as paving the way for the incorporation of certain *Servicio* projects into the permanent public health structure. The following suggestions, however, may deserve consideration:

1. In order to insure the greatest degree of success, it is essential that candidates be carefully selected as to ability to carry out a program at a foreign university; that there be, insofar as possible, a specific understanding regarding the position for which they are being prepared; that the course be carefully planned with the university so that the students have an opportunity to take work which will meet their specific needs (whether it meets the requirements of the school for a degree or not); and that the instructional personnel in the host university be informed regarding the national needs for which the candidate is being prepared.

2. Training might prove to be of greater value if a plan were worked out whereby several trainees in the same academic field would be brought to the same school in the United States for study, and a North American specialist in that field, with some knowledge of Latin America, assigned to spend full time as adviser and tutor to the group. A variation of this approach might be to arrange for faculty members from schools in the United States to make visits to Latin America in order to gain better insight into the needs of the students.

3. Carefully planned and supervised experience might prove more valuable in some instances than organized academic courses.

4. It must be recognized that the success of any training program, particularly on an advanced level, is largely dependent upon the care with which plans are made for individual students. For best results in the fellowship program, there should be sufficient staff available at the Institute in Washington to develop plans for individual students, and to assist them with problems related to personal adjustments as well as those related to the training.

Public Health Reports Index for 1953

The index to *Public Health Reports* for 1953 (vol. 68) will be published as a separate and distributed to all subscribers early in 1954. In addition to author and subject entries for all material which appeared in the monthly issues for January–December 1953, the index will contain data for Public Health Monographs published during 1953.