*executive committee of the directing council*

PAN AMERICAN HEALTH ORGANIZATION

*working party of the regional committee*

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## TRAINING OF AUXILIARY PERSONNEL

During the course of its 50th Meeting the Executive Committee discussed the shortage of auxiliary personnel, a problem which is becoming more and more acute as Latin American countries continue to expand their public health programs at a more rapid rate than that at which professional personnel in the various branches of medicine were being trained.

This matter was also examined in detail at the XV Meeting of the Directing Council held in 1964. The Council, in response to a recommendation of the Executive Committee, instructed the Director to prepare a study on the training of auxiliary workers to serve as the basis for discussion at a meeting of national authorities experienced or interested in the question, together with international experts, for the purpose of formulating a policy for the training of auxiliary workers based on the needs of the countries of the Americas.

In compliance with that resolution the Director sent a questionnaire to the official agencies of the various countries to obtain information concerning auxiliary workers in the public health services. In addition, he appointed a consultant to carry out the study entrusted to him by the Council. The consultant in question was Professor Branko Kesiĉ, Dean of the Andrija Stampar School of Public Health in Zagreb, Yugoslavia, and an outstanding authority on the training of auxiliary personnel. Dr. Kesiĉ visited five Latin American countries (Brazil, El Salvador, Mexico, Peru and Venezuela) and prepared a report on the work being done on the training of auxiliary personnel.

A progress report was made last year to the XVI Meeting of the Council at which there was considerable discussion on this agenda item. It clearly showed that the countries were interested in solving the problem and a number of very valuable observations and suggestions were made. These will be transmitted to the meeting provided for in the Council resolution which will be held in Mexico City from 27 March to 1 April 1966, with the collaboration of the Government of Mexico.

For the information of the Executive Committee the report prepared by Professor Kesić, which served as a basis for the discussions at the above mentioned meeting, is given in the Annex to this document. The conclusions adopted at that meeting will be submitted to the XVII Pan American Sanitary Conference.

Annex

ORGANIZACION PANAMERICANA DE LA SALUD
*Oficina Sanitaria Panamericana, Oficina Regional de la*
ORGANIZACION MUNDIAL DE LA SALUD

REUNION SOBRE
ADIESTRAMIENTO DE AUXILIARES
México, D F México
27 de Marzo - 1° de Abril, 1966

CON LA COLABORACION DEL
GOBIERNO DE MEXICO

(RESTRICTED)
Working Document Nº 1

# TRAINING AND UTILIZATION OF AUXILIARY HEALTH WORKERS IN LATIN AMERICA

Prof. Branko Kesic *

## INTRODUCTION

During the course of the 50th Meeting of the Executive Committee, it was emphasized that the Organization should increase its assistance to the countries in the training of auxiliary personnel. The shortage of auxiliary personnel was a problem which would become more and more acute as the countries of Latin America continued to expand their public health programmes at a more rapid pace than that at which professional personnel in various branches of medicine were being trained. He pointed out that the more advanced countries used auxiliary personnel under the supervision of professional health workers to a much greater extent than did developing countries and, as a result, they were able to cope with general health activities.

As a result of discussion, the Executive Committee agreed that a study should be made on the training of auxiliary personnel which might serve as the basis for discussion at a meeting of technicians to be held at a later date to examine the problem and formulate certain recommendations to solve it in the shortest possible time. Accordingly, the Committee adopted the following:

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RESOLUTION X

"The Executive Committee, having examined the proposal of the Representative of Mexico concerning the training of auxiliary personnel; and taking into account the discussion on the proposal in plenary session, resolves to recommend to the Directing Council, at its XV Meeting, that it adopt this following resolution:

"The Directing Council, considering the urgent need to train a sufficient number of auxiliary workers of a caliber to meet the demands of the economic, social, and health situation in each country; considering the need to set up guide-lines for the training of auxiliary workers and of the persons who will teach them; and considering the advisability of determining the types, number, and duties of auxiliary workers in relation to professional personnel and to health programmes, resolves: To instruct the Director to prepare a study on the training of auxiliary workers that may serve as the basis for discussion at a meeting of national authorities experienced or interested in the question, with the collaboration of international experts, for the purpose of presenting, for consideration by the Organization, a policy for the training of auxiliary workers based on the needs of the countries of the Americas."

On the basis of this Resolution the Organization:

(1) Sent a questionnaire to the 22 member governments of the Organization in Latin America and the Caribbean, as well as to other territories in the Caribbean, asking information about auxiliary health personnel (Annex 1);

(2) Sent a consultant to collect detailed information on the problem of the training and utilization of auxiliary health workers in five Latin American countries (Brazil, El Salvador, Mexico, Peru, and Venezuela).

Data collected in this way are presented in Chapters II and III of this report.

## I. SOME GENERAL INFORMATION

For a better understanding of the whole problem of the training and utilization of auxiliary health workers it may be useful to remember some general facts in connection with the conditions and development of Latin American countries (Table 1):

- In 1962, in Latin American countries - a vast territory of 20,537,000 sq.km. - there were about 215 million inhabitants (about 10 per sq.km.), whereas in 1950 there were only about 162 million inhabitants in the same territory. This bursting increase of the population amounting to about 2.8% a year should be ascribed to very high natality (in most countries over 40) and comparatively low crude death rates (about 10 in most countries). However, in spite of this rapid increase in population the countries in Latin America are still scarcely populated.

- In all Latin American countries a rapid migration of the rural population to towns is just in progress. Rapid urbanization brings about serious social, educational and health problems. Newly settled rural people have, as a rule, concentrated in separate urban districts, living most often without permanent employment and very often under difficult, unfavourable conditions (bad housing, lack of drinking water, inadequate sewage disposal, malnutrition). Moreover, moving to towns the rural population introduces into them numerous infectious diseases which in urban agglomerates find an excellent ground and favourable conditions for their spreading, quite certainly much more favourable than those in scattered rural settlements. What risk it also involves for the autochthonous urban population is needles to point out.

- While, on the one hand, half the population in most countries lives agglomerated in urban areas, the rural population, on the other hand, lives in small settlements, scattered over very wide areas. This dispersion of the population over immense territories, frequently coupled with very bad communications, represents one of the greatest difficulties in the organization of health services.

- The peoples of Latin America are very young populations, in which age groups from 0-14 represents about 45% of the total population, and those in the age group of 65 and more only 2% to 4% of the total population.

- A considerable percentage of illiteracy (in some countries even over 50%) represents not only a serious educational problem but also a grave health problem.

- The situation concerning a low national income (from 117 US dollars per capita in Paraguay to 585 US dollars per capita in Venezuela) is in most countries worsened by an extremely inappropriate, unequal distribution of national goods, which produces immense wealth on the one hand and poverty and ignorance on the other. In addition, it should be pointed out that national economies, in spite of industrial development, are not in a position to provide enough new jobs which would meet the needs of rapidly growing populations.

- Within almost all Latin American countries, even those with small populations, enormous differences can be observed between individual areas and individual population groups in the concentration of inhabitants, economic development, industrialization, educational standards, health conditions, and the prevalence of certain diseases.

## Health Problems

On the basis of collected information and personal impressions it is not difficult to formulate major health problems which in the countries of Latin America appear either in their acute form or in the form of some threatening, potential danger. The list of main health problems, compiled with no pretension as to order of priority, would be as follows:

- health illiteracy;
- poor environmental conditions (nutrition, water supply, sewage dispcsal, housing, vectors, pollution of surface waters, etc.);
- endemic diseases, among which infectious and parasitic diseases of the gastrointestinal tract, and all forms of dysentery in particular, prevail;
- tropical diseases - malaria, schistosomiasis, ancylostomiasis, framboesia, leishmaniasis, Chagas disease, leprosy, smallpox, plague, and yellow fever- are in almost all countries either a present or potential danger;
- tuberculosis, although decreasing to a certain extent, is still a serious health problem for all Latin American countries;
- infant mortality (although for most countries the official data are surprisingly low with regard to very high natality rates and very bad environmental conditions) cannot be neglected as one of the existing health problems;
- in addition to all these problems typical of developing countries, in most Latin American countries there also appear a number of new health problems, some of them connected with rapid urbanization. Among these problems mention should be made of accidents, juvenile delinquency, alcoholism, prostitution, divorces, and -above all- a simply enormous number of illegitimate children (in some areas even above 50%).

Health Services

Although as regards health services the countries of Latin America differ in very many aspects, yet in health promotion and protection activities they have numerous common characteristics, among which mention should be made of the following:

- In all Latin American countries it is not difficult to get the impression that their governments act on the principle of the full responsibility of the state for the people's health; a full application of this principle in practice seems to be hindred only by limited material and personnel resources.

