MAJOR PROBLEMS IN HEALTH PERSONNEL TRAINING:
OPPORTUNITIES FOR RESEARCH

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"One of the greatest contributions of an international organization should be to stimulate interdisciplinary action-oriented research in the field of education. Priorities will vary according to the interests and needs of society. National research on manpower is urgently required, together with research into the most suitable type of medical training for each country and the most effective health service programme offering the greatest benefit to the community." 1/

The concern of the World Health Assembly expressed in these phrases reflects a problem that is challenging universities everywhere. Although numerous explanations have been formulated to account for this phenomenon, their very multiplicity is proof that no single assumption can provide answers to all the questions it poses.

One thing is certain: the university, an institution of secular conception and structures, heretofore essentially settled in its approach, has begun in recent years to seek a more valid definition of its purpose and of its role in society and to explore the most effective means for fulfilling these commitments.

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The universities in Latin America are no exception. Indeed, the medical schools have been notable in their active and diligent search for solutions to the multiple problems that confront them on the one hand, from the changes that are being imposed on the health sector through the process of economic and social development, and, on the other, from continuously accelerating advances in science and technology. These latter must be adapted to the cultural characteristics of each individual country if their contributions are to be utilized to maximum advantage. For this purpose, new procedures have to be developed, and they need to be based on carefully designed research. This is true as well for the improvement of higher education in general and of education in the health sector in particular. Decisions of this order must be based on objective information that is the result of a systematic application of scientific methodology rather than on subjective evaluations. And this is a field that has incalculable opportunities to offer today.

In order to approach some solutions, let us define a few of Latin America's most important problems in the field of health sciences education in terms of the possibilities of examining them either as a whole or in certain specific aspects. On the basis of the investigations carried out by this Organization and of the information that has been gathered so far, we could classify these problems in three broad categories: (1) those connected with the relationship between the secondary school and medical education; (2) those that concentrate on the educational process itself; and (3) those that arise from the interdependence of medical education and the system of health services.

It is clear that all of them have evolved in the context of the imbalance between needs and resources that is so characteristic of the developing
societies, and the result has been a serious underfinancing of education in the health sciences. This series of problems has, in turn, given rise to a manifest shortage of professional and auxiliary personnel, with disproportionate concentration in the urban environment and virtual abandonment of rural areas. According to our estimates, 57 per cent of the communities in Latin America with populations under 10,000 have no doctors, and a large number of them do not even have a trained auxiliary worker. These communities, taken together, have a total population of around 30 million.

Although "decisive impetus to education for development" is one of the principles that have been enunciated for the Americas, there has never been a clear definition of how this is to be accomplished. The mere affirmation, of itself, brings into sharp relief a whole series of questions that can be answered today by the use of such effective instruments as operations research and techniques that have been developed by the social sciences.

Let us examine some of the salient problems in the three broad categories mentioned above.

In most of the countries, the quantitative and qualitative gaps that arise between the secondary and university educational levels reach their peak at the point of entrance into medical education. The demand for training in this profession far outstrips the capacity of the existing schools and has given rise to rigorous selection procedures in many of these institutions. This situation takes on even more serious proportions when we note that there are not enough candidates for other careers, despite their great importance to economic and social development. As result, conflicts are generated in the medical schools and there is a tendency to continue and even to aggravate the inversion of the health manpower pyramid that already exists.
If balanced growth in the different professions is desired, it would appear indispensable to design investigative procedures that will help to pinpoint the factors that influence the choice of a given university career. By knowing exactly how interest in the study of medicine is created and nourished, and what are the motives that lead to the rejection of other options in the health field, it would be possible to program measures to alter the existing situation without violating the individual's right to free choice. At the same time, if current selection methods are retained, it would be highly desirable to determine the most effective means of predicting the eventual performance of students and future professional workers. For this purpose, techniques from the behavioral sciences that concentrate on an analysis of the candidates' motivations and attitudes are of real value.

The second category of problems refers to the system of education in medicine and the other health sciences. The experience of our Organization has been directed mainly to the first of these. The scientific evaluation of teaching methods currently in use, and their objective comparison with those in which modern educational techniques are applied, are subjects of urgently needed research.

The transmission of knowledge and attitudes for the formation of new health professionals has traditionally depended on the innate ability of the teacher to teach and the motivation of the student to learn. The increasing plethora of students and the consequent depersonalization of education, combined with the multiplicity of interests within the faculties and the trend toward specialization, have changed the conditions that are the very foundation of the educational process. And these conditions must be identified.
Specially designed investigation procedures will make it possible to accomplish this aim and at the same time to determine the extent to which the eventual performance of the student is affected.

