

INDEXED

**THIRD TRAVELLING SEMINAR
ON ORGANIZATION AND
ADMINISTRATION OF
SCHOOLS OF PUBLIC HEALTH**

*Visits to Schools in
Mexico, Brazil, and Chile*



**PAN AMERICAN HEALTH ORGANIZATION
Pan American Sanitary Bureau, Regional Office of the
WORLD HEALTH ORGANIZATION
1968**

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**Third Travelling Seminar on
ORGANIZATION AND ADMINISTRATION OF
SCHOOLS OF PUBLIC HEALTH**

April 1967



Mexico City
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Rio de Janeiro
Brazil

São Paulo
Brazil

Santiago
Chile

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NOTE

The views expressed in this report are those of the participants in the Seminar and do not necessarily reflect the policy of the Pan American Health Organization or the World Health Organization.

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INTRODUCTION

The Third Travelling Seminar on Organization and Administration of Schools of Public Health, held from 3-14 April 1967, included visits by a group of deans of schools of public health in the United States of America and Canada to the following schools in Latin America: School of Public Health, Mexico City, Mexico; National School of Public Health, Rio de Janeiro, Brazil; School of Hygiene and Public Health, São Paulo, Brazil; and School of Public Health, University of Chile, Santiago. The visiting group consisted of ten deans or other senior faculty members, many of whom had participated in the First Travelling Seminar, or the Second.

The Chief of the Professional Education Branch of the Pan American Health Organization, Dr. Carlos Díaz-Coller, organized and coordinated the Seminar activities at each of the schools visited. In Rio de Janeiro and in Santiago, Chile, the group was also accompanied by Dr. John Karefa-Smart, Assistant Director-General, and Dr. Ernani Braga, Director of the Division of Education and Training, of the World Health Organization in Geneva, Switzerland.

The First Travelling Seminar in this series took place in April and May of 1963, and encompassed visits to the Usher Institute in Edinburgh, Scotland; the London School of Hygiene and Tropical Medicine; the Netherlands Institute for Preventive Medicine in Leiden; and the Andrija Stampar School of Public Health, in Zagreb, Yugoslavia. The entire group visited these four schools, and then smaller groups or individuals went to several other schools of public health in Europe and to other institutions.

During the Second Travelling Seminar, held in March 1965, visits were made to three schools: the High Institute of Public Health at the University of Alexandria, Egypt; the School of Public Health of the American University of Beirut, Lebanon; and the School of Public Health at Ankara, Turkey. In addition

to the representatives of the North American schools of public health, travelling participants through part of the period included Dr. Abdou Abassy, Dean of the Institute in Alexandria; Dr. Nazir-Ahmed, Dean of the Institute of Hygiene and Preventive Medicine in Lahore, West Pakistan; and Dr. C. Mofidi, Dean of the Postgraduate Medical Faculty at the Institute of Parasitology, Tropical Medicine, and Hygiene at Teheran, Iran.

The purposes of these Travelling Seminars have been:

(1) To provide an opportunity for representatives of North American schools of public health to observe the organization and facilities of various counterpart institutions in other parts of the world.

(2) To provide opportunities for the exchange of ideas between visitors and hosts.

(3) To give the participants, singly or collectively, a closer liaison with the schools or institutes that will inevitably play a role of increasing importance in the training of personnel for developing regions of the world.

(4) To observe public health training in relation to the needs of the countries at different levels of development.

(5) To stimulate discussion regarding similarities and differences in all aspects of training of public health personnel.

A few comments on these stated objectives might be in order.

(1) It is evident from the reports of all three Seminars that the visiting groups had ample opportunity to learn about the activities of each institution visited. Explanations about organization, staffing, curriculum, and pedagogical approach were offered freely by the hosts, and an opportunity was afforded for comparisons with the schools from which the participants came.

(2) As a corollary to the observations, the exchange of ideas between hosts and visitors proved to be the outstanding feature of the Seminars. Matters were discussed on a constructive basis, particularly when the occasion arose to examine some of the local institutions' problems and proposed solutions.

(3) Many of the participants had previously been in contact with the faculties and staffs of the institutions visited, either through prior visits or through international meetings. Moreover, a number of the hosts were able to greet members of the visiting group as their teachers, since an appreciable number of them had studied in North America. Unquestionably, the re-

newal of old ties and the establishment of new ones constitutes one of the positive benefits to be derived from this kind of project.

(4) While the participants were able to observe public health training and education in the several institutions visited, it is not at all certain whether their observations could properly encompass all the needs of the public health services in the individual countries during such a short visit. The estimation of such needs is an involved and lengthy process, and the achievement of an adequate analysis in this respect by the several countries varies to a considerable degree. Also, the education and training of public health personnel other than those at the highest levels has not yet been extensively developed in some schools of public health, and this aspect of public health may be considered less well investigated during these visiting Seminars than a number of the other features. Another aspect not fully explored had to do with the training of local nationals in the schools of public health as against the training of persons from other countries, including those having a differing cultural background.

(5) During all three of the Travelling Seminars there was lively discussion regarding similarities and differences in all aspects of training of public health personnel. It is necessary that these similarities and differences of training be related to the similarities and differences of the countries and regions and populations, as well as to the activities per se of schools of public health.

The manner in which the Travelling Seminars were organized has varied in each instance. However, consistent throughout all three of these projects has been the assignment to one individual of the task of rapporteur. During the Third Travelling Seminar, a seminar leader presided over official meetings for a day at a time, and a rapporteur prepared the official record of activities in each school. The assignments were as follows:

<i>Place</i>	<i>Seminar Leaders</i>	<i>Rapporteurs</i>
Mexico City, Mexico (3-4 April)	Dr. Ernest L. Stebbins Dr. Richard K. C. Lee	Dr. Bernard D. Tebbens

<i>Place</i>	<i>Seminar Leaders</i>	<i>Rapporteurs</i>
Rio de Janeiro, Brazil (7-8 April)	Dr. L. S. Goerke Dr. Edward M. Cohart	Dr. Harry S. Gear
São Paulo, Brazil (10-11 April)	Dr. Gaylord W. Anderson Dr. Fred W. Mayes	Dr. Richard H. Daggy
Santiago, Chile (13-14 April)	Dr. Myron E. Wegman	Dr. Bernard D. Tebbens

Subjects for formal discussion varied somewhat from one institution to another. The topics common to all discussions were: student body, degree structure, educational objectives, organization and administration of the institution, and curriculum, with special emphasis on public health administration. Special topics studied at the individual schools included the following: in Mexico City—organization of the field training program; in Rio de Janeiro—teaching of health planning and of epidemiology; in São Paulo—teaching of public health dentistry and social and behavioral sciences; and in Santiago—teaching of veterinary medicine, biostatistics, and maternal and child health.

The rapporteurs' accounts of the visits to the four schools form the body of this report. A certain amount of editing has been done in preparing the reports for publication. It will be noted that the rapporteurs have often been frank in relating both the strengths and weaknesses observed in the several institutions, and it is clear that their comments are offered from a constructive point of view. No standardized order of presentation has governed the preparation of the reports, and each rapporteur has emphasized those items which he felt were worthy of special attention.

At the end of the Seminar period, a third week was left open for elective visits by the Seminar participants, singly or in small groups, to visit other schools of public health in Latin America. The schools included in these visits were those in Buenos Aires, Argentina; Lima, Peru; Medellín, Colombia; and Caracas, Venezuela.

Mexico City, Mexico

SCHOOL OF PUBLIC HEALTH

Ministry of Health and Welfare

(3-4 April 1967)

Rapporteur: DR. BERNARD D. TEBBENS

The School of Public Health is an institution of the Ministry of Health and Welfare of Mexico. Its function is to train both the personnel of the Ministry and, upon request, that of other official institutions engaged in health-related activities. It also accepts foreign students, on the recommendation of the Governments concerned and of the Pan American Health Organization and other international agencies that conduct activities of interest to public health.

The complete text of the Regulations of the School—covering its objectives and functions, general and internal organization, student body, curricula, and degrees awarded—appears in Appendix 1 to this report (see p. 12).

The School conducts annually a course leading to the degree of Master of Public Health and Medical Administration (*Maestro en Salud Pública y Administración Médica*), for physicians, dentists, veterinarians, engineers and other health-related personnel; courses of specialization in several fields of public health for high-level professionals; and technical courses in sanitation and health statistics. In addition, it conducts short training courses for various categories of personnel, in accordance with the needs of the national health services. The School also furnishes its graduates with advice on the effective performance of their activities, and collaborates with the Ministry of Health and Welfare in the study and solution of technical public health problems.

Several strong impressions emerge from the two-day Seminar. The most noteworthy accomplishment of the School is its integration of field training throughout the academic year with

theoretical course work in public health and associated subjects. Corollary to this is the reliance on study of various social sciences to guide the field training in directions consonant with modern understanding of cultural and social phenomena. The professional training resulting from these experiences certainly orients the students to the broad meaning of public health as well as its operational activities.

The functional operation of the School as part of the Ministry of Health and Welfare undoubtedly does enhance the public health professionalism of the students, but at the same time it probably leads to some lack of broad contact of students and faculty with persons in other academic fields.

The School of Public Health, now housed in part of the building of the Institute of Tropical Medicine and Public Health in Mexico City, has a 45-year history, with apparently increasing professional impact in recent years. Its full-time teaching staff consists of twelve persons—ten professors and two instructors. For presenting much of the course work, these twelve are supplemented by 70 part-time associate professors. The appointment of the latter to the teaching staff is dependent upon their particular skills and functions, and therefore is an annual event with no expectation of tenure or permanence.

It was evident, from the Regulations and from the introductory paper of the Seminar presented by the Director, Dr. Avelino López Martínez, that the controlling authority of the School is the *Consejo Directivo* (Directing Council), composed almost exclusively of personnel of the Ministry of Health and Welfare. Thus the policies of the School are those which derive from and enhance the interests of the national health services.

That such policies are not narrowly parochial is attested by the fact that many of the students in the School are foreigners. Between one-fourth and one-third of the student body in the main program leading to the Master's degree annually comes from other Latin American countries. Thus the instruction is considered to be broadly applicable in that part of the world. This testimonial of program breadth is impressive.

A second governing body of the School is the *Consejo Técnico* (Technical Council), an advisory body made up largely from its full-time faculty, which is responsible for recommending pro-

grams of instruction and for ensuring the quality of instruction. Membership in this Council is in part specified by regulation, but otherwise is selected by the Director of the School.