- In all Latin American countries the health services is governed by ministries or secretariats of public health, with a considerably pronounced tendency towards the centralization of the health administration. On the other hand, on state, department, and even district levels there are attempts in many countries to decentralize the health administration and transfer the responsibility for public health to local administrations.

- In a number of Latin American countries the system of national planning has strongly affected also the field of health activities.

- In almost all Latin American countries the regionalization of health institutions is clearly visible in the organization of health services.

- Among health institutions, in addition to hospitals, there appear various types of health centres, on various levels, with hospital beds and without them, with highly developed and also with modest forms of health services. According to official data, in 17 Latin American countries there were 10,473 health centres in 1962.

- In some Latin American countries on the local level there exist health units without any physician, in which the care of people's health is transferred to auxiliary health workers.

- A comparatively low number of hospital beds is a common feature (on the average 3 beds per 1,000 inhabitants; from 1.8 in Mexico to 6 in Argentina).

- In almost all countries certain difficulties in carrying out planned health promotion and protection, and especially in the organization of health services, lie in the functioning of parallel health organizations of various public and private bodies (Social Security, Ministry of Education, Ministry of Agriculture, charity institutions, etc.).

Health workers

Looking upon the situation in connection with the number, training, and utilization of individual categories of health workers (Health Conditions in the Americas 1961-1962, Sc.publ. No. 104, 1964, PAHO-WHO), regardless of limited data, the following conclusions can be drawn:

- In almost every country there is an acute shortage of practically all categories of health workers, and of highly qualified ones in particular.

- The distribution of highly qualified health workers, especially of physicians, is uneven and unreasonable wrong. Physicians are concentrated in the federal districts and capitals of individual states and departments to such an extent that in towns there is very often one physician per a few hundred inhabitants, whereas in some countries there are territories in which there is one physician per 50,000 or more inhabitants.

- The existing schools for the training of health workers, with their present capacities (except for some very rare cases) hardly cover current needs created by the annual increase of the population and the expansion of health services. In such a situation schools for the training of health workers can never succeed in diminishing the existing shortage of trained professional health workers.

- In the health service of almost all Latin American countries there is a high percentage of various categories of auxiliary health workers without any training. From the point of view of the organization of training, this group is likely to represent the priority problem.

- In a number of Latin American countries it can be observed that auxiliary health workers (in many instances not properly trained) are utilized for various functions for which very often professional skill and high responsibility are required.

- Although in almost all Latin American countries the greatest attention is concentrated on graduate and postgraduate training of highly qualified professional health workers, in a number of the countries in the last few years considerable, organized efforts have been made towards the training of the auxiliary health workers of almost all categories.

One gets the impression that Latin American countries are both very like each other and, in many ways, quite different, and all that has been said about them should be considered in this light.

## II. INFORMATION ON AUXILIARY HEALTH WORKERS IN LATIN AMERICAN COUNTRIES OBTAINED ON THE BASIS OF QUESTIONNAIRES

Pursuant to Resolution XXIX of the XV Directing Council of the Pan American Health Organization requesting information on the present status of training and utilization of auxiliary health workers, questionnaires were sent to the 22 member governments as well as to other territories in Latin America. The answers to the questions asked from 17 countries, though incomplete, are summarized in Table 2. Many countries were not able to supply any information on several types of auxiliary health workers known to exist. Moreover, information was asked only for those auxiliary health workers who had been trained in formal courses, so that the figures obtained are far below the figures of actually employed auxiliary health workers who are most often employed in various health services although they have no formal training. Yet, the information obtained allows certain conclusions, i.e.:

- The answers received from almost all countries are either incomplete or only give estimated figures. This fact requires that in all the countries lacking reliable data the census of health workers should be carried out at once. After that a system of continuous recording should be introduced of all changes taking place in the number and status of health workers.

- The length of training varies not only from category to category but also within the same category according to individual countries. To obtain comparable figures for each category, it will be necessary in the future to define what is meant by "formal courses", at least as far as the length of the course is concerned.

- In several countries, especially in the fields of nursing and environmental sanitation, more auxiliaries have been trained than the health services are prepared to employ. This fact calls for a more careful planning at the national and state levels in order to bring the training of auxiliary health workers into numerical relationship with the posts the health services are prepared to create.

## III. INFORMATION ON AUXILIARY HEALTH WORKERS IN FIVE SELECTED LATIN AMERICAN COUNTRIES (Brazil, El Salvador, Mexico, Peru, Venezuela)

From 17 April to 28 May 1965 I visited Brazil, El Salvador, Mexico, Peru, and Venezuela in order to collect information on the training and utilization of the main categories of auxiliary health workers. Spending only a limited number of days in each country I could only collect some general information that no doubt is far from providing an all-round picture but may facilitate discussion on the complex problem of the training and utilization of auxiliary health workers in the countries of Latin America.

Tables 2 - 8 give data on the population, causes of death, infectious diseases including tuberculosis, health institutions, health workers, and schools for health workers in the five countries visited.

On the basis of these data it is not difficult to conclude that all that has been said about Latin American countries in general, in the first part of this report, can also more or less be said about these five countries.

Although the problem of auxiliary health workers is in the focus of this discussion, data on the training of professional nurses (Annex 2) appear to come in useful to complete the whole picture.

### Auxiliary Health Workers

Although there are great differences amongst the countries visited in respect to title, training conditions, and utilization of auxiliary health workers, it is possible, none the less, to summarize data on the training and utilization of the auxiliaries working in the field of nursing and sanitation.

Training and Utilization of Nursing and Sanitation Auxiliaries[x]

| Category | Admission Requirements | Length of training | Utilization |
|---|---|---|---|
| BRAZIL | | | |
| Nursing auxiliary | 5 years of primary school and 2 years of secondary school | 2 years | Hospital Nursing, Public Health Nursing |
| Hospital aides | 5 years of primary school | 4-6 months | Hospital nursing |
| Health visitors | 5 years of primary school | 6-12 " | Public Health Nursing, Home Care, Outpatient Care in Health Centres |
| Aides in health units | 5 years of primary school | 2-4 " | Helping in out-patient Care in Health Centres |
| Maternity auxiliaries | 5 years of primary school | 6-10 " | Pre-natal, post-natal and baby care in Health Centres and homes |
| Sanitary inspectors | 5 years of primary school and 7 years of secondary school | 6 months or less | Sanitation and sanitary inspection in rural and urban areas |
| Auxiliary sanitarian | 5 years of primary school | 6 months | Helping in sanitation |
| EL SALVADOR | | | |
| Nursing auxiliary -newly recruited | 6 years of primary school | 1 year | Hospital nursing. Public Health nursing, Outpatient care in Health Centres |
| Nursing auxiliary -already in service | 6 years of primary school | 6 months | |

[x] For professional nurses see Annex 2.

| Category | Admission requirements | Length of training | Utilization |
|---|---|---|---|
| Sanitary inspector | 6 years of primary school and 5 years of secondary school. | 10 months | Sanitary inspection only |
| MEXICO | | | |
| Nursing auxiliary | 6 years of primary school | 3 months | Hospital nursing, Public Health nursing |
| Practical nursing | 6 years of primary school and 3 years of secondary school | 1 year | Outpatient care in Health centres |
| Sanitary inspector | 6 years of primary school and 3 years of secondary school | 1 year | Constructions, Community development, Inspection |
| Practical sanitarian | 6 years of primary school | 3 months | Rural sanitation |
| PERU | | | |
| Nursing auxiliary | 5 years of primary school, 3 years of secondary school | 6 months | Hospital nursing Public Health nursing, Outpatient care in Health Centres |
| Sanitary Inspector | 5 years of primary school and 5 years of secondary school | 6 months | Constructions Community Development, Sanitary Inspection |
| VENEZUELA | | | |
| Nursing Auxiliary | 6 years of primary school | 1 year | Hospital nursing |
| Nursing auxiliary | 6 years of primary school | 4 months | Hospital nursing |
| Nursing auxiliaries for simplified medical services | 6 years of primary school or less | 3 months | First aid, Home visits, Vaccination, Health education |

| Category | Admission requirements | Length of training | Utilization |
|---|---|---|---|
| Sanitary inspector | Baccalaureate in sciences or humanities | 10 months | Sanitary inspection in public health services |
| Sanitary inspector -specialist in different fields of sanitation | 6 years of primary school and 2 years of secondary school | 5 months | Special fields of sanitation |

More detailed data on the training and utilization of auxiliary health workers in Latin American countries are given separately for each country in the following pages.

BRAZIL

The field of nursing. In the field of auxiliary nursing personnel there exists a great variety of workers, which shows itself also by the number of active workers in individual categories of nursing:

| | |
|---|---|
| Nursing auxiliaries | 8,400 |
| Hospital aides | 39,826 |
| Health visitors | 1,970 |
| Aides in Health Units | 4,316 |
| Maternity Auxiliaries | 1,152 |
| Total | 55,664 |

Admission requirements for courses and teaching programmes vary accordingly (they even vary from one teaching institution to another). Thus, for instance, in 1964 a course for Health Visitors was held in the School of Public Health, Rio de Janeiro; it lasted 5 months (455 hours), admission requirements were 5 years of primary school and 4 years of secondary school; 15 trainees successfully completed the course. At the same School, in 1964, a course for Maternity Auxiliaries lasting only 3 months (40 hours of lectures and 129 hours of practice) and a course for Hospital Aides lasting 2 months (240 hours) were held, and admission requirements for both courses were 5 years of primary school. The number of trainees successfully completing the former course was 16, and the latter 22.

All these figures differ a great deal from the figures put forward for Brazil on page 8.

The training of nursing auxiliaries is carried out by federal and state health administrations. Comprehensive programmes for the training of various categories of auxiliary nursing personnel can also be found in the Special Public Health Service, in Social Security institutions, some hospitals, Schools of Public Health, etc.

Since about 80% of the existing auxiliary nursing personnel (according to optimistid estimates) is without training, the existing teaching institutions are overburdened with responsibilities for making up for deficiencies which is in fact more than they can cope with in the present situation.

What has to be emphasized in this connection is the activity of the Special Public Health Service (SESP) which has developed the training of a specific group of nursing auxiliaries: of health visitors (visitadora sanitaria). Here are the extracts from the paper "The visitadora sanitária: A Brazilian Approach to the use of Auxiliary Public Health Workers" written by the Chief of the Nursing Section of the SESP, Ermengarda M.J. De Faria Alvim, dealing with this question:

"Owing to the limited number of nurses available, SESP decided that nurses would be used mainly in the organization of health facilities, in training programmes, and in the supervision of all nursing activities. Direct services to the public would be the responsibility of specially trained auxiliaries.

"As soon as it was possible to rely on a sufficient number of nurses, the first courses for the training of auxiliary personnel were organized. The auxiliary worker in public health received the name of "visitadora sanitária" (Health visitor), and her training was aimed at preparing her for basic public health nursing activities. She was expected to tell the public about SESP resources, to give simple health instructions, to co-operate in the prevention of communicable diseases, and to give nursing care, especially to mothers and children.

"In most of the smaller localities the "visitadora" must rely on herself, although she receives periodic supervision from a public health nurse who assists in the organization of the work plan.

"The "visitadora" co-operates with the sanitation and communicable disease control programmes, disseminates health information, makes visits to schools and visits especially requested by the SESP physician, and carries out immunizations; she seeks out early pregnancies, newborn babies, infants, and sick children, referring them to the SESP clinic and visiting them according to needs; she contacts the lay midwives and organizes them into groups, so as to give them simple instruction about health habits, hand washing techniques, the proper care of the midwifery bag and of equipment needed for delivery, the care of the cord, the

prevention of ophthalmia neonatorum, and the care of mother and baby during the first days after delivery (the SESP doctor gives instruction on the proper conduct of delivery). As in the afternoon heat the "visitadora" only makeshome visits to exceptional cases, she has time to help in the SESP clinic, giving post-clinic instruction and demonstrations on formula preparations and other nursing care, helping with urinalysis when necessary, and developing group activities. She also helps collect health data, and may co-operate in specific epidemiological studies or others.

"The candidates for training are recruited locally, that is, in the localities where they are later expected to work. Careful consideration is given to the selection. Usually there is a personal interview, a written examination based on the curriculum of the elementary school, and a personality test. Whenever possible, a visit is made to the candidate's family to observe the home environment. Further information is gathered from responsible people in the community, such as teachers, the judge, and religious representatives.

"The training course has usually had a duration of 6 months, and was conducted until recently under a boarding-school system that encouraged housekeeping activities and healthy habits of living. In the beginning the course included such subjects as: introduction to nursing, sanitation, control of communicable diseases, maternal and child care and health education. Although the importance of close correlation between theory and practice was always stressed, most courses were in reality a shortened nursing course in which formal instruction played a major part, though the courses were given in the interior and SESP units were used for field experience. Some years ago, as, owing to the rapid expansion of SESP, there was an almost continuous need for auxiliary personnel, a special group of instructors was trained by the Division of Education and Training and, with the cooperation of an expert in education, thecurriculum was completely revised. The whole course content was reorganized in four comprehensive units, based on the theory of unitary learning. The programme is now as follows:

I. Orientation to the function of visitadora sanitária

- A Public Health as a profession
- B The community - the field of action of the "visitadora"
- C The individual as a person
- D Learning as a means of adaptation

II. The human being as a living being

- A The human being as an organism that is alive and reacts
- B The human body - how it maintains its form
- C How the human being is kept alive
- D How the human being enters into contact with the outside world

III. Most commong diseases that may affect the human being and how to prevent them

A The physical environment and how it influences the living conditions of people
B Role of the "visitadoras" in the control of communicable diseases, in general
C Communicable diseases that may be controlled by basic sanitation measures
D Communicable diseases that may be controlled by insecticides and other means

IV. Maternal and child care, as basis for a public health programme

A Maternity - a family and a social problem
B The period of gestation - its characteristics and needs
C The child during its first year of life
D The child from one to twelve

"An important aspect is the close relationship between theory and practice, as the trainee has the opportunity to observe and participate in activities as soon as they are lectured on."

The "visitadora sanitária" may indeed be the type of health worker that the non-hospital health service of Brazil could use with much success at present.

The field of sanitation. In the training of auxiliary health workers in the field of sanitation there are also considerable differences both in admission requirements and the duration and programmes of courses. In 1964 the School of Public Health in Rio de Janeiro organized a course for sanitary inspectors which lasted 6 months (455 hours). The admission conditions were 5 years of primary school and 4 years of secondary school. There are also courses for sanitary inspectors lasting only 4 months, requiring full secondary schooling as the condition for admission. All these differences cannot easily be reduced to the same denominator. They must be the result of various tendencies and various conditions in which the training has been developing.

The field of statistics. Preparations are in progress for the organization of courses for the training of auxiliary workers in the field of health statistics. The first course with 30 participants is meant to be held on an experimental basis. The aim of the course, which is to last one month, is to train statistical workers on the auxiliary level who, in turn, will assist in the training of the local staff in collecting and processing of statistical data. The first course will be held at the Institute of Hygiene and Public Health of the University of Recife and under support of the Chair of Biostatistics of the Medical School in Recife in 1965. The participants will be selected from among the clerks doing statistical work in health institutions.

The main subjects of the training programmes are as follows: (1) collection, recording, and transmittal of reports of notifiable diseases, (2) registration and processing of birth and death certificates and tabulation and use of vital statistics, (3) reports of health services, and (4)presentation and analysis of statistical data including rates and percentages. Throughout this training emphasis will be placed on recommended definitions and procedures and on uses of data at local, State, Federal, and international levels. Instruction will be given in record procedures and statistics of hospitals and in the responsibilities of hospitals in providing data on notifiable diseases, vital statistics, and hospital services.

It is aimed that these courses should embrace all the country. The Pan American Health Organization will give its support through regular and special consultants.

EL SALVADOR

The field of nursing. The training of nursing auxiliaries has been developing in El Salvador since 1956 within the system of one-year courses. From 1956 till 1962, 445 nursing auxiliaries were trained in these courses. The programme of these courses up to that time aimed at training nursing auxiliaries for hospital services. A turning point in this training took place in 1963 when a new programme with highly stressed public health aspects was introduced. In 1963 there were 204 and in 1964 there were 211 nursing auxiliaries who completed the course according to this new programme. These one-year courses are divided into two parts: the theoretic and the practical part, each lasting 6 months. This system of training enables the nursing auxiliaries already employed, but without training, to attend the course. This is done in the following way: The training is carried out in two groups. The first group consists of newly recruited girls who have not as yet worked (they numbered 111 in 1964); they start their one-year training in the first part of the course, which is theoretical or general. When they complete the first six months of theoretical training, they go for practical experience to the places vacated by employed nursing auxiliaries who are designated to attend the 6-month theoretical training (practical experience they already possess). In 1964 there were 100 such nursing auxiliaries in the course. For 1965, it is planned to train 120 newly recruited participants in the one-year course, and 120 employed nursing auxiliaries in the 6-months period.

The programme of the theoretical or the general part of the course lasting 6 months is the same for both groups (Annex 3). The programme is concentrated on family health protection with strong public health emphasis. The so-called theoretical or general programme lasting 6 months comprises 580 hours of theoretical training and 300 hours of concurrent practical work. After completion of the course and passing their examinations, the trainees are given certificates.

Courses are organized locally in four regions, attached to four large hospitals: Central Region, Hospital Rosales, San Salvador; Western Region, Hospital San Juan de Dios, Santa Ana; Paracentral Region, Hospital Santa Gertrudis, San Vicente; Eastern Region, Hospital San Juan de Dios, San Miguel. In each course there are two nurse instructors, one of whom is the leader of the course. Nurse instructors are recruited locally. There is a meeting with all nurse instructors before the beginning of the course in order to coordinate the programme and teaching methods. In addition to nurse instructors, local health workers (the nutritionist, the sanitary inspector, the public health nurse, etc) participate in the course as teachers. During the 6-months of practical experience (the second part of the course for the first group of participants), which is carried out in existing local health institutions and hospitals, the trainees are given a monthly allowance amounting to 25 Colones.

Courses for nursing auxiliaries in El Salvador are supported by UNICEF.

A great majority of nursing auxiliaries are employed in hospitals or in small hospital units of health centres. In addition, they perform responsible work in the outpatient departments of health centres, in mobile units, dispensaries, in the field of home care, and also in public health nursing. It should be pointed out that in El Salvador nursing auxiliaries, as a rule, do not work as substitutes for individual professional categories of health workers but as members of health teams with their own responsibility for clearly defined functions.

The field of sanitation. In the Health Service of El Salvador there are approximately 140 sanitary inspectors - 70 with regular training, 52 without any training but planning to complete it in a few years, and 23 at work for a number of years but not likely to be sent to regular courses. Training in regular courses lasting a year and a half (6 months of theory and one year of practical work) started in 1952. The new programme for the training of sanitary inspectors introduced 3 years ago is shortened to 10 months (4 months of theory and 6 months of practical work). Emphasis in the old programme was entirely laid on rural sanitation, while the new programme aims at training sanitary inspectors for both urban and rural areas. Sanitary inspectors work at Health Centres and in Health Units as members of health teams, responsible for supervising sanitary facilities and equipment and carrying out health measures in the field of sanitation. Sanitary inspectors are not concerned with the construction of sanitary facilities, not even in rural areas; their main function is inspection. Construction is the responsibility of the National Administration for Water Supply, not of the Public Health Services.

Courses for sanitary inspectors are organized by the School of Health (La Escuela de Capacitación Sanitaria - San Salvador) according to an established programme (Annex 4). The system of recruiting of trainees is worth mentioning. Applications are invited for a certain number of young people recently completing secondary schooling who first

go to work in the field as assistants to sanitary inspectors for one or more years. There are always enough candidates, because the university cannot admit all those with secondary school. Moreover, the applicants also come from among teachers who cannot be employed by the Ministry of Education. These assistants gain certain field experience, and those who prove diligent are chosen as trainees for courses for sanitary inspectors.

MEXICO

The field of nursing. In the Health Service of Mexico there are 12,304 nursing auxiliaries. Most of them have not gone through an organized system of training.

Training of nursing auxiliaries is carried out in Centres for the Training of Nursing Auxiliaries (Centros de Adiestramiento para Auxiliares de Enfermería). There are nine permanent centres of that kind. They are directed and financed by the Direction of Professional Education. From 1959 to 1964, 1,121 students completed courses in auxiliary nursing in these centres. In addition, health administrations in individual parts of the country organize courses for nursing auxiliaries but these courses are of no permanent character. There is also a school for the training of nursing auxiliaries in the Federal District, belonging to the Secretariat of Public Health, which has so far trained about 1,000 nursing auxiliaries.

According to the plan for 1965, in each of the nine training centres there will be held two 3-month courses with 20 trainees each which means that a total of 360 nursing auxiliaries will complete their training this year.

The teaching programme of these courses (Annex 5) is practical in character. Its aim is to train nursing auxiliaries for work in hospitals and Health Centres, offering them therefcre the basic knowledge of hospital and public health nursing.

In Mexico, in connection with the training of auxiliary health workers there is a specific attempt worth emphasizing. In a nursing school in Mexico City the following very interesting experiment is in progress: The students successfully completing the first year are given a certificate in practical training (Certificado de Técnica en Enfermería) qualifying them for work as nursing auxiliaries in all health institutions. Those, however, who want to be trained for professional nurses continue the second and third year of training. In the first year of study, which lasts from February 18 till December 14, they are taught the following subjects:

Anatomy
Microbiology and parasitology
Physiology and biochemistry
Hospitals (fundamentals)
History of hospitals and ethics
Introduction to public health and preventive medicine
Introduction to surgery in hospitals
Nutrition

Health education
Personality and disease
Introduction to pathology
Maternal and child health
Spanish

Theoretical training comprises 460 and practical classes 1,080 hours.

It should be pointed out that in Mexico very much is being discussed just now about the function and training of professional and auxiliary nursing personnel.

The field of nutrition. Within the programme of the Direction of Professional Education there are two courses on nutrition, one on the technical and one on the auxiliary level. The course on the higher level lasts three years and that on the lower level one year. Both courses are held at the School for Nutritionists (Escuela de Nutricionistas). The higher course qualifies the candidates for the title of Nutritionist in Public Health (Nutricionista en Salud Pública), and the lower for the title of Technician in Nutrition (Técnico en Nutrición). Conditions for admission are as follows:

| | |
|---|---|
| For the higher course lasting three years: | 6 years of primary school and 5-6 years of secondary school (baccalaureate) |
| For the lower course lasting one year: | 6 years of primary school and 3 years of secondary school |

It is interesting to note that training in the first year of both the 3-year and one-year course is carried out according to the same programme (Annex 6), so that the trainees from the 3-year course, can get, if they want, the certificate in nutrition techniques (Certificado de Técnicas en Nutrición) after completing the first year of study, and this certificate entitles them to work in public health institutions as technicians in nutrition which represents an auxiliary level career.

The teaching programme for the first year of both courses is carried out in the form of seminars, discussions, and group practical work in hospitals and community institutions for food and nutrition.

The field of sanitation. In the field of environmental sanitation there are in Mexico two types of auxiliaries: the first, higher category, with one year's training, is a group of auxiliary sanitarians (sanitary technicians) giving technical help to highly qualified professional health workers (sanitary engineers, public health officers) in the field of sanitary construction, sanitary inspection, organization of the community in public health activities and administration. Sanitary technicians work in health services on state and district levels. Each health district has, as a rule, one sanitary technician, who, in addition to carrying out his technical work, is responsible for supervising lower auxiliary sanitation

personnel working in the district. Courses for sanitary technicians are organized by the School of Public Health (in the course under way there are 13 trainees). The teaching programme of the course (Annex 7) is divided into four periods, covering 10 months of work with a total of 1654 hours, of which there are only 670 hours devoted to theory.

The lower category of auxiliary health workers in the field of sanitation obtain a 3-month training and the title of practical sanitarian (Práctico en saneamiento). They work either in urban areas and are traditionally called Sanitary Inspectors or in rural areas where they are called Practical Sanitarians. Until a few years ago there were organized special three-month courses for sanitary inspectors. To-day only courses for practical sanitarians designed to work in rural areas are organized. The health administration tries to include as many existing sanitary inspectors as possible into courses for practical sanitarians and to send them, after completion of the course, from towns to rural areas to work there. According to the experience gained so far, about 80% of the trainees are recruited from among sanitary inspectors. Courses for practical inspectors are carried out in the field. In the plan for 1965 there is a course for practical sanitarians to be held in Cuernavaca and one to be held in Chilpancingo, with 15 trainees in each. The teaching programme (Annex 8) aims at offering the candidates the basic knowledge and skill in rural sanitation (rural water supply, sewage disposal in rural areas, rural housing, vector control, etc). Out of the total hours of teaching (489) practical classes take up 299 hours.

The field of statistics. The School of Public Health in Mexico City organizes one-year courses for technicians in health statistics (Técnicos en estadística aplicada a la Salud Pública). It relates to a group of paramedical health workers on the technical level, not on the auxiliary level. Technicians in health statistics work at public health and medical care institutions (hospitals, health centres, health administrations units) and carry out all technical work connected with health statistics. A considerable amount of teaching hours (151) is devoted to library work (routine work in libraries and bibliography). The admission requirement for the course for technicians in health statistics, which lasts ten months, is 6 years of primary school and 3 years of secondary school. The teaching programme (Annex 9) is divided into four periods with a total of 1531 working hours.

PERU

In Perú there are four groups of auxiliary nursing personnel:

1. Nursing auxiliaries (auxiliares de enfermería) numbering 5783 workers. Out of them 4561 work in hospital and 1222 in non-hospital services. Out of the total of 5783 nursing auxiliaries 2054 are without any formal training, and 495 have some short training (of less than 3 months). Only 1658 nursing auxiliaries have been trained for 3 or more months.

2. Nursing aides (Ayudantes de enfermería) numbering 1703 workers. Of these, 1518 work in hospitals, and only 185 in non-hospital services. This group is even in a worse position than the former as regards training: only 141 nursing aides have been trained for 3 or more months; 77 have less than 3 months' training. This group represents auxiliary health personnel on the lowest level.

3. Health aides (sanitarios), 190 in number, mostly work in non-hospital institutions. In this group there are only 104 with a training of 3 or more months.

4. Health aides for vaccination (Auxiliares sanitarios y de Inmunización) are a group of 671 workers, mostly engaged in the field, who carry out vaccination. Among them there are only 140 with a training of 3 or more months.

Thus, out of the existing 8347 auxiliaries working in different fields of nursing 1943 have been trained for 3 or more months, 3187 have no training at all, 790 are very poorly trained (for less than 3 months), while for 2499 there is no information available. When all these figures are taken into consideration, it can be concluded with much certainty that out of 8347 auxiliary nursing personnel about 5000 have to be given an organized training very urgently. What a problem it represents for the health administration of Peru is needless to emphasize. Indeed, in 1962 the health administration of Peru started organizing the training of nursing auxiliaries in the following way: Under the leadership, supervision, and support of the School of Public Health at Lima, Health Areas (Areas de Salud) organize local six-month courses, adjusted to local needs. From October 1962 till April 1965,17 such courses were organized in which 579 students were trained. Some courses are in progress (Lima, Cuzco), while for 1966 six more courses, with 340 candidates, are planned. The conditions for admission are 5 years of primary school and 3 years of secondary school. Preference is given to the candidates who fulfill admission requirements for schooling and have already worked in health institutions as nursing auxiliaries without training.

Training in local courses in Health Areas is organized and carried out by experienced local professional nurses who go through short courses at the School of Public Health in order to be able to conduct their educational function satisfactorily.

The programme of the course (Annex 10) is divided into two parts: theoretical and practical, each lasting 3 months. Out of the total number of hours (1011) about two thirds (715) relate to practical work. It should be stressed that most candidates go to work in hospitals.

The field of sanitation. In the field of sanitation about 140 sanitary inspectors are engaged. According to their basic training and the content of the course they completed, they represent health workers on the technical rather than auxiliary level. Besides, in Perû, in the field of sanitation, there are still a number of auxiliary sanitarians without any training. For this small group of auxiliary field workers no training is foreseen, because it is believed that this group will gradually be eliminated from the Health Service.

Under the leadership, supervision, and support of the School of Public Health at Lima, since 1962, Health Areas have been organizing six-month courses for sanitary inspectors, to each of which 20 trainees at the most are admitted. In 1963 and 1964, six such courses were organized in which 100 students were trained. For 1965 and 1966, two courses each year (in all 4 courses with 80 students) are planned. Teachers for these courses are recruited from among local professional personnel, teachers of the School of Public Health, and other institutions ( Programa Nacional de Ingeniería Sanitaria, etc.).

The programme of the course (Annex 11) is divided into two parts: theoretical with 278 and practical with 232 teaching hours (510 in all). It is important to emphasize that teaching is adjusted to local needs and is carried out locally.

The field of statistics. The training of technicians in statistics, started in Peru in 1964 when at the School of Public Health, with the support of WHO consultants, the first six-months course on Health Statistics was organized, in which 18 candidates obtained their training. With regard to their basic training and the content of the course they complete, these could be classified into the technical group of health workers. Two more courses of the same type to be held one in 1965 and the other in 1966 with 20 participants each, is being organized. Admission requirements are 5 years of primary school and 5 years of secondary school.

The programme of the course (Annex 12) comprises 766 theoretical-practical hours of teaching and 4 weeks of practical statistical work in health institutions. It aims at training technical personnel for work on health statistics in hospitals and other health institutions.

VENEZUELA

The field of nursing. In the health services of Venezuela there are 10,828 nursing auxiliaries. There are three types of courses for the training of this personnel for which 6 years of primary school is the admission requirement.

The first type - one year auxiliary nursing courses, during which the trainees complete a year of the secondary school. In the academic year 1964/65 there were three courses of that type:

| | Number of applicants | Number of the matriculated |
|---|---|---|
| a) The Auxiliary Nursing Course, San Bernardino District, Caracas | 240 | 83 |
| b) The Auxiliary Nursing Course Central Hospital, Barcelona | 30 | 20 |
| c) The Auxiliary Nursing Course, Hospital "Núñez Tovar", Maturin | 120 | 70 |

All these one-year courses follow the same teaching programme (Annex 13) with the purpose to train nursing auxiliaries for hospital services only.

The second type - four-month auxiliary nursing courses following the same teaching programme (Annex 14) and aiming at giving basic knowledge in nursing only as regards hospital services. Over 80% of the teaching programme is devoted to practical training. The majority of the trainees are recruited from among nursing auxiliaries already employed in hospitals, who have certain practical experience but no formal training. Participants completing the course with the highest marks are sent to one-year auxiliary nursing courses for further training.

The third type - three-month courses for nursing auxiliaries working in "Simplified Medical Services" (Medicina Simplificada).

Before describing this it should be mentioned that in Venezuela, at the lowest local level in rural areas, there are Rural Dispensaries (Dispensarios Rurales). These are small health stations staffed with the nursing auxiliary responsible for first aid in the case of illness and accidents, for health education, vaccination, etc. Nursing auxiliaries work under the supervision of the physician coming from the Health Centre of the area once or twice a week. In 1964 there were 1050 small units of that type in Venezuela, staffed with the same number of nursing auxiliaries. Almost none of them has formal training. For nursing auxiliaries working in rural dispensaries courses in the so-called "simplified medicine" are organized.

To introduce the description of training of auxiliary health workers for rural dispensaries it may be useful to quote the words of renowned public health leaders of Venezuela (José Ignacio Baldó, Juvenal Curiel, Oscar Lobo Lactellanos: "Tuberculosis Eradication, a Task for Present Planning and Future Action, Tuberculosis in Rural Venezuela ) who say:

"The problem posed by a scattered rural population in all health fields recently led us in Venezuela to institute what is called simplified medical services. To be consistent with the terminology that was adopted twenty years ago, it has been called the quaternary network. It simply means the provision to the rural population of care for the simplest and most common medical cases which are readily recognized by suitably trained and closely supervised auxiliary personnel. It is exercised in

the health post at the lowest level which in Venezuela is represented by the rural dispensary. It is staffed by auxiliary nursing personnel and by the professional health workers attached to the nearest rural health post. During his visits which he makes at varying intervals he gives consultations on treatment but the case load is so heavy that the results are frustrating. There are just over one thousand such services in the country.

"By means of a manual of procedures which sets out clearly and simply a minimum preventive and curative programme and of a three-month training course given at a rural health center for groups of not more than 12 nursing auxiliaries by a graduate nurse who is trained in teaching and supervision and who devotes her time exclusively to the training of such groups. The last health outpost is being added to the country's health armamentarium.

"The simplified medical service has the following characteristics:

1. Preventive medicine is not separated from curative medicine;
2. The only kind of curative activity offered is the routine treatment of common and readily recognisable diseases,
3. A minimum integrated service is offered at the lowest local level;
4. There is suitable supervision, and
5. The procedure serves basically to establish an organized system of referral to levels where medical service is to be found.

"These courses have also been opened to Catholic and Protestant missionaries, and to the military personnel of the National Guard in rural and border areas. In addition to their own functions, these groups hold literacy classes and have some elementary knowledge of nursing, which facilitates training in our courses. The regions in which they are stationed are without any health infrastructure, and they provide their own means of transport and communication."

The nature of "simplified medical service" should be considered with much caution. First of all it should be underlined that "simplified medical Service" does not represent a special, independent system of health services but only one of the levels of the regionalized health service as is carried out in Venezuela. "Simplified medical service" is carried out in 1050 rural dispensaries staffed so far with untrained nursing auxiliaries. These nursing auxiliaries should be trained.

Secondly, within the system of rural dispensaries "simplified medical service", in addition to all possibilities of referral to higher levels, relies on a wide network of rural health centres (Medicaturas rurales) and Health Centres (Centros de Salud), both of which have extensive hospital and non-hospital services at their disposal. The nursing auxiliary works at the Rural Dispensary under a constant supervision and leadership of the physician coming to the Dispensary from the Health Centre once or twice a week. He also is charged with the responsibility of continually improving the knowledge and skill of the nursing auxiliary.

In connection with this function of the physician (supervision, guidance, and in-service training) mention should be made of courses for the physicians directing Health Centres. These courses, aiming at developing the understanding and knowledge of various fields of public health practice in leading physicians, are organized by the School of Public Health in Caracas. They last 18 weeks (700 hours) -ten weeks at the School itself and 8 weeks at Training Health Centres (Centros de Salud Bia de Cura y San Sebastian). In the course of training the physicians are giving basic information on the following subjects: Pediatrics, Tuberculosis Control, Cardiology, Cancer Control, Venereal Diseases Control, Dermatology, (Leprosy), Health Administration, Environmental Sanitation, Vital Statistics, Epidemiology, Health Education, Mental Health, Food Hygiene, and Hospital Administration. Encouraging results from the system of "simplified medical services" can be expected just owing to this group of physicians.

Teaching programmes for courses for the nursing auxiliaries working in rural dispensaries are for the most part practical in character and their basic principles are contained in the manual "Instructions on Health Protection in Dispersed Rural Populations by Non-Professional Personnel" by Dr. Emilio Lopez Vidal, Caracas 1964. For the content of the manual see Annex 15. Up to the present courses for nursing auxiliaries working in the system of "simplified medical services" are carried out on an experimental basis in five states of Venezuela (Apure, Aragua, Amazonas Ter., Yaracuy, Trujillo).

The field of sanitation. According to data collected, in 1964 there worked in Venezuela the following auxiliary environmental sanitation personnel:

| | |
|---|---|
| Sanitary inspectors - Direction of Malariology and Environmental Sanitation | 833 |
| Sanitary inspectors - Direction of Public Health | 300 |

As a matter of fact, in Venezuela, in the field of environmental sanitation, there function two separate services, one developed within the Direction of Malariology and Environmental Sanitation, and another within the Direction of Public Health. In the former there are 195 sanitary engineers (about half of them have a master degree in sanitary engineering) and 833 sanitary inspectors. The latter represent a group of narrowly specialized auxiliary health workers carrying out certain tasks concerning clearly defined sanitary activities, such as rural water supply, rural housing, malaria eradication, helminths control, Bilharzia control), industrial hygiene, etc. In view of their specific auxiliary functions they obtain a specific training at the School of Malariology and Environmental Sanitation.

The Direction of Public Health develops its activities in the field of environmental sanitation (food hygiene, control of epidemics, industrial hygiene, etc.) through public health officers, public health veterinarians, and sanitary inspectors. Sanitary inspectors, as auxiliary health workers, help public health officers and public health veterinarians in their work. At the moment there are about 300 sanitary inspectors on the staff of the Direction of Public Health. Most of them have no formal training, while the rest have completed a ten-month course for sanitary inspectors at the School of Public Health at Caracas, Thus, in the field of environmental sanitation in Venezuela there are two types of auxiliaries:

1. Sanitary Inspectors specialized for clearly defined work and trained at the School of Malariology and Environmental Sanitation. The Course for Inspectors of the Rural Water Supply Systems can be quoted as an example of this training. The admission requirement for the Course is 6 years of primary school and 2 years of secondary school. It lasts 5 months. The teaching programme of such a course is strictly directed to train the candidates for the special functions carried out by sanitary inspectors in practice (Annex 16). In each course 15 candidates are admitted. Or another example: In 1964 the School organized a course for sanitary inspectors specialized in sanitary constructions (20 participants). In the basic part of the course(306 hours of lectures) the following subjects were taught: Applied Arithmetic, Applied Geometry, Spanish, Map Reading, Epidemiology, Environmental Sanitation, Sanitary Administration and Sanitary Legislation. In the special part of the course (365 hours of which 156 were laboratory practical classes and field work) the subjects taught were as follows: Drinking Water Supply, Administrative Procedures in the Control of Constructions, Treatment and Disposal of Water, Topography, Inspection of Constructions, Inspection of Piping Systems, Administrative Procedures concerning the Control of Sewage Disposal, Urbanization, and Constructions.

2. Sanitary inspectors of a General Profile, trained at the School of Public Health. The programme of the Course (Annex 17) tends to train multipurpose sanitary inspectors on the auxiliary level, capable of helping professional public health workers (physicians, veterinarians, sanitary engineers) in all the fields of environmental sanitation.

The field of health statistics. In Venezuela there are two categories of medical record librarians. One is on a far higher level than the other and can be classified into technical rather than auxiliary staff. The former group carried out technical and the latter auxiliary work in hospitals and other health institutions. In the training of both groups of medical record librarians Venezuela has a comparatively long tradition. Courses for medical record librarians on the technical level, lasting one year, started in 1950. The fifteenth course is just in progress. As to auxiliary medical record librarians the fourth course, lasting 3 months, is in progress. It should be pointed out that in hospital services there are 170 auxiliary medical record librarians and only 100 of them have the three-month course.

In the one-year course for medical record librarians 20 students are admitted every year (this year there are three students from other Latin American countries in the course). There are usually 60-70 applicants which allows good selection. So far 172 trainees have completed this course. Out of them 101 are employed in hospitals. The one-year courses are conducted at the Ministry of Health and Social Welfare in Caracas, and the three-month courses in hospitals in the field.

The admission requirement for the one-year course is 6 years of primary school and 3 years of secondary school. The teaching programme (Annex 18) is divided into two parts: 1) theoretical, with 625 hours of lectures and practical work, and 2) practical (completely practical in character) lasting two and a half months and carried out in the field, in hospitals and other health institutions.

The admission requirement for the 3-month course for auxiliary medical record librarians is 6 years of primary school and diploma in typing. The teaching programme covers three fundamental fields: medical terminology, technical management and archives of medical record, and hospital statistics.

In both courses the training is conducted according to the principles established in the Manual for Medical Record Librarians by Huffman (Physicians Record Company, Chicago).

## IV TRAINING AND UTILIZATION OF AUXILIARY HEALTH WORKERS IN LATIN AMERICA

Everyone discussing the training and utilization of auxiliary health workers in Latin America should be aware that this problem cannot be tackled on the basis of a universal formula applicable to all Latin American countries. Discussion should only relate to the basic principles which may make it easier for these countries and the World Health Organization to form an attitude towards this complex problem and to shape their respective future long-term policy accordingly. Different geographic, economic, social, educational, and health conditions require specific approaches adjusted to the needs and possibilities of each country. In practice, of course, the exchange of experience and cautious application of successful solutions may always prove useful.

### The position of auxiliaries among health workers

It is customary to divide all health workers into three categories: professionals, technicians, and auxiliaries. Historically, all three categories have gradually developed in connection with specialization in medicine and expansion of health services, and the system of apprentice training was first used to make up for the initial lack of formal education. Later the development of medicine as science and practice brought about the need for an organized training which in most cases started in the form of shorter or longer courses and then grew into the system of professional schools.

Auxiliary health workers should be the health workers who participate in the activities aiming at the promotion of health or the control of diseases with clearly defined functions and responsibilities. If this view be accepted, it can easily be deduced that they by no means represent some sporadic or temporary health workers who would disappear as soon as there are enough professionals, but that they are a very important category of health worker, perhaps just as important as the other two, which in present-day health services is becoming a special occupation with a permanent career.

However, there are cases where auxiliary health workers function as substitutes for certain professional and technical categories. This substituting function should be of a transitory character, and with a sufficient number and correct distribution of professional and health workers its raison d'etre should disappear.

In other words, auxiliary health workers may carry out health work:

(1) as members of the health teams consisting of professional, technical, and auxiliary health workers. In such working groups, each of the afore-quoted categories performs a precisely defined portion of work and has precisely defined responsibilities;

(2) as substitutes for individual categories of professional and technical health workers, in which case they carry out work for which a certain professional or technical qualification is required (which they do not possess), as well as a certain degree of responsibility (which is beyond their knowledge and skill). This fact should be kept in mind when considering the problem of the training and utilization of auxiliary health workers.

While the first type of auxiliary health worker is a regular feature and a normal sequel of the team work applied in tackling complex problems of health and disease, the second type is the result of scarcity or uneven distribution of professional and technical health workers in individual countries. The first type should become a permanent feature in the structure of health services, while the second only a temporary one. When referring to Latin American countries it can definitely be said that the first type of auxiliary health workers -and the large number of them at that - is absolutely necessary for these countries, just as it is for other countries of the world, and that the second type should be considered an exceptional transitory measure. In this connection it should be said that in some Latin American countries the existence of groups of auxiliary health workers with a substituting function is not the result of the actual shortage but of an uneven distribution of certain categories of professional and technical health workers. Distribution of health workers in general - it appears appropriate to say at this point - is a very important factor in approaching the problem of the training and utilization of auxiliary health workers.

If within the modern health service the auxiliary health worker has his true place and undoubtedly is meant to have it also in the future, it is necessary that within a wide range of most varied profiles of health workers he should be given an adequate position which would represent no temporary, discriminated employment but a permanent, attractive career. In view of this, consideration should be given to the title of these health workers continually containing the world "auxiliary" (nursing auxiliary, auxiliary technician, medical auxiliary, etc.). In the last hundred years a complete distribution of functions has taken place in medicine and this has resulted in the formation of various medical and paramedical professions, and of various specialists and superspecialists within individual professions. At the same time team work has been introduced in medicine and become the necessity of present-day multi-professional and multispecialized medical practice. Within the working team there have been developed numerous positions: leadership, highly qualified, qualified, semi-qualified, and auxiliary. Moreover, auxiliary positions, are often held also by highly qualified health workers, but nobody seems to emphasize it, and in such cases the title "auxiliary" is avoided, which is quite right, because it is discriminating and arouses a feeling of inferiority. It is easy to undertand this feeling if one glances at the synonyms of the word "auxiliary": subsidiary, accessory, subservient, adjuvant -all of them of little attraction to anybody. Yet, the medicine of our time has named a whole group of health workers, the most numerous one (to make the paradox even greater), as "auxiliary", although this group, with regard to the principles of team work, has clearly defined functions, carries out the tasks for which certain qualifications are required, and -what is of the greatest importance- shares the responsibility with other members of the working team in their work towards a determined goal. For this reason something should be done in this connection, so that the word "auxiliary" may be omitted from the titles of these categories of health workers, if for nothing else but quite certainly for psychological reasons. After all, the right standpoint in this matter is that all health workers belong to a certain field and that the difference between them should be sought in the degree of their education which puts them on different levels and for which no discriminating titles have to be used. Without embarking upon the question of whether the division of health workers into three categories -professionals, technicians, and auxiliaries- is the most fortunate one, I think it necessary that for each category of auxiliary health workers an adequate title should be found, and this, in the case of Latin American countries with their rich vocabularies, would certainly represent little difficulty.

## Auxiliary health workers and national health planning

The problem of auxiliary health workers should be tackled within the national health plan. Consequently, their training and utilization should be an integral part of the development of health personnel in general.

In the individual phases of a planned approach to the training and utilization of auxiliary health workers, the following activities should be carried out:

(1) determination of health problems of a given country, as well as ways and organizational forms to be used in the efforts toward approaching these problems;

(2) definition of the role of the individual categories of auxiliary health workers in the solution of health problems and determination of their position in the organizational health scheme;

(3) census of the total health personnel, and auxiliary health workers in particular, in order to determine their number, basic and technical training, way of utilization, and other elements necessary for the planning of the training and utilization of auxiliary health workers in the future. Such a census provides the basis for a continuous evidence of all categories of health workers;

(4) elaboration of a realistic annual plan of needs and of teaching (setting up of schools, teaching curricula, etc.) of auxiliary health workers (and all other categories), having in mind not only needs but also the possibilities of employment;

(5) enforcement of regulations which lay down basic principles, functions, positions, and norms concerning the training and utilization of auxiliary health workers.

In the development of their health services almost all Latin American countries have reached a phase in which the participation of auxiliary health workers in the solution of the problems of health and disease should no longer be considered a temporary, transient necessity but a permanent need calling for a definite solution to be made if not in detail but at least in principles. The long training of professional categories of health workers, high cost of their education and utilization, and -the most important of all- the distribution of work within the health team create a permanent need for auxiliary health workers of various profiles. It is quite clear that it is economically and technically unsound to allocate to health workers of professional qualifications and experience work which can be performed satisfactorily by health workers at a lower level of training. Specific examples may be found in such activities as the eradication and control of mass diseases, environmental sanitation campaigns, and screening in mass medical care activities. When to these are added all those special occasions on which auxiliary health workers appear as substitutes for individual categories of professional health workers, it becomes obvious that the problem of auxiliary health workers is a top priority problem and should become a permanent concern of Latin American countries.

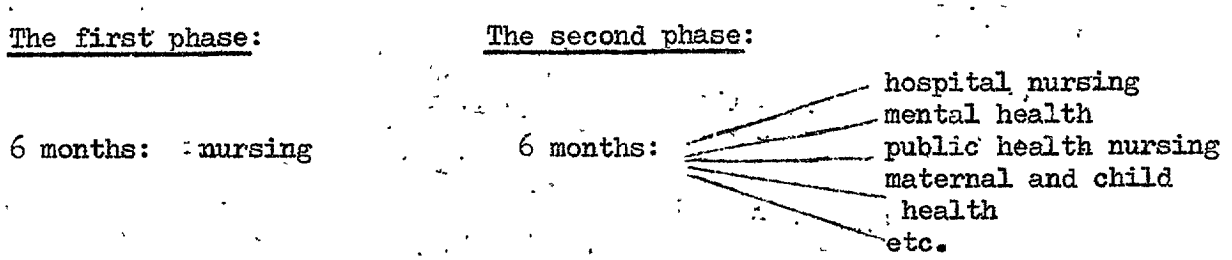
## V. REMARKS ON THE TRAINING OF AUXILIARY HEALTH WORKERS

Although the training of auxiliary health workers should be approached in accordance with specific needs and conditions in each country, it may be useful -as has been said in the introduction- to discuss some general principles to help provide a basis for the solution of this complex problem in individual Latin American countries. But before starting the discussion, the following question should be answered: Which categories of auxiliary health workers should be designed for the health services of Latin American countries? The answer is not difficult: those engaged in the field of nursing, sanitation, dentistry, statistics, laboratory techniques, and the like. It is in fact not easy to list all the categories needed, but one thing appears certain: in Latin American countries, with regard to the number of physicians and the number of Medical Schools and their present and potential "output", auxiliaries in the medical field need not be foreseen. In other words, in Latin American countries there is no urgent need to educate health workers of the type of "medical assistants" encountered as substitutes for physicians in a series of developing countries where there is a great shortage of physicians, or health workers of the type of "feldshers" having been encountered in the Soviet Union in the period following the Revolution. The main reason for the shortage of physicians in almost all Latin American countries lies in their uneven distribution which by certain measures could be mitigated to a great extent (a better remuneration of physicians working in remote areas, building of health centres with accommodation for physicians, the rotation system, compulsory work in rural areas, privileges in pension schemes, etc.). Moreover, a number of the existing Latin American Medical Schools are in a position to increase the number of their students, which in a very short time would lead to a considerable increase of physicians. While on the one hand this opinion of the need for auxiliaries in the medical field appears right and valid for all Latin American countries, on the other hand, there is probably no other field in which auxiliaries, in addition to professionals, should not be necessary. Looking upon the matter from this standpoint and taking into account living conditions and needs of Latin American countries (put forward in chapters I, II, and III), the following questions appear to require clarification in connection with the training of auxiliary health workers:

### 1. Single - or multipurpose auxiliary health workers

In planning the training, the first to be made clear is whether within a defined category single or multipurpose auxiliary health workers have to be trained. The decision depends on various factors. First of all it should be emphasized that the profile and, consequently, the training of auxiliary health workers are determined by specific circumstances and requirements, which vary not only from country to country but also from region to region of a single country. Just to mention an example: It is quite certain that a nursing auxiliary in a hospital, as

a member of a hospital team, has to obtain quite another training than a nursing auxiliary working alone, with sporadic supervision of the physician or professional nurse, in a small health station somewhere in a remote rural area. Equally, a sanitary auxiliary health worker engaged in rural sanitation has to obtain a training quite different from that to be given to a person responsible for defined sanitation actions in a city. The system of multipurpose training has an advantage because it provides the trainee with a more complete knowledge of a certain wider field, opens wider horizons, and offers more opportunity of employment. On the other hand, single-purpose training has its advantages, too, because being limited to a narrower field it goes deeper into the matter, and provides a certain amount of specific skill which often corresponds to a segment of professional knowledge in the respective field. But the utilization and employment opportunities in the latter case are restricted. When making a decision about the profile of auxiliary health workers, one more factor should be considered: the length of training. If there is enough time and enough money for the training of auxiliary health workers, so that it may last longer than a year (perhaps even two), then it is appropriate to think of a multipurpose teaching programme. In cases when there is an urgent need for a large number of auxiliary health workers, or when, owing to economic reasons, courses shorter than a year are organized, in such cases only exceptionally the training of multipurpose auxiliary health workers can be designed. Of course, the answer to the question also depends on the purpose for which the auxiliary health worker is trained. If, for instance, the health service is in need of auxiliaries for work in a laboratory for the detection of schistosomiasis it does not appear necessary for the candidates to be included in a multipurpose training programme on laboratory techniques but only to master the technique for the detection of schistosomiasis. The problem of the single -or multi-purpose auxiliary health worker may also be tackled in the following way: In certain instances it may be justifiable for all the candidates in the first phase of their training to be given a general multipurpose training, and then, in the second phase, to specialize and become single-purpose auxiliaries. An example from the field of nursing:




This system requires at least one year of training.