The teaching process leads to the acquisition of certain knowledge that is reflected in patterns of conduct. It requires that the teacher know the innermost mechanisms behind each of these patterns so that they may be imparted and later developed. The clinical competence revealed by certainty in diagnosis, once considered an art, is today capable of being observed and analyzed in terms of its essential elements. The information thus gained cannot fail to contribute to more rational teaching methods—although there will always be that element of art that is inherent in medicine as a science.

Consideration should also be given to the structural framework in which education evolves. A PAHO study of 131 medical schools in Latin America reveals that not all of them have achieved a coordinated development in terms of materials, identity of approach among professors and instructors, a reasonable balance between theory and practice, or the essential interpersonal relationships between faculty and students. The curriculum and the technical-administrative structure are often very closely linked. This frequently produces teaching programs that become static, while those who teach them appear, either consciously or unconsciously, to be unresponsive to change. It is not strange, therefore, that the communication of knowledge is becoming compartmentalized, with a profound dissociation between the normal and the pathological, through curricula that are inflexible and in which the personality of the teacher predominates. This is the basis of the most serious criticism leveled at present-day medical education: it forces the student to make the synthesis that his
education not only fails to give him but actually hinders or complicates for him. By synthesis we mean that process of inculcating in the individual the series of conceptions and methods originating in the basic clinical and social sciences that makes it possible for him to practice his profession. It is understandable that the social vision the student brings with him when he enters the university is gradually dissipated in the course of his career. It is replaced by a view of the patient not as a whole human being but rather as a case of a special disease. Happily, there are some clear signs that progress is being made, and we hope that it will continue to spread to all the medical schools.

Experimentation in new academic and administrative structures offers a splendid opportunity for the educator and the administrator to introduce changes in the existing system. We recognize that the university in Latin America has been in a constant state of transition throughout the present century. If it is still under discussion today, this is because it is not yet attuned to the needs of the society, particularly in its examination of the origin, consequences, and solutions to the problems it has been facing. The university, it has been rightly said, should foresee change, challenge the status quo, and serve as guardian of that objective reasoning that is so essential if our civilization and, indeed, mankind itself are not to be condemned.

From the foregoing observations, we may deduce that innovations in the field of education should be programmed when they are supported by valid and reliable data. It is not always possible to apply classical designs to problems of this kind, since their very nature makes a strict control of the
variables quite difficult. Hence, here, as in the other instances cited, creativity in methodology should be encouraged without sacrifice of the principles of the experimental method.

Research, in the decision process, also offers possibilities for interpreting critical situations and establishing criteria that will avoid or reduce ex post facto interpretations. In this regard, student dissatisfaction and its various manifestations cannot be ignored. Scientific observation and analysis would help to bring about a calmer atmosphere for discussion of emotionally charged topics and would help to improve channels of communication among faculty, students, and the community. Of course, we do not refer to chronic skeptics or to those who have in mind the destruction of the entire social structure. We are speaking, rather, of those who are honestly concerned with the welfare of their societies and with promoting improved university education and action.

The third group of problems - those referring to the relationship between medical education and health services - remains to be considered.

At the present time, the goals and activities of medical education appear to be quite unrelated to considerations of economic development or health sector planning. The graduate faces a real world that is strange to him and for which he is often inadequately prepared. Is this the reason for the unbalanced distribution of doctors between urban and rural areas? Unfortunately, we do not know the answer to this, or to other questions such as: What factors determine the early specialization that we see in so many countries, and which so often fails to correspond to the needs of the population?
These obvious conflicts between the profession and the community in problems of this order demand concerted action by the administrator and the investigator if the interests of the individual and the community at large are to be reconciled.

This panoramic view of some of the problems calling for study points out the urgency in Latin America to develop research projects in the field of education. The Pan American Health Organization has recognized this need and has initiated some studies, promoted others, and contributed through its scholarship program to the training of specialists in this field.

One question still remains to be answered: What are the most appropriate mechanisms for bringing about the rapid and proper incorporation of research in the field of education? With respect to what is happening along these lines in so many countries all over the world, we might say, as the White Queen said to Alice, in Through the Looking-Glass: "... Here you have to run as hard as you can just to stay in the same place. If you want to go anywhere you have to run twice as fast." 2/

2/ Lewis Carroll, Through the Looking-Glass and What Alice Found There.