The School is divided into the following departments:

- I. Department of Public Health
 1. Public Health Administration Section
 2. Health Education Section
 3. Sanitation Section
 4. Industrial Hygiene Section
 5. Maternal and Child Health Section
 6. Public Health Nutrition Section
 7. Dental Public Health Section
- II. Department of Social and Behavioral Sciences
 1. Social Anthropology Section
 2. Sociology Section
 3. Social Psychiatry Section
 4. Evolutional Psychology Section
 5. Economics Section
- III. Department of Epidemiology and Statistics
 1. Epidemiology Section
 2. Statistics Section
 3. Microbiology and Parasitology Section
 4. Microbiology and Parasitology Laboratories Section
- IV. Administrative Department
- V. Auxiliary Technical Services

Public Health is taught in the School through its three principal departments: Epidemiology and Statistics, Public Health, and Social and Behavioral Sciences; a description of the course is given in Appendix 2 to this report (see p. 23). In practice, the last of these departments appears to be most strongly influencing the instructional program, even though it is the most recently organized (1965). The academic and practical aspects of the social sciences were elucidated by Dr. José Jesús Fonseca, head of the department, in a presentation before the Seminar.

The impact, however, was most vividly portrayed in the field trips, which are commented upon below. Instruction in the field covers areas of social psychology and anthropology, economics, sociology, and behavioral sciences. Together with health education, these make up a considerable segment of the curriculum.

At this point, it is appropriate to comment on both the student body and the methods of instruction. The didactic program was observed to be conducted for classes of moderate size, which it was understood may be enlarged from time to time by additional students taking special work. These latter are students in several specialized curricula and in short courses which may be in progress concurrently. In addition to the one-year students who achieve the degree of Master of Public Health, there are now four students working toward a specific specialization whose curriculum continues over a period of three years, not necessarily consecutive. These students take the M.P.H. didactic work, then spend a year in residency training associated with advanced specialist study. The final year is devoted to planned practice of the specialty in the national health services and the preparation of a defensible thesis on this experience. The latter is not, however, the equivalent of a doctoral thesis. It is hoped that authorization may be obtained so that some of these students, after additional work and the preparation of a formal thesis with its defense, will be eligible for a doctoral degree. For either of these major curricula, the students come prepared professionally as physicians, engineers, biochemists, or other qualifying status.

A third group of technician-students, with a minimal preparation (secondary education), come from time to time for short-term instruction in such fields as sanitary inspection. Following the instructional period, they receive certificates which are signed by the Minister of Health and Welfare and by the Minister of Education, as are the more advanced degrees.

The didactic classroom work, together with laboratory exercises in certain subjects, is organized in a weekly schedule which occupies about 39 hours during five and one-half days per week during the school year. This procedure was established by the faculty in order to provide intensive direct instruction to the students in the extensive body of public health knowledge which they need to know. The statement was made that this technique

of keeping the students busy constituted a useful indoctrination into the field of public health, and was very acceptable to them.

A portion, perhaps 10 per cent, of the weekly work hours during the first three quarters of the academic year, and a much greater part during the fourth quarter, is devoted to field work. In a formal presentation to the Seminar of the field work projects of students, Dr. Rafael Guel Jiménez, Professor of Public Health Administration, commented especially upon the importance of the practical applications of the students' theoretical knowledge within the social and political conditions which are applicable in a given situation. This point was very clearly brought home to members of the Travelling Seminar when they accompanied several field-work teams during one-half day of the two days spent in Mexico. Another part of the day was spent in discussing reactions to the several field-work visits.

A notable feature of the field work was that each group of students, accompanied by a professor, was made up of individuals from several different professional backgrounds; for example, a physician, a nurse, a nutritionist, and if possible an environmental engineer or architect. Field visits in which the Seminar participated were of two kinds: (1) studies of social groups at Pachuca and Toluca, both situated more than 35 miles from Mexico City; and (2) studies of community activities in the suburban towns of Zumpango, Los Reyes and Lerma.

It was typical of each group of students that it began its specific field visit by meeting the civil authorities of the area, discussing with them the purpose of the visit, and proceeding from there to the specific activity, which had been well planned in advance. The brief description of each of these two types of visits, given below, serves to illustrate the kind of field work which was involved. The clear impression from these field trips was that the students profit from the careful orientation and indoctrination in social sciences which they receive, and so recognize the close tie which exists between their School, under the Ministry of Health and Welfare, and the health activities in various communities in Mexico.

During the school year the students have an opportunity to participate in several different kinds of field work, in some cases in individual families, in other cases in village services or perhaps in larger health services in the major cities. Moreover, they have an opportunity to hear discussions of the several kinds of

field work, not only within their own group, but also within the larger total class where several different field training projects are critically analyzed by students and the teaching staff.

The other topic presented before the Seminar by Dr. Augustín Díaz Esparza, Director of Professional Education in Public Health, concerned the more advanced curricula in specialization beyond the Master's degree level. The general characteristics of this specialization were mentioned above. The different fields in public health for which this high-level administrative specialization is possible are: Public Health Administration, Communicable Diseases, Mental Health, Nutrition, Maternal and Child Health, Public Health Education, or other fields when national circumstances so require and the higher authorities approve.

Limited by the faculty to a maximum of eight students, this program has been in existence too short a time to judge its impact. In three years, a total of 13 students have enrolled. It is anticipated that larger numbers of qualified persons will be interested as the status of the program and its graduates becomes established. The stipend support level of these students in their second and third years is appreciably higher than that of students in the M.P.H. curriculum. However, the income is not likely to be as great as would otherwise be available to the qualified professional persons during actual employment in public health, and this is thought to inhibit interest in the specialist program. The interest of the Ministry of Health and Welfare in this program is evident from the fact that it provides a special budget directed specifically to it.

Notes on Representative Field Trips

LERMA

(*Rapporteur*: Dr. Myron E. Wegman)

Lerma, population 2,800, formerly the capital of the State of Mexico, was previously chiefly agricultural, but recently a good deal of industry has moved in. Thus, many of the inhabitants are now covered by Social Security, which provides them with needed health services, preventive and curative.

Students in the field-study group, before starting their program in Lerma, visited the town authorities with their faculty

adviser to explain their purpose. On the basis of a general outline used by the School, they had prepared a questionnaire schedule for the study of Lerma.

The study is carefully divided into ten parts, one to be completed each week for ten weeks. Furthermore, the group divides its tasks among its members. On this particular visit, for example, two students were investigating general education and two were studying water supply. Each week they submit a written report to the faculty adviser, signed by all four students.

At the end of the ten-week period the students continue visiting the city weekly to observe any progress or change, until the end of the academic period in September.

The students obviously enjoy the field work and feel they learn a good deal from it. Although their work is scheduled for half a day, they actually have most of the day there since their first formal class at the School is late in the afternoon. Only four groups obtain this experience outside of Mexico City. The others observe individual family situations within the city. Students must furnish their own transportation to the field, this being considered a personal expense of their studies. There is apparently no objection to this arrangement.

The town authorities are offered the opportunity to see the reports, after review by the faculty, but no advice is ever given unless requested. All the students seemed to go into a great deal of detail, but the faculty believe that this does not interfere with their appreciation of larger issues.

PACHUCA

(Rapporteur: Dr. Richard K. C. Lee)

A third-year student drove the field party over the 90 kilometers to this capital city of Hidalgo State. The population of Pachuca is about 74,000 and of the state, 1.4 million. The five medically trained students were assigned to interview different leaders of the city. The first visit was to the Health Center, where the Seminar participants met the health officer of the state. Besides the five full-time physicians on his health department staff, an additional three to five physicians work in the state program, which includes the management of the hospital and care of patients coming to this facility.

The outline and design of the health study is developed by students, and each student has to write a portion of the report, which is made available for use by the health officer and his staff. Whenever the recommendations made by the students in the course of their study are deemed worth while and acceptable, they are immediately considered for implementation. These are experienced students whose task is to study the population structure of the city and observe and learn about its internal dynamics, the relationship of social groups to each other, and the influence of these groups on community life.

The students spend a morning each week for 24 weeks in this city. They choose their own team leader. It was learned that these study groups have been requested by other communities in Mexico and are well received. Since most of the health officers and their staffs are graduates of the School of Public Health and communication between faculty and the health service staff appeared to be good, the student activities were well accepted. They all considered themselves to form part of the same team: the Ministry of Health and Welfare.

In summary, the field trips and experience arranged for the students of the School of Public Health were found to be well conceived and implemented, and the students should profit greatly from them.

Appendix 1

Regulations of the School of Public Health of Mexico

CHAPTER I — Objectives

Article 1. The School of Public Health is attached to the Ministry of Health and Welfare and its task is to increase the resources of scientific and technical manpower in public health.

Its objectives are as follows:

- I. To train health workers in the scientific disciplines necessary

for the study and solution of public health problems and in procedures for applying that knowledge.

II. To stimulate the development of a favorable attitude to public health in the members of all professions whose work is of importance for individual or collective health, and to encourage them to constantly improve their qualifications.

III. To collaborate with the Ministry of Health and Welfare in a technical consultative capacity, and to undertake such studies as may be requested of it on public health problems and outline possible solutions to those problems.

CHAPTER II — General Organization

Article 2. The School of Public Health is attached to the Office of the Deputy Minister of Health, through the Department of Professional Education in Public Health.

Article 3. The School of Public Health shall order its activities in accordance with the decisions of its Directing Council.

Article 4. The Directing Council.

I. Functions.

The functions of the Directing Council shall be as follows:

- (a) To establish the policy of the institution.
- (b) To authorize each year the teaching and research programs.
- (c) To approve the annual budget estimates.
- (d) To appoint and dismiss technical staff in accordance with

Public Service Regulations.

II. Members.

The members of the Directing Council shall be as follows: Chairman—the Minister of Health and Welfare; Member 1—the Deputy Minister of Health; Member 2—the Deputy Minister of Welfare; Member 3—the Director-General of Coordinated Public Health Services in States and Territories; Member 4—the Director-General of Health in the Federal District; Member 5—the Director of Professional Education in Public Health; Member-Secretary—the Director of the School of Public Health.

III. Sessions.

(a) The Directing Council shall hold an annual meeting, with the requisite number of sessions, one month before the preparation of the budget estimates of the Ministry of Health and Welfare.

(b) The Council shall be entitled to hold special meetings on the convocation of its Chairman or at least two of its members.

(c) The regular and special sessions will be held in accordance with the rules of procedures of the Directing Council.

(d) The Director of the School of Public Health shall be responsible for implementing the decisions of the Council, which shall be recorded in the minutes of the sessions.

CHAPTER III — Internal Organization

Article 5. The School of Public Health shall be under the direction of a Director. To ensure that it discharges its functions efficiently it shall have a Deputy Director, a Technical Council, and such departments and sections as shall be determined by the Director of the School, depending on the subjects taught.

Article 6. The Director.

I. The functions of the Director shall be as follows:

(a) To be the legal representative of the School of Public Health of Mexico and to delegate that duty whenever he deems it necessary.

(b) To direct the technical and administrative activities of the School, so as to secure the implementation of the decisions of the Directing Council.

(c) To be in charge of one teaching department.

(d) To encourage all members of the School to improve their qualifications and to propose the appointment and dismissal of personnel.

(e) To work out jointly with the Director of Professional Education in Public Health the budget estimates of the School.

(f) To sit on the Technical Council and nominate its constituent members.

(g) To sit on the Directing Council as the Secretary.

(h) To submit progress reports to the Directing Council on the programs approved.

Article 7. The Deputy Director.

I. The functions of the Deputy Director shall be as follows:

(a) To assist the Director in studying, interpreting, and implementing the technical aspects of the teaching program.

(b) To supervise the programs of the School.

(c) To be in charge of a teaching department.

(d) To sit on the Technical Council as the Secretary.

(e) To discharge such other functions as may be specifically assigned to him by the Director.

Article 8. The Technical Council.

I. The functions of the Technical Council shall be as follows:

(a) To recommend to the Director of the School technical standards for carrying out the plans approved by the Directing Council.

(b) To propose to the Directing Council, through the Director of the School, new programs or changes in existing programs.

(c) To review the results of the evaluation of students and propose to the Director of the School measures appropriate to each case in order to determine the legal position of students with respect to the School.

II. Members.

The members of the Technical Council shall be as follows: Chairman—the Director of Professional Education in Public Health; Member I—the Director of the School of Public Health; Secretary—the

Deputy Director of the School of Public Health. Four members appointed from among the faculty of the School by the Director himself.

III. Sessions.

(a) The Technical Council shall hold regular meetings at the end of each academic period, comprising such number of sessions as is deemed necessary. One of these meetings shall be held immediately after the meeting of the Directing Council and before the courses begin.

(b) The Council shall be entitled to hold special meetings on the convocation of its Chairman or of at least two of its members.

Article 9. Departments.

I. The School shall consist of such departments as may be determined by the Director himself on the recommendation of the Technical Council.

II. Each of the departments shall be under the direction of a full-time professor appointed by the Director of the School.

III. The functions of the heads of departments shall be as follows:

(a) To submit at an early date to the Director of the School the programs of their departments and such changes in them as they deem necessary.

(b) To coordinate and supervise the activities of their departments.

(c) To act as instructors in the subject fields assigned to them by the Director of the School.

(d) To submit a monthly written report to the Director of the School on the work of their departments.

(e) To take part in such activities as are specifically assigned to them by the Director.

Article 10. Sections.

I. Each department shall comprise such sections as may be determined by the Director of the School on the recommendation of the Technical Council.

II. The sections shall be under the direction of at least one full professor and staffed by such associate professors, instructors, and assistants as the Director of the School may designate.

Article 11. Faculty members.

I. Full professors.

Full professors shall work full time or part time. Their functions shall be as follows:

(a) To prepare and submit their draft program to the head of the department concerned.

(b) To adopt appropriate measures to ensure the development of the subject matter in the course assigned to them by the head of the department concerned, in agreement with the Director and in accordance with the teaching programs and principles of the School.

(c) To encourage and guide their students and supervise their scientific and field work.

(d) To teach and to conduct scientific research.

(e) To attend the meetings convened by the Director of the School and by the head of the department.

(f) To submit at an early date to the head of their department a report on their activities.

II. Associate professors.

The associate professors shall be appointed by the Director to take charge of one or more lectures or demonstrations or to take part in group discussions, round tables, etc., and shall discharge their functions as indicated by the head of the department or the full professor concerned.

III. Instructors.

Posts of instructors shall be held by full-time personnel appointed for that purpose by the Director of the School and their functions shall consist in the supervision and guidance of students in the subject fields specified by the head of the department.

IV. Assistants.

Assistants shall work full time or part time and their function shall be to assist the professors in the preparation, maintenance, and correct handling of teaching materials.

CHAPTER IV — Associated Institutions

Article 12. All the institutions that come under the Ministry of Health and Welfare, institutions receiving grants from that Ministry, and other official or decentralized institutions shall assist in the School programs.

The Minister of Health and Welfare shall decide which institutions shall function as training units or centers and shall specify the responsibilities of the School in the technical and administrative aspects.

CHAPTER V — Advisory Functions

Article 13. All faculty members shall take part in the examination of such public health problems, programs, and systems of organization as may be requested by the dependent units of the Ministry of Health and Welfare, through the Director of the School.

I. The Director of the School shall designate for each study the persons who shall be responsible for directing it and for submitting a draft program.

II. The findings and the conclusions of any study shall be examined by the Technical Council before being submitted to the requesting units for consideration.

CHAPTER VI — Scientific Publications

Article 14. The Director of the School shall encourage his colleagues to help disseminate knowledge of scientific and administrative advances

in the field of public health through the publications which it publishes or which are selected by the institution.

CHAPTER VII — Students

Article 15. In the School of Public Health there shall be two classes of students: students of the School and trainees.

I. A "student of the School" means any person who, not being a member of the faculty, is authorized by the institution to pursue in it, or through it, systematic training in the field of public health.

II. "Trainees" are officials of the Ministry of Public Health and Welfare or other official or decentralized or private institutions that follow demonstration, review, or orientation courses in any field of public health as may be organized by the School of Public Health itself or in collaboration with other institutions.

Article 16. Students of the School may be regular or incorporated.

I. Regular students are those who, having satisfied the requirements of these Regulations, are enrolled in one of the courses of the School.

II. Incorporated students are those who obtain authorization to study one or more course subjects.

Article 17. The Director shall grant or revoke, depending on the recommendation of the Technical Council, authorization to pursue studies at the School or through it, according to the provisions of these Regulations.

CHAPTER VIII — Courses

Article 18. The School shall organize and hold regular public health courses and shall be authorized to award diplomas and certificates.

Article 19. The School shall organize the following courses:

I. Postgraduate courses.

(a) Course leading to a Master's degree in Public Health and Medical Administration.

(b) Courses for specialization in Administration, Communicable Diseases from the Public Health Standpoint, Health Education, Maternal and Child Health, Nutrition, Mental Health, and such others as may be approved by the Directing Council.

II. Technical courses.

(a) Course for sanitation technicians.

(b) Course for technicians in public health statistics.

III. Short orientation or refresher courses for public health personnel, depending on the needs of the health organization of the country.

Article 20. Course for a Master's degree in Public Health and Medical Administration.

I. The course for a Master's degree in Public Health and Medical Administration shall be for physicians and surgeons, dentists, veterinarians, civil engineers, chemists, bacteriologists, parasitologists, psychologists, anthropologists, sociologists, and such other professional workers holding a university, or, in the opinion of the School, an equivalent qualification.

II. Its aims shall be as follows:

(a) To train members of those professions to undertake the scientific study of public health problems and to organize appropriate measures to enable communities to solve such problems.

(b) To awaken in professional health workers an interest in and understanding of the factors conditioning human health.

III. The course for a Master's degree in Public Health and Medical Administration shall:

(a) Last for one school year.

(b) Comprise such basic subjects, refresher subjects, and field practice as may be decided by the Technical Council but shall be sufficiently flexible to allow students to undertake more advanced studies in various fields, through special programs.

(c) Shall involve the active participation of students in the lecture room, laboratory, field practice, and the library.

IV. A candidate wishing to be enrolled as a regular student in the course for a Master's degree in Public Health and Medical Administration shall:

(a) Be sent by an institution whose activities are connected with public health, which shall make the necessary application.

(b) Have, in the opinion of the School, the necessary general education, ability, and personal qualities to successfully complete the course.

(c) Hold a qualification legally entitling him to practice one of the professions mentioned in sub-paragraph I.

(d) Have at least two years' experience in public health.

(e) Submit the necessary documentary proof of his professional qualifications.

(f) Be in a good state of health, in the opinion of the School.

(g) Complete and sign a School application form.

(h) Pay the registration fees and tuition fees in advance.

(i) Produce evidence that he will be able to finance full-time studies.

V. A candidate wishing to be enrolled as an incorporated student shall:

(a) Be sent by an institution whose activities are connected with public health, which will make the necessary application.

(b) Complete and sign the corresponding application form.

VI. To obtain a Master's degree in Public Health and Medical Administration a student shall have satisfactorily participated in the course as a regular student and have demonstrated an appropriate attitude to public health, in the opinion of the School.

VII. Incorporated students shall be entitled to a certificate of at-

tendance and assiduity in the course or courses in which they were enrolled, subject to the Regulations of the School.

Article 21. Specialization courses in public health.

I. The fields of specialization in these courses shall be as follows:

Administration, Communicable Diseases from the Public Health Standpoint, Health Education, Maternal and Child Health, Nutrition, Mental Health, and such others as may be approved by the Directing Council.

II. The courses shall be intended for members of the professions eligible for the course for a Master's degree in Public Health and Medical Administration (Article 20, sub-paragraph I).

III. Its aims shall be as follows:

(a) To prepare members of those professions in a specific field of public health, for work in a specialized field, for research, or for teaching.

(b) To develop and strengthen their critical faculty and to stimulate their scientific interest.

IV. The courses shall:

(a) Last for three years of which the first shall be devoted to the course for a Master's degree in Public Health and Medical Administration; the second year shall consist of a residency in the special field selected, and specific academic training. During the third year students shall be incorporated into the services of the Ministry of Health and Welfare, where they will undertake field work planned and supervised by the School of Public Health.

(b) On completion of the third year students shall submit a thesis on their field work, which shall be defended in public under the direction of the faculty members of the School and such others as the School may deem it appropriate to appoint.

V. A candidate wishing to be enrolled as a regular student in any of the specialized courses shall:

(a) Be sent by an institution whose activities are related to public health.

(b) Hold a qualification legally entitling him to practice any one of the professions mentioned in sub-paragraph I of Article 20.

(c) Have, in the opinion of the School, the necessary general education, ability, and personal qualities to successfully complete the course.

1. To sit for an examination designed to ascertain his basic knowledge of the special field selected.

2. To be interviewed by the Director of Professional Education in Public Health, by the Director of the School of Public Health, and by a faculty member of the School.

3. Knowledge of a foreign language, preferably the English language.

(d) Have at least two years' experience in public health and be not more than 35 years of age.

(e) Submit a curriculum vitae providing evidence of his professional education and practice.

(f) Be in a good state of health, to the satisfaction of the School.

(g) Pay the registration fees and tuition fees in advance.

(h) Produce evidence that he will be able to finance full-time studies.

(i) Complete and sign the application forms of the School.

(j) Satisfy any other requirements that the School deems necessary.

VI. The specialization fields shall be chosen by the students themselves.

VII. Validation of earlier studies shall be subject to the approval of the School.

VIII. To obtain a diploma as a specialist in a particular field of public health a candidate shall have satisfactorily participated in the course, in the opinion of the School.

Article 22. Course for sanitation technicians.

I. The course for sanitation technicians shall be intended for persons who have completed at least a full course of secondary education or its equivalent.

II. Its aims shall be:

(a) To train technical auxiliary personnel in the fields of sanitary engineering and sanitation.

(b) To train these personnel in the general principles of administration, especially in the study and guidance of groups and communities, with a view to developing activities designed to promote health.

III. The course for sanitation technicians shall:

(a) Last for one school year.

(b) Comprise academic, laboratory, workshop, and field training specified in the program concerned.

IV. A candidate wishing to enroll as a regular student in the course shall:

(a) Have, in the opinion of the School, the necessary general education, ability, and personal qualities to successfully complete the course.

(b) Produce evidence of having completed at least a full course of secondary education.

(c) Be in good health, to the satisfaction of the School.

(d) Complete and sign the application form of the School.

(e) Pay the registration and tuition fees in advance.

(f) Produce evidence that he will be able to finance full-time studies.

V. To obtain a certificate as a sanitation technician a student shall have satisfactorily participated in the course as a regular student and have demonstrated an appropriate attitude to public health, in the opinion of the School.

Article 23. Course for technician in public health statistics.

I. The course for technicians in public health statistics shall be

intended for persons who have completed at least a full course of secondary education or its equivalent.

II. The aims of the course shall be as follows:

(a) To train personnel to undertake middle-level statistical duties, in the field of public health.

(b) To train them in the administration of statistical services at the national, regional, or local level.

III. Courses for technicians in public health statistics shall:

(a) Last for one school year.

(b) Comprise such academic, laboratory, and field training as is specified in the program concerned.

IV. A candidate wishing to be enrolled as a regular student in the course shall produce evidence that he meets the requirements set forth in sub-paragraph IV of Article 22.

V. To obtain a certificate of technician in public health statistics a student shall have satisfactorily participated in the course as a regular student and have demonstrated an appropriate attitude to public health, in the opinion of the School.

Article 24. Short courses.

I. Short courses shall be intended for persons responsible for carrying out public health activities at the professional, technical, and auxiliary level.

II. The aims of the short courses shall be:

(a) To train personnel in specific fields of public health and bring their knowledge up to date.

(b) To brief them on the national health organization and stimulate the development in them of a favorable attitude to public health.

III. The courses shall:

(a) Vary in duration but last not more than six months.

(b) During the course, emphasis shall be given to field work, in which the students shall actively participate; academic instruction shall be reduced to a minimum.

(c) The dates of the courses shall vary depending on the needs of the Ministry of Health and Welfare and the possibilities of the School.

IV. Registration requirements shall be those established by the School for the course concerned.

Article 25. The Directing Council shall be responsible for the organization of the courses in accordance with the foregoing Regulations and according to the needs of the public health services.

In any event, the Directors of the Divisions of the Ministry of Health and Welfare interested in these courses shall inform the Director of Professional Education in Public Health of the aims pursued and the posts students will hold on completion of their studies.

Article 26. The School shall assist in the organization and conduct of training courses in public health by the various units of the Ministry of Health and Welfare and such other institutions as so request.

In the same way each unit shall take part in such scientific activities as shall contribute to a better knowledge and understanding of public health problems.

CHAPTER IX — Diplomas and Certificates

Article 27. Diplomas for the courses for a Master's degree in Public Health and Medical Administration and as a specialist in a specific field of public health shall be signed by the Minister of Health and Welfare, the Director of Professional Education in Public Health, and the Director of the School of Public Health.

Article 28. The certificates for courses for technicians and for short courses shall be signed by the Director of Professional Education in Public Health and the Director of the School of Public Health.

CHAPTER X — Technical Auxiliary Services

Article 29. In order to help it discharge its functions the School shall have the following technical auxiliary services: secretarial services, library, archives, photography, graphics, publications, and such others as are deemed necessary by the Director of the School.

CHAPTER XI — Administration

Article 30. Administrative services.

I. The administration shall comprise the following services: Personnel, Accounts, Cashier's Office and Paymaster, Purchasing Unit, Stores and Supplies, Archives, Inventories, Maintenance of Buildings and Installations, Workshops, Steward's Office, Housekeeping, Laundry, and Transport.

II. Its functions shall be to coordinate and supervise the administrative activities of the School in order to ensure that the Regulations are observed and that the procedures established by the Ministry of Health and Welfare are applied.

III. The Office of the Director of Professional Education shall be responsible for the administrative services, according to the decisions and under the supervision of the Director of the School.

Appendix 2

Course for a Master's Degree in Public Health and Medical Administration

General Description

The course is intended to prepare physicians, engineers, veterinarians, dental surgeons, and members of other professions to undertake executive functions in the public health services and other institutions at the national, regional, and local levels. The course will last for ten months from 15 February to 15 December. It comprises four periods divided into a total of 1,562 hours, of which 560 are devoted to theoretical instruction in which the students participate, 734 to direct observations, field studies, laboratory work and field practice, and 298 hours to round tables on selected themes and discussions concerning the findings of the studies undertaken in the course of field work. Instruction covers those disciplines that enable students to understand the factors conditioning health as well as the scientific basis of, and administrative procedures applicable to, health programs.

The course is normally the same for all candidates wishing to obtain a Master's degree in Public Health and Medical Administration. Through special programs certain candidates are provided with opportunities to pursue advanced studies in specific fields such as public health dentistry, public health veterinary medicine, epidemiology, occupational health, laboratory studies, etc., depending on the interest of the student concerned.

Instruction involves a minimum of lectures and is eminently active; it is imparted through group discussions, seminars, round-table discussions, panel-forums, and practical exercises. Students are provided with all the material elements they need for learning as well as general and specialized bibliographical material so that they can take full advantage of the latest advances in science and technology.

Rio de Janeiro, Brazil

NATIONAL SCHOOL OF PUBLIC HEALTH

**Foundation for Specialized Teaching in Public Health
Ministry of Health**

(7-8 April 1967)

Rapporteur: Dr. Harry S. Gear

The Seminar was opened on 7 April and its members were greeted by Dr. Edmar Terra Blois, President of the Foundation for Specialized Teaching in Public Health (FENSP). The Minister of Health, Dr. Leonel Tavares Miranda de Albuquerque, in his address to those attending the opening ceremony, indicated the value that the deliberations of the Seminar would have for the health plans and programs of Brazil. In his country the development of the manpower needed for the health and medical services—the infrastructure of health—was a fundamental requirement, and the subjects that were to be discussed during the Seminar were therefore especially significant.

The participants were then conducted on an extensive tour of the Foundation's building and shown the facilities of the various departments, residential accommodation offered to students, lecture rooms, laboratories, and administrative offices. The remainder of the day was spent in listening to and discussing the presentations made by senior members of the staff. Field visits were organized for the group on 8 April.

The group was fortunate to be accompanied by Dr. John Karefa-Smart, Assistant Director-General, and Dr. Ernani Braga, Director of the Division of Education and Training, of the Headquarters of the World Health Organization, Geneva.

The following presentations were made to the group on 7 April:

Topic A. Organization and Administration of the National School of Public Health, introduced by Professor Savio Antunes.

Topic B. The Teaching of Epidemiology as a Basic Diagnostic

Discipline in Public Health, introduced by Professor Nelson Moraes.

Topic C. The Teaching of Health Planning, introduced by Professor Oswaldo Costa.

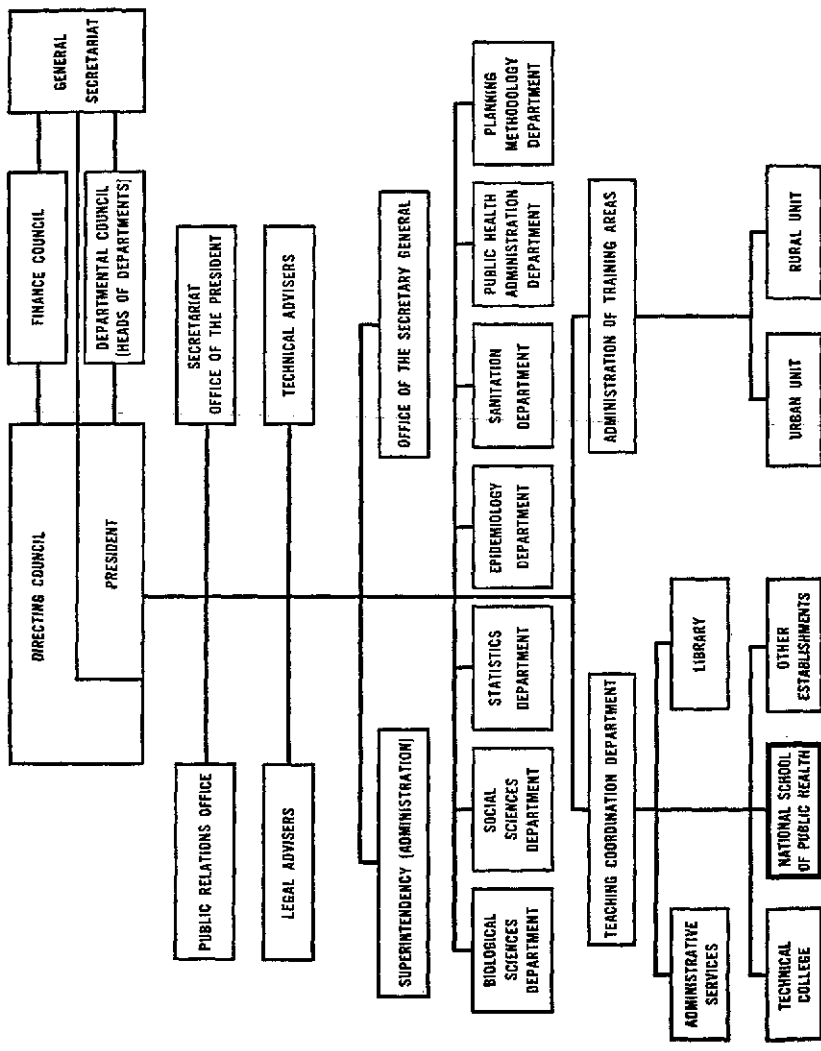
Topic D. The Teaching of Health Administration, introduced by Professor Oswaldo Costa.

Throughout the presentations and the subsequent round-table discussions, the presiding officer was Dr. Edmar Terra Blois. In giving a general description of the National School of Public Health, Dr. Blois pointed out that as a result of Federal legislation the School has been integrated into the general educational system of the country and has direct relationship with the Ministry of Health and also the Ministry of Education. However, it was accepted that the School is a university institution in its character and has interrelationship with universities. Its various courses and diplomas and appointments of teachers are approved by the Federal Council of Education. In that the FENSP is a *foundation* in its nature, the necessary academic freedom exists.

Organization and Administration

In his presentation, Professor Savio Antunes briefly described the development of education in public health in Brazil. As a result of the reforms in higher education introduced in 1925, the Course in Hygiene and Public Health was set up within the School of Medicine of Rio de Janeiro. In 1931 it was attached to the Oswaldo Cruz Institute. In 1942 legislation established the Courses of the National Health Department of the Ministry of Education and Health, which were incorporated into the Public Health Course at the Oswaldo Cruz Institute. By 1958 all these courses were integrated in the National School of Public Health of the Ministry of Health, which was officially established in June 1958.

In mid-1966 the Federal Government approved the establishment of the Foundation for Specialized Teaching in Public Health (*Fundação Ensino Especializado de Saúde Pública*) with responsibility for "maintaining, under its jurisdiction, the National School of Public Health and other institutions devoted to specialized training in public health." The objectives of the Foundation are the following:



Organizational Structure of the Foundation for Specialized Teaching in Public Health, Rio de Janeiro, Brazil

(1) To conduct postgraduate courses for personnel at the technical-scientific level.

(2) To promote the training of auxiliary personnel and the specialization and training of such technical personnel as are necessary for the nation's public health programs.

(3) To collaborate with public or private entities engaged in public health activities in the country with a view to advancing the specialization and training of technical and auxiliary personnel.

(4) To maintain and administer, directly or through cooperative agreements with public or private agencies, training centers that can be used for field practice, experimental, and demonstration purposes.

(5) To undertake studies and research to further the technical, scientific, and cultural advancement of public health personnel.

(6) To establish programs for the exchange of information with cultural, educational, and technical institutions and for cooperation with them in programs that fall within its sphere of action.

(7) To publicize the results of its programs, studies, and research.

The Foundation, which is attached to the Ministry of Health, includes in its organizational structure, a President, the Directing Council, the Finance Council, the Departmental Council, the General Secretariat, the Division of Administration, the Administration of Training Areas, and eight Departments: (1) Teaching, (2) Biological Sciences, (3) Social Sciences, (4) Epidemiology, (5) Planning Methodology, (6) Public Health Administration, (7) Sanitation, and (8) Statistics.

The position of the National School of Public Health within this structure can be seen from the accompanying diagram.

The Foundation has its own recently constructed building in Rio de Janeiro, which houses also the National School of Public Health. For its field training, experimental, and demonstration activities, it makes use of the installations and services maintained under an agreement with the State of Guanabara, at the Samuel Libânio Health Unit in Jacarepaguá, located 28 kilometers from Rio de Janeiro in a rural environment. To meet the additional training needs, an urban unit has been installed at the Foundation for practice, demonstration, and research. The

School uses both of these facilities and cooperates with other institutions in arranging such programs. Many epidemiological surveys and studies have been similarly organized.

Three types of teachers are used in the School: full-time professors, assistant teachers, and special professors. The full-time professors are of three types: full professors, associate professors, and assistant professors. The special professors include visiting professors, lecturers, and collaborating professors. The Federal Council of Education has established criteria of appointments which are followed by the School in its appointment of full-time professors. Heads of departments suggest the names of assistant staff members for appointment. The President appoints special professors, guided by the established criteria.

Each applicant for admission to the School completes a full curriculum vitae which is used in selecting students. All students receive scholarships. Students admitted from the Ministry of Health and other governmental organizations return to their posts on completing their studies.

As Portuguese is the language of the School, there have been but few non-Brazilian students enrolled.

Course in Public Health

The postgraduate course leading to the degree of Master of Public Health is open to professionals from various disciplines—physicians, engineers, veterinarians, nurses, architects, dentists, pharmacists-chemists, and agronomists—and is designed to prepare them for work in the field of public health, including teaching activities. It is an intensive, full-time course that lasts one academic year, from February to December.

Students must attend at least 80 per cent of the scheduled class hours in each subject; participate in all laboratory work, group projects, seminars, and observation or practice visits; present reports, papers, or other material as required; take oral and written examinations; and present at the end of the course a thesis on a public health problem, of their own choice, to be developed under the guidance of one of the departments.

The course comprises required and optional subjects, depending on the students' field of specialization. A summary of all the subjects offered in the course is contained in the Appendix to this report (see p. 32).

To further the concept of work in a team, the teaching of required subjects is given to the students without distinction of the professional groups to which they belong, although proper provision is made for diversification in accordance with the activities the students will perform after graduation.

The basic or master curriculum in Public Health includes the following subjects: Social Sciences, Epidemiology, Statistics, Sanitation, Biological Sciences, Planning, and Administration. In the discussion of the philosophy that guides these studies, it was stressed that the main function of the School, in terms of the bylaws of its Foundation, is to prepare students for work in the health services of the country. In terms of this policy, emphasis is given to training in administration in all courses in the School. It was noted that the two field training units used by the School, one urban and one rural, were definitely not "model" units, a concept that is considered undesirable in teaching on a national basis. Alternative methods as to range and depth of administration must be presented. It was stated that the School intends to establish a third unit for teaching and research in an isolated region where special attention will be paid to training in simple methods applied in health services, including the use of auxiliaries.

Teaching of Health Planning

In discussing this topic, Dr. Oswaldo Costa indicated that there is a very active interest in planning in the country, both in the Federal Government and in the states. A planning unit will be established in each of the states. With the help of the U.S. Agency for International Development and the Pan American Health Organization, a number of such units have already been set up.

The National School of Public Health, recognizing the need for people trained in health planning, has taken steps to provide suitable courses. A Department of Planning Methodology to direct the required teaching and research has been created in the Foundation and the curriculum of the public health course has been revised to include obligatory courses in health planning. The Department will work with Federal and state planning units.

The "Course of Specialization in Health Planning" offered at

the National School is intended for public health graduates with a minimum of two years of technical and/or administrative experience in health services. In special cases, the Departmental Council of FENSP may admit students not holding the public health degree. It is an intensive 16-week course and in 1967 was scheduled from June to September. The instruction, comprising class work, laboratory and field practice, and seminars, is given by the teaching staff of the Foundation's Departments of Planning Methodology, Social Sciences, Statistics, and Public Health Administration, by specially recruited professors, and by consultants of the Pan American Health Organization and the World Health Organization. Enrollment in 1967 was limited to 25 students, preference being given to persons engaged or to be engaged in planning activities in the health services.

The curriculum subjects, all of which are obligatory, are the following:

- Introductory symposiums (10 hours)
- Administration (30 hours)
- Statistics (24 hours)
- Principles of economics (48 hours)
- Global planning (24 hours)
- Planning in the health sector (6 hours)
- Techniques of planning in the public sector (90 hours)
- Techniques of local programming (120 hours)
- Formulation and evaluation of investment projects (30 hours)
- Program budgeting (24 hours)
- Cost analysis (12 hours)
- Sectoral studies of aggregate value (12 hours)
- Integration of health plans in over-all development plans (6 hours)
- Seminars on strategy for establishing the planning process

In the general discussion of the topic, it was stressed that planning is a relatively new subject for inclusion in the programs of public health schools. Planning has to take account of a wide variety of cultural, social, economic, and technical circumstances, which makes teaching of a methodology of planning difficult to organize in short courses. Emphasis was placed on the complexity of the subject and its relationship with the general policies of a country, including central and local governmental

plans. Health planning, therefore, cannot be considered in isolation. This applies to the use of resources, especially manpower.

In addition to the inherent problems associated with teaching health planning in a school of public health, the Seminar discussed the place of such teaching. There are advantages and disadvantages associated with methods that concentrate such teaching in a special department or charge the usual departments of a school with the responsibility. Dr. Karefa-Smart reported the arrangements that are being made by the University of the West Indies to conduct a pioneering international course on health planning, supported by the World Health Organization.

Teaching of Epidemiology

In the discussion of the teaching of epidemiology as a basic diagnostic discipline in public health, Dr. Nelson Moraes indicated that the subject was taught at the National School in two courses with the use of lectures, seminars, and field visits. The first course (60 hours), obligatory for all students in the public health course, covers epidemiological methods, general methods of prophylaxis, study of phenomena from the epidemiological viewpoint, and importance of communicable diseases, degenerative diseases, and accidents. The second (70 hours), obligatory for all students except engineers, architects, and agronomists, covers the epidemiology and prophylaxis of major communicable diseases.

It was emphasized that, because Brazil lacks complete health statistics, it is considered important that students learn to make community diagnoses by the use of a variety of indices. The Department of Epidemiology of FENSP has established an Epidemiological Intelligence Unit which collects and publishes available data for Brazil.

Field Visits

On 8 April the Seminar group was taken to the Samuel Libânio Health Unit, in Jacarepaguá, which is utilized by the School for field training. The Unit, from its clinic building, provides general health and medical care for about 18,000 people in the district. It has a staff of two doctors, three nurses, eight visiting

aides, one dentist, and one sanitary inspector. Students from the School, in addition to participating in the general clinic work, also undertake field surveys and studies.

A visit was also made to the Field Station of the National Institute of Endemic Diseases in Jacarepaguá. The field surveys and research work being done at this Station, especially in the study of schistosomiasis, were demonstrated. The staff members of the Station, including four doctors, assist in teaching the students from the School the use of survey methods for the study of endemic diseases, socioeconomic conditions, demographic situations, etc.

Appendix

National School of Public Health — Rio de Janeiro, Brazil

Public Health Course

Summary of Subjects

- Social Sciences I—Principles of sociology, psychology, economics, and communication techniques. (70 hours) Obligatory for all students.
- Social Sciences II—Studies in group dynamics and discussion techniques. Seminars on application of human sciences in public health. (68 hours) Obligatory for all students except engineers, architects, and agronomists.
- Social Sciences III—Macroeconomics theory. Principles of demography, principles of social accounting. (42 hours) Obligatory for all students except engineers, architects, and agronomists.
- Statistics I—The statistical method. Public health statistics. (20 hours) Obligatory for all students.
- Statistics II—Collection, tabulation, and analysis of data. Tabular and graphic representation. Position and dispersion measurements. Frequency distribution. Probability studies. Sampling. Seasonal series. Statistical tests. (50 hours) Obligatory for all students except engineers, architects, and agronomists.
- Statistics III—Frequency distribution. Calculation of probability. Tests of statistical hypotheses. Sampling. (50 hours) Obligatory for engineers, architects, and agronomists.

- Biological Sciences I**—Review of general aspects of microbiology and parasitology. Study of etiologic agents and vectors of principal human diseases. (84 hours) Obligatory for all students except engineers, architects, and agronomists.
- Biological Sciences II**—Basic biology. Principles of microbiology and parasitology, with emphasis on agents and vectors of interest in sanitation activities. (84 hours) Obligatory for engineers, architects, and agronomists.
- Administration I**—General and public administration. (20 hours) Obligatory for all students.
- Administration II**—Studies of health protection and restoration systems. (60 hours) Obligatory for all students.
- Administration III**—Public health activities. Evaluation. (42 hours) Obligatory for all students except engineers, architects, and agronomists.
- Sanitation I**—General principles. Water supply. Excreta and waste water disposal. Garbage. Control of vectors and hosts. Food hygiene. Work and recreational areas. Atmospheric air. Radiation. Sanitation in times of public disasters. (57 hours) Obligatory for all students.
- Sanitation II**—Studies complementary to Sanitation I. (33 hours) Obligatory for all students except nurses.
- Sanitation III**—Industrial hygiene and safety; repercussions on health. (30 hours) Obligatory for all students.
- Sanitation IV**—Principles of physics and chemistry. Basic chemistry. Hydrology and hydraulics. Water and sewage analysis. Limnology and water pollution control. Water treatment. Sewage treatment. Treatment of industrial wastes. Building sanitation. Urban development. (490 hours) Subjects compulsory for engineers, agronomists, and architects.
- Sanitation V**—Urban water supply. Sewerage systems. Garbage analysis. Removal and final disposal of garbage. (143 hours) Subjects obligatory for engineers.
- Sanitation VI**—Sanitation problems in irrigation and drainage. Control of foods of vegetable origin. Rural sanitation problems. (143 hours) Subjects obligatory for agronomists.
- Sanitation VII**—Zoning and land utilization. Air control. Meteorology. Housing and residential environment. Architecture of health units. (143 hours) Subjects obligatory for architects.
- Epidemiology I**—Epidemiological methods. General methods of prophylaxis. Study of phenomena from the epidemiological viewpoint. (30 hours) Importance of communicable diseases, degenerative diseases, and accidents. (30 hours) Obligatory for all students.
- Epidemiology II**—Epidemiology and prophylaxis of major communicable diseases. (70 hours) Obligatory for all students except engineers, architects, and agronomists.
- Communicable Diseases**—Review of diagnostic and treatment methods. (60 hours) Obligatory for physicians.

- Nutrition**—Introduction. Man and food. Production. Food transportation, distribution, and processing. Food legislation. Nutrition surveys. Nutrition as a public health problem. National food policy. Role of international agencies. (60 hours) Obligatory for all students except engineers and architects.
- Planning I**—Concepts of development and characteristics of underdevelopment. Planning in the health sector. Strategy for the establishment of the planning process. (30 hours) Obligatory for all students.
- Planning II**—Techniques of programming in the public sector and local programming. Investment plans. Program budgeting. Techniques for integration of health plans in over-all development plans. (60 hours) Obligatory for all students.
- Medical Care Services**—Organization and financing of medical care services. Social assistance and welfare. The hospital as part of the system for health protection and restoration. Problems of hospital organization. (70 hours) Obligatory for physicians and nurses.
- Nursing I**—Present status of nursing. Functions of nursing, with special reference to public health. The nurse's participation in the development of health programs. (60 hours) Obligatory for nurses.
- Nursing II**—Nursing administration. (33 hours) Obligatory for nurses.
- Nursing III**—Supervision, training, and in-service education. (30 hours) Obligatory for nurses.
- Zoonoses**—Review of epidemiology and prophylaxis of zoonoses. (60 hours) Obligatory for veterinarians.
- Bromatology**—Food composition. Techniques for examination of foods. Food additives and their control. (60 hours) Obligatory for pharmacists-chemists.
- Control of Foods of Animal Origin**—Food hygiene and control techniques. Production, industrialization, and hygiene of meat, milk and milk products, fish, and eggs. (60 hours) Obligatory for veterinarians.
- Organization of Veterinary Public Health Services**—Control of zoonoses, food control. Personnel training, research, and advisory services at the national, regional, and local levels. Relationship with agricultural services and other entities. (70 hours) Obligatory for veterinarians.
- Epidemiology Applied to Dentistry**—Epidemiological characteristics of dental diseases. Methods for study of diseases of the mouth in a community. Methods for measuring a community's needs for dental treatment. Epidemiology of principal diseases of the mouth. (60 hours) Obligatory for dentists.
- Dental Public Health I**—Scope of dental public health; relationship with other public health disciplines. Review of methods used for prevention and treatment of principal oral diseases,

- from the viewpoint of their applicability in public health. Professional and auxiliary personnel in dentistry. Systems of work. Different types of organization and payment schemes in dental services. (60 hours) Obligatory for dentists.
- Dental Public Health II**—Integration of dental services in the nation's network of health services. Organization at the national, regional, and local levels. Special administrative aspects of dental public health services. Role of the dentist in public health. (70 hours) Obligatory for dentists.
- Mental Health**—History and development. Transformation of psychiatric care. Problems during the prenatal period, early infancy, school age, puberty, adolescence, middle age, and old age. Mental health in the community. Alcoholism. Toxicomania. Suicide. Criminality. Organization of mental health services. (30 hours) For physicians and nurses.
- Public Health Laboratory Techniques**—Collection of material. Preparation of material used in laboratory. Techniques and interpretations of biochemical, hematological, bacteriological, serological, and parasitological tests. (95 hours) Obligatory for pharmacists-chemists.
- Organization of Public Health Laboratories**—Structure of laboratory services at the national, regional, and local levels. Problems of personnel and materials. Evaluation of activities. (70 hours) Obligatory for pharmacists-chemists.
- Quality Control of Drugs**—Chemical, biological, and pharmacological control of drugs. Control of pesticides, sanitizers, and cosmetics. (72 hours) For pharmacists-chemists.
- Drug Processing**—General technology and pharmaceutical technology. (72 hours) For pharmacists-chemists.
- Maternal and Child Care**—Causes of maternal and child morbidity and mortality. Principal somatic and psychological characteristics of various stages of child growth and development. Maternal health. Child health. Acute diarrhea in infancy and dehydration as a public health problem. Immunization schemes. School health. Oral hygiene. Puericulture and social pediatrics. Medical-public health, socioeconomic and educational aspects of maternal and child care. Maternal and child care in health protection and restoration systems. (60 hours) Obligatory for physicians and nurses.
- Puericulture**—Mental hygiene and child psychology. Related social services. School health. Maternal and child protection services. (90 hours) For physicians.
- Occupational Health**—Principal occupational diseases. Diagnosis and treatment. Epidemiological aspects. Employment of women and minors. (30 hours) For physicians.

São Paulo, Brazil

SCHOOL OF HYGIENE AND PUBLIC HEALTH

University of São Paulo

(10-11 April 1967)

Rapporteur: Dr. Richard H. Daggy

The Seminar group spent two days at the School in São Paulo. Its discussions were devoted principally to the following topics: organization and administration of the School; teaching of public health dentistry; teaching of social and behavioral sciences, with special reference to anthropology; and teaching of public health administration.

At the end of the sessions, a special visit was made to University City, a new development which, when completed, will bring together the now scattered facilities of the University in a single physical setting.

Organization and Administration

The School of Hygiene and Public Health began its development in 1918 when a Course in Hygiene at the Medical School was set up as a joint project of the São Paulo State Government and the International Health Board of the Rockefeller Foundation. In 1925 the Course was detached from the Medical School and was reorganized as the Institute of Hygiene of São Paulo. In 1938 the Institute was incorporated into the University of São Paulo, operating under the Department of Hygiene in the Medical School. In 1945 it became an independent agency of the University and was given its present name.

The School is part of the São Paulo Medical Center, which also includes the School of Medicine, the Teaching Hospital, staff residencies, the Institute of Tropical Medicine, the Oscar Freire Institute (forensic medicine), the Nursing School, the Institute of Nuclear Medicine, the Adolfo Lutz Institute (public health

laboratory), the Emilio Ribas Hospital (communicable diseases), the Leprosy Department, and the State Forensic Medicine Institute. The School has established interrelationships with these agencies for purposes of teaching, research, and field training.

The Dean of the School is appointed by the President of the University Council for a three-year term, after consideration of nominations submitted by the faculty. Thus the School's administration is based on a rotating schedule. The current Dean is Professor Rodolfo dos Santos Mascarenhas. A Technical Administrative Council composed of the Dean, three professors, and the President of the Student Association meets once each week to advise on administration of the School.

The School is financed almost entirely by the State Government (86 per cent); smaller contributions are made by the State Planning Board (11 per cent) and by international agencies (3 per cent). The total budget for 1966 was US\$1,255,000, and that for 1967 was US\$945,000, a decrease that was due to economic policies of the Government.

The faculty in 1967 was as follows:

<i>Category</i>	<i>Total</i>	<i>Full-time</i>	<i>Part-time</i>
Professors	14	9	5
Associate professors	6	3	3
Lecturers	3	2	1
Visiting professors	1	1	—
Professors for special subjects	2	2	—
Assistant professors	14	6	8
Instructors	45	18	27
	—	—	—
Total	85	41	44

The School accepts foreign as well as national students. During 1967 some 35 foreign students from 13 different Central and South American countries were enrolled.

The academic year runs from 15 February through 20 December.

The School consists of the following departments, each of them headed by a professor with tenure:

1. Applied Statistics
2. Microbiology and Applied Immunology
3. Epidemiology
4. Nutrition
5. Industrial Hygiene (including industrial psychology)

6. Parasitology and Rural Hygiene
7. Sanitation
8. Maternal Hygiene (including applied genetics)
9. Public Health Administration (including hospital administration, public health dentistry, applied social science, health education, and public health nursing)
10. Communicable Diseases

Objectives

The objectives of the School are to provide teaching, research, and consultation services through:

1. Training of personnel at the graduate and postgraduate levels
2. Short courses on specific public health subjects (i.e., eight-week course in epidemiology of dental caries)
3. Conduct of research applied to public health
4. Establishment of relationships with national and international health agencies
5. Collaboration with official local, state, federal, and international agencies by training their personnel and giving consultation services

Programs of Instruction

The School offers the following regular courses and confers appropriate diplomas on their successful completion:

1. Postgraduate training in public health (10 months) for physicians, engineers, architects, veterinarians, pharmacists, biochemists, nurses, and other professionals such as biostatisticians, lawyers, etc.
2. Postgraduate training in public health education (10 months)
3. Postgraduate training in hospital administration (10 months, plus 4-6 month internship)
4. Other postgraduate training
5. Undergraduate training in nutrition (3 years)
6. Special courses
7. Advanced courses
8. Refresher courses

9. University extension courses, via television and radio at non-university level

A common core curriculum for all postgraduate courses includes public health administration, epidemiology, environmental sanitation, statistics, and applied social science. Physicians are also required to take sanitary bacteriology and health education. Other courses are required for other professional groups. Electives plus field work make up the balance of the program.

Field training is an integral part of the curriculum. In addition to special field projects, the School operates a Health Center, located in the main building of the School and serving a population of 120,000 in metropolitan São Paulo. This Center is used primarily for teaching and research in public health administration, and at the same time provides public health services. A similar Rural Training Center is located in Araraquara, 180 miles from São Paulo. This Center, which serves a population of 90,000, consists of five units, four of which are located in smaller villages in the rural area.

Discussion of Selected Topics

Teaching of Public Health Dentistry

Dr. Alfredo Reis Viegas, in presenting this topic, pointed out that public health dentistry is one of the several postgraduate courses given by the School; its objective is to prepare health administrators in dentistry. Fundamental health training, plus specific education in public health dentistry, is the basis for the program. Emphasis is placed on the development of dental programs in accordance with the economic, social, cultural, political, administrative, and professional patterns in each community.

Required public health subjects include administration, statistics, epidemiology, sanitation, and social sciences. This common core is believed necessary in order to give the dentists a broad public health background in the full sense of the word. The public health dentist must be able to integrate the dental program into the total public health program of the community he serves. In addition, public health dentistry, preventive dentistry,

nutrition in dentistry, and health education are also included. The more specialized subjects include:

1. Study of dental problems, methods of prevention and control, relationships to public health, resources and systems through which program productivity can be improved
2. Organization of services in public health dentistry; their planning, execution, and evaluation
3. Training of professional and auxiliary personnel
4. Preventive aspects of principal public health dental problems, such as caries, periodontal diseases, dento-facial deformities, oral cancer, cleft lip and palate, and radiation in dentistry
5. Field training at the local and the regional levels, and a week in each to observe field programs

The Department of Public Health Dentistry is also responsible for the International Center in Oral Epidemiology and Research Applied to Dentistry. This is a cooperative project of the University of São Paulo, the Pan American Health Organization, the W. K. Kellogg Foundation, and the United States Public Health Service.

The objectives of the Center are:

1. To strengthen courses of instruction, particularly those related to dental epidemiology and research
2. To promote the use of improved dental survey methods in Latin America so that comparability of dental data may be promoted
3. To collect and make available to other researchers information on the distribution of dental disease in Latin America
4. To promote and conduct dental research (epidemiological, clinical, social, and laboratory) relating to cause, prevention, and control of oral disease

Teaching of Social and Behavioral Sciences in Schools of Public Health

This topic was introduced by Dr. Armando Piovesan, who first spoke of the objectives in the teaching of anthropology in schools of public health. The primary objective is to change the attitude and behavior of the public health professional worker. For the most part, the student has a scientific or technological back-

ground, but little exposure to the social aspects of his profession. A second purpose is to familiarize him with the social sciences and enable him to relate to the community more intelligently. A third objective is to offer a wider perspective to the student so that he will have a more realistic understanding of public health within the whole context of social life in a community.

With respect to the teaching program at the School of Hygiene and Public Health, all postgraduates are required to take a course in the social sciences, including anthropology, sociology, and research methodology. Health education is emphasized not only as a method of disseminating information, but primarily as a process of cultural change in which public health personnel are agents of such change. Discussions of "cultural bias" always produce initial shock in the student group. As attitudes change with the behavioral science approach, the student begins to have a more realistic, socially-oriented view of public health problems in a community, and develops an ability to correct for any distortion that comes from his own "subcultural bias."

Problems in teaching social sciences in public health, medical, and nursing schools appear to be universal. Students with scientific backgrounds are often not interested in the social sciences, although this attitude is changing now. The teacher in social science is often not familiar with the field of public health and may be more concerned with theory than with application in public health. The problem is whether to train the public health officer in the teaching of social sciences or to train the social scientist in public health. At present, it was felt that the former had a better chance of success, especially when the placement of a non-medical professional in a faculty may prove difficult.

Mention was made of the proposal to establish a Latin American center for behavioral sciences, for the purpose of assisting in activities for research and teaching in this field throughout the region. The general similarity of conditions, at least in urban areas, the advantages of organized work, the deficiency of resources for teaching and research, and the need for training personnel would all seem to favor a center for coordinating behavioral science activities in Latin America. The main purposes of such a center would be: (1) to prepare personnel in behavioral sciences to work in public health; (2) to organize and to advise teaching, research and service centers in applied behavioral

science; (3) to disseminate information; and (4) to act as an executive agency for international meetings in this field.

In the course of the discussion, the placement of health education in the administrative framework of schools of public health was reviewed. In considering health education as the application of behavioral sciences to the field and as a tool of "planned change," it was pointed out that health education might well be considered a part of the behavioral sciences rather than be aligned with public health administration as it has been in the past in most schools of public health.

The question of teaching mental health was also raised. At present, the School does not assign it a high priority in view of other existing public health problems. Well-qualified teachers in this discipline are not yet available in Brazil. As these situations change, mental health may well be added to the general area of behavioral sciences in the School.

Teaching of Public Health Administration

This topic was presented by Professor Rodolfo dos Santos Mascarenhas, who outlined the major objectives of the School's teaching program in public health administration as follows: (1) to prepare physicians to perform general activities in public health and to administer district health units; (2) to prepare nurses as supervisors of district or local nursing activities and as nursing advisers to directors of district or regional health units; (3) to develop teamwork and a common philosophy of public health among the students; and (4) to teach elements of general administration, public administration, and primarily principles of public health administration needed by all professionals working in public health agencies.

The Department includes four disciplines: (1) public health administration; (2) general and public administration; (3) planning in public health; and (4) applied economics and politics.

In the public health administration teaching program, special topics include concepts of public health, evolution of public health, concepts of administration, indicators of health, types of local health units, activities of public health units, requirements for organization of local units, personnel, and administration of special departments of a health center (such as statistics, laboratory, control of communicable diseases, public health nursing,

maternal health, school health, chronic disease, public health dentistry, mental health, public health nutrition, and environmental sanitation). Also included are regional and central services, international services, priorities in public health, and economic and financial aspects, as well as general aspects of public health law. More recently, additional emphasis has been placed on indicators of health level, priorities in public health, integration of preventive and curative medical services in local or district health units, and economic and financial aspects in public health.

Teaching in general and public administration includes concepts of administration, planning, organization, management, leadership and authority, coordination, control, evaluation, concepts of public administration, functions of the State, State agencies, problems of decentralization, personnel administration, recruitment, rights and duties of public employees, orientation and selection, careers in public service, and financial administration.

Public health planning has been taught for many years as a part of the public health administration program. Since 1964 emphasis has been given to public health planning as an independent subject. Subjects such as the following have been included in the teaching program: economic needs and resources, national income, economic organization and functions of the State, concepts of development and characteristics of underdevelopment, basis of health development, methodological and operative plan, characteristics and contents of a health plan, and integration of health planning in the general development plan. Emphasis is placed on the need for scientific planning in all State services, particularly for public health activities.

Applied economics and politics are being taught with general and public health administration; specialists in these subjects are brought in from other faculties of the University for this purpose.

Students of public health administration devote from two to three weeks to field work in a program prepared by the coordinator of each course and approved by a field training committee.

Santiago, Chile

SCHOOL OF PUBLIC HEALTH

Faculty of Medicine, University of Chile

(13-14 April 1967)

Rapporteur: Dr. Bernard D. Tebbens

Two days of meetings of the Seminar at the School of Public Health, Faculty of Medicine, University of Chile in Santiago, were followed by a short informal meeting with Dr. Francisco Mardones Restat, Director General of the National Health Service. This encounter served to emphasize the close tie that exists between the School and the Health Service, with the School developing the philosophy of public health and preparing much of the preventive medical staff for the Health Service.

Organization and Administration — Curriculum

The opening presentation was made by Dr. Guillermo Adriasola E., Dean of the School, who discussed its organization and administration. Although the School has been functioning since 1944, its University attachment to the Faculty of Medicine dates from 1952. Throughout its history, the National Health Service has been influential in its activities. The Health Service provides assistance in teaching, equipment, basic philosophy, planning and research as well as in support of many of the students. Most of the budget of the School, except for student support, derives from the University of Chile. Organizationally, the School is an independent entity of the Faculty of Medicine and is free to make its own decisions as to curriculum and other functions. Rather than being overwhelmed by either the Medical Faculty or by the National Health Service, the School appears to hold its own and to be able to influence both of these entities in the direction of preventive medical philosophy.

At present the School is located in a part of the Bacteriological Institute of Chile, where its somewhat cramped quarters make very desirable the expected transfer to a new building that will be erected on the campus of the Faculty of Medicine. It is hoped that at that time some associated institutions, such as the Institute of Labor Hygiene, will become even more closely associated with the activities of the School.

In a recent year, 1966, the total student body numbered 299 persons, of whom about 30 per cent were foreigners, coming mainly from Latin American countries (although there were two from Spain, one from the Middle East, and one from the United States of America). Those students were enrolled in courses and programs of some diversity. A small proportion of them expected after one academic year to obtain the License in Public Health; another group was specializing in various aspects of public health such as administration, health education, occupational health, etc., during an academic year of study. An additional group, almost a third of the total, was enrolled in courses of less than an academic year — in such subjects as industrial safety, population dynamics, biostatistics — and a few were in short courses (a few weeks or months) for such technological subjects as water supply and garbage disposal.

The faculty consists of approximately 90 persons, half of whom are full-time in the instructional system, the other half being visiting lecturers from such organizations as the National Health Service and the Faculty of Medicine, and a few from foreign countries. Many of these faculty members are also lecturers in both the Catholic University of Chile and other University Schools of Medicine in their various preventive medicine subjects. Thus the faculty may be spread rather thin because of the broad commitment of their time and energy.

Instruction is divided into six departmental segments, namely: Administrative and Social Medicine, Biostatistics, Epidemiology, Environmental Health, Medical Teaching, and Research. These departments are related to the Direction of the School through the Council of Professors, and the entire School in turn is related, through a Commission, to the Faculty of Medicine, whose Dean is, of course, a part of the staff of the School of Public Health. All departments and most of their subdivisions are headed by full-time professors.

Degrees granted by the institution are the License in Public Health (equivalent to the Master of Public Health) and several Certificates in special fields of public health. There are apparently no higher degrees, such as the Doctorate. The time required for obtaining a degree is one academic year for the License and certain Certificates, with up to 15 months needed in one or two other curricula.

Among the several goals of the School are the following:

- (1) to prepare leaders for local and regional health activities;
and
- (2) to motivate other schools to teach some of the public health subject matter needed for leadership in the field of public health.

Relative to this second objective, it was pointed out that there are currently a number of professional workers qualified in nursing, in nutrition, and in social service who are students at the School. After acquiring knowledge of public health subjects, they will return to their own professional schools and there teach the elements of public health within the context of their own professional curricula. Only properly qualified students are admitted for the major academic courses. Basic qualifications are professional background in appropriate subject material and a university degree, so that the License, for example, is available only to postgraduate students.

While field work plays a relatively minor role in the teaching program of the School, an interesting though not novel development is the Coordinated Course which brings together the subjects of epidemiology, microbiology, studies of infections, and elements of other public health fields. This course, together with that of Maternal and Child Health, seems to occupy a rather large part of the curriculum of a candidate for the License. It was indicated that the curriculum in general is tuned to understanding the health requirements of Chile. This is certainly understandable in terms of the close association of the School with the National Health Service. The fact of participation in these programs by a considerable number of foreign students indicates the broad applicability of the approach, particularly in Latin American countries.

Teaching of Veterinary Medicine

This topic was presented by Professor Germán Guerra, who explained that veterinary medicine per se is not taught at the School, but rather the participation of veterinarians in prevention of transmission of animal-borne diseases and in protection of livestock and other elements of the food supply is emphasized. This latter point is of special interest to Chileans because the relative proportion of cattle to people in the country has seriously declined in recent years. In fact, it has become necessary to ration beef and to direct the population to the use of other meats as alternatives. Improvement of animal husbandry, improvement of milk supply, protection of foods to prevent their deterioration, etc., are therefore considered a very important part of the subject of veterinary public health.

While relatively few of the graduates from the School have had a veterinary background, they have had influence on the well-being of the country because of their immediate integration into the National Health Service, where they can function successfully in achieving the tasks mentioned previously. It is notable that the University Chair which Professor Guerra occupies is entitled "Veterinary Public Health and Control of Food Supplies."

In a country facing problems of food resources, this function in public health and its impact on other governmental agencies is recognized as very important. During a subsequent discussion, the subject of food protection by veterinarians was not mentioned as a segment of the health planning project, but the closely associated field of environmental sanitation, which includes food sanitation, was pointed to as having a high priority within the planning program.

Teaching of Biostatistics

This topic was presented by Professors José M. Ugarte and Hugo Behm, both of whom, like almost all other professors holding permanent chairs in this School, are physicians. It was pointed out that the School does not expect to prepare mathematical statisticians, but rather in a 15-month period trains professionals who receive Certificates in Public Health Statistics. These medical personnel will then be capable of handling the statistics and evaluation procedures which are typical of epidemi-

ology and vital records, as well as of demography and population dynamics.

A considerable amount of the biostatistics instruction in the School is of a laboratory nature and deals with practical information selected from the records of Latin American countries. It is felt to be particularly useful, therefore, to nationals of all the countries. Besides instructing the students in the School itself, the faculty in biostatistics also provides courses or parts of courses for medical students in the Faculty of Medicine and in other segments of the University. Some evening adult education courses are also given to educate a more diverse population.

As in other schools, a significant portion of the time of the statistics personnel is devoted to various investigations and consultations on statistical subjects. During the discussion by the Seminar participants, it became evident that the statistics personnel are rather deeply involved in National Health Service activities. For example, their assistance has been requested for clinical research within the Service, for investigation of hospital infections, and in other studies. Dr. Ugarte is a member of the National Committee on Planning, which functions directly under the President of the Republic for general planning in the country. Thus the impact of this School is quite wide, in this aspect of its activities, as in others. The influence of statistics on the subject of health planning was not clear, although the latter loomed large in the following presentation.

Teaching of Public Health Administration

This topic was presented by Professor Hernán Urzúa M. Within this instructional field, the subject of health planning receives great attention and is influenced by the strong feeling that it must be directed by physicians. It appears that much of the instruction in health planning is related to and derived from functions of the National Health Service, of which many of the alumni of the School become professional employees. In this course, a didactic introduction to the fundamentals of organization and administration is followed by field work with emphasis on cultural and socio-political activities. Teamwork among various professionals is emphasized in both phases.

In the discussion of the considerable stress laid upon health planning, the point was made that within the National Health

Service, which provides medical care for a large part of the population of Chile, the planning of facilities, services, personnel distribution, etc., is an indispensable requisite. The dominance of the physician in the planning system was re-emphasized, and the impression was left that the planning focused more upon medical care than upon preventive practices.

While stress was placed upon the social aspects of public health and of health education, mention was made also of analytical approaches, such as operational research in the field of health planning. It was not evident that the School possessed teaching or research capacity in this area. A subsequent discussion of this same general subject led to the impression that certain priorities had been established for health planning purposes, with socio-economic aspects playing a major part. It was suggested, for example, that a first concern is the productive worker; second, the Nation's children; and third, older persons nearing the end of their productive careers. It was also noted that mental health and cancer prevention programs had low priority because of the difficulty of achieving positive accomplishments in those areas at the present time.

The Director of the National Health Service, in his final meeting with the Seminar participants, commented more than once that the needs in planning and implementation of health services really required that the School of Public Health speed up its instructional program. He suggested that either the courses and period of study be shortened or that the instruction be intensified so that the personnel required for this planned program would become more rapidly available during a critical period of the National Health Service. At the present time, requirements for health services are increasing at a great rate as compared with the availability of personnel to provide medical and public health care within the system.

Teaching of Maternal and Child Health

The final topic of the Seminar was presented by Dr. Sylvia Plaza M. As was indicated earlier, this is an important focus of teaching in the School and is a subject of great interest in the country as a whole. It was again pointed out that youth constitutes a large proportion of the total population and is considered a major asset to the country. Furthermore, the infant mortality

rate is quite high, with malnutrition and infection contributing heavily to the causes.

The impact of instruction in the maternal and child health field is enhanced by participation of the School faculty in appropriate courses of the Medical Faculty, of Nursing Schools, and of other professional schools. Emphasis is placed on integrating preventive with curative medicine, biologic with social thinking, and individual with public hygiene.

The different courses for which the Chair of Maternal and Child Health has responsibility are as follows:

Full responsibility for:

- (a) Basic Course in Maternal and Child Health for Candidates for the License in Public Health (20 sessions, averaging $3\frac{1}{4}$ hours each).
- (b) Basic Course in Maternal and Child Health for administrators in nursing, obstetrics, and other fields, and for a diversified group of "health teachers" (20 sessions).
- (c) Basic Course in Maternal and Child Health for health education students (12 to 15 sessions).
- (d) Instruction on "Effect of population changes on maternal and child problems and services," as part of the Course on Population Dynamics (6 sessions).
- (e) Instruction on "Growth and development" for "health teachers" (15 sessions).
- (f) Every two years the School offers a diversified theoretical-practical course of 300 hours (100 sessions).
- (g) Courses in Maternal and Child Health for faculty of the School and staff of pediatric services.

Partial responsibility for:

- (a) Course in Clinical and Social Pediatrics sponsored by the Faculty of Medicine and the Pan American Health Organization.

Continuing collaboration in sessions and seminars on specialized subjects in:

- (a) Departments of the Medical Faculty: Preventive Medicine, Pediatrics, and Obstetrics.
- (b) Schools of Nursing, Obstetrics, and Social Service.

Occasional collaboration in:

- (a) Course in Dental Public Health; graduate courses in nursing.
- (b) Instruction in maternal and child health in various schools.
- (c) International courses sponsored by the Academy of Pediatrics, and by the International Children's Center and PAHO.

Since 1958, the Chair, under an agreement between the School and the National Health Service, has directed a Maternal and Child Health Center which serves 83,000 inhabitants in the center of Santiago. In addition to providing the usual services to the community and family planning services integrated with the family care program, the Center serves as a clinical and administrative practice field for the Chair's teaching and research activities. It receives students from three Schools of Nursing, the School of Obstetrics and Child Care, as well as from the School of Public Health and other departments of the Medical Faculty. Each year about 200 students — physicians, nurses, statisticians, and others — complete from one week to three months of supervised practice at the Center.

The Chair also actively participates in a number of research projects in its field of specialization.

Although many of the School's faculty members were deeply involved in the International Planned Parenthood Federation meetings which were concurrently in progress in Santiago, they devoted a full measure of time to this Seminar. The magnitude of their effort in the manifold activities of the week is acknowledged.