In Latin American countries, in view of the urgent needs and the large number of auxiliary personnel lacking training, the training of single-purpose auxiliary health workers is to be considered first, but other afore-mentioned solutions should not be ignored either -they will certainly prove useful in some specific situations in a certain country or in a certain region of a country.

2. Training programmes

The standpoint from which to start in determining training programmes is that auxiliaries represent a group of health workers that have to carry out certain clearly defined activities with full understanding and competence. The auxiliary health worker should not be a robot, able to perform certain tasks skilfully but mechanically, as an unthinking routine. With this clearly in mind, the teaching programmes for auxiliary health workers should be drawn up:

a) on the principle of integrated medicine which approaches and tries to solve each health problem from social, preventive and curative aspects;

b) on the principle of team work in which each member performs, and is fully responsible for, a clearly defined portion of work.

The most common, and also the greatest, mistake made in the elaboration of teaching programmes for auxiliary health workers is that they are prepared in such a way as to be nothing but miniature teaching programmes for the professionals of the same category. This is, of course, wrong. The teaching programmes for auxiliary health workers should:

a) be adjusted to the specific nature and actual conditions of their future work, and

b) be built around aspects of local health problems.

The teaching programmes for auxiliaries should also comprize such elements as will develop in the trainee:

a) a sense of responsibility,
b) a sense of correct human relations,
c) a right ethical attitude

Without these properties it is hard to imagine a successful functioning of health workers in general, and auxiliaries in particular.

Without discussing individual subjects, which should be included into the programme with much flexibility, in accordance with the local situation, one thing is quite certain: each teaching programme must contain the subject "Health Education" as one of its top priority subjects, because health education should be the first and most important function of any health worker, and those in Latin American countries in particular.

3. Length of training

It appears that one year should be the minimum and two years the maximum length of training. Of course, emergency needs, lack of funds, or some specific conditions or purposes may justify exceptional programmes lasting either less than one year or longer than two years. There is one more possibility which should not be overlooked: should there be well-grounded reasons, the training can be carried out in shorter training periods of 2 - 3 or more months with breaks between them, during which the health workers may regularly perform their duties in the health service. In this way a one - or two-year training programme can be put through in the course of 4 - 5 or more years, in which case the teaching programme should be adapted to such a periodic, prolonged training. What is, however, quite certain is that in Latin American countries the length of training too should be subject to wide variations.

4. Training methods

As regards training methods the first thing to be emphasized is the advantage of organized courses over the in-service apprenticeship system of training which is for the most part carried out in an unorganized way, without enough attention and care on the part of instructors or supervisors. Learning by doing, seeing, and hearing is the final aim of the correct application of any training method.

In organized training it is customary to allot 30% of the teaching time to theory, 20% to practice, and 50% to field training. The theoretical part comprises lectures, seminars, discussions, and other forms of transmitting the teacher's live word to the trainee. The practical part embraces laboratory work, demonstrations, and other forms of practical work which are usually performed in special training laboratories, in demonstration rooms or demonstration areas, and are primarily designed to develop certain manual skills. Field training usually follows the theoretico-practical part and represents a system of organized practical experience carried out in public health institutions, under permanent guidance and supervision of competent teachers and instructors. It is wrong to think that the training of auxiliary health workers should be only practical and conducted on the principle of "learning by working". The system of training in which auxiliary health workers become blind instruments in the hands of professionals is essentially wrong. The trainees must be given a certain amount of "theoretical knowledge" which enables them to understand what they are doing and what the purpose of their work is. This is one of the main prerequisites for the success of auxiliary health workers.

The use of a certain training method depends on the number of trainees. Classes of not more than 20 trainees and groups of not more than 4 - 5 participants in practical demonstrations are considered as the most appropriate. Active participation of trainees is possible only when trained in small groups.

One more very important factor should be mentioned in connection with training methods. Very often use is made of training methods and equipment that the trainees will never be able to use in their future work. Training methods, as well as training facilities and equipment should be in accordance with the trainees' future tasks and with the possibilities of the respective health service. In short: conditions of training including training methods must correspond with the conditions of the trainees' later work. The application of this principle does not exclude the use of audio-visual and other modern aids.

In the application of training methods, provision of books, mannuals, notes on lectures and seminars, and other written material is a very important consideration. All written material should be in accordance with the teaching programmes and written in such a way as to be of use to auxiliary health workers as permanent guides in their future work. For WHO the provision of written material (and of audio-visual aids as well) is a matter of great interest and even greater possibilities.

5. Examinations and certificates

Although the checking of the trainees' knowledge should be carried out continually, throughout the whole training, it is very important that a final examination be planned in all courses for auxiliary health workers. It gives the whole system of training a specific character and value. At the thought of examinations (those during the course and the final one) trainees learn more, try to distinguish themselves, and have a feeling that their training is something important and serious. Examinations should be practical, oral, and written. Sometimes it may also appear useful to check the candidate's knowledge by certain tests, periodical oral or written reports, diaries, etc. At the final examination it is recommendable to have a renowned representative of the health service as an observer.

After passing the final examination, the trainees should obtain a certificate which by its content and form should represent a document its owner could be proud of, and which will make him realize that he has entered a publicly recognized and important career. The certificate also serves as a document for the registration of auxiliary health workers.

6. Place of training

As to the place of training the following should be pointed out:

Auxiliaries should be trained in an environment and under conditions which are the same as, or similar to, those they will meet in their future work, but on condition that

a) adequate health services with proper health institutions for field training exist and
b) competent teachers are available for such locally-organized training.

All this is necessary because it has been proved that the training of auxiliary health workers in big cities and highly developed medical centres does not give expected results for two reasons:

a) because such a highly developed environment, by its facilities, equipment, training methods, and its whole atmosphere, very often fails to provide the trainee with those elements of knowledge and skill which are indispensable to his work in a less developed milieu;

b) because such a highly developed, attractive environment very often has a negative effect on utilization of the trainee coming from remote, underdeveloped areas, for frequently he does not return to the environment from which he came and to which he was meant to devote his work.

When speaking about location of training, mention should also be made of accommodations for trainees. There is great advantage in residential over non-residential training institutions. Although more expensive, a residential system of training offers better opportunities as regards:

- maintainance of discipline,

- formation of everyday living and especially hygienic habits, by which it should be emphasized that the health worker's life should be a model for the people among whom he works;

- fostering of the sense of team work and correct human relations,

- promotion of activities outside the school (cultural manifestations, sport, dance, music, etc.).

It is absolutely wrong to make the training of auxiliary health workers a permanent responsibility of professional schools (Schools of Public Health, Medical Schools, Schools of Nursing, etc.). The training of auxiliary health workers can only be a sporadic, transitory function of professional schools. Training developed within such schools is, as a rule, too academic in character, and this is just the reverse of what we want to achieve in the training of auxiliary health workers, which is meant to reflect the practical needs of health services. The duty of Medical and Nursing Schools, Schools of Public Health, and of similar institutions is to play an important role in the education of the teaching staff designed to work at schools for auxiliary health workers.

And finally one more question should be answered: Should permanent schools or ad hoc courses be developed for the training of auxiliary health workers? The system of schools has great advantages over ad hoc courses. Within a school it is much easier to develop a small teaching body of 3-4 full-time teachers (round whom part-time teachers, recruited from the local health workers, could concentrate). Such a small teaching body develops the training programmes with the feeling of full responsibility, and this gives the school a certain stability. In the system of schools

it is easier to transfer the experience required from one year to another, from one group of trainees to another. Moreover, the school, as a permanent institution, gives the trainee a great degree of security and confidence. However, the question of whether "the school" or "the course" system is to be applied, should be solved in Latin American countries individually, from country to country, according to existing needs and possibilities.

7. Selection of trainees

The first principle to be pointed out is the principle of local recruitment. It appears most appropriate that the candidates for the training of auxiliary health workers should be recruited from the environment where they will carry out their future work. Numerous cultural, psychological, and educational reasons speak for it. Experience has shown that there were many failures when boys and girls brought up and educated in an urban environment were sent to rural areas to take the responsibility for local health and social problems. Inability to adapt oneself to a new milieu is particularly frequent with young people. Furthermore, a young and inexperienced health worker coming from outside is not easily accepted by a community either.

Primary school (5-6 years) is considered as the minimum of general education to be required from the candidates for the training of auxiliary health workers, and primary school plus two to three years of secondary school as the maximum. A longer secondary school as the maximum. A longer secondary school training or full secondary schooling is not recommendable, because those whose general educational background is too high are not likely to be pleased with the auxiliary level career and might be encouraged to enter professional schools. There will be no difficulty in any of the Latin American countries to recruit trainees with general educational background ranging from primary school to three years of secondary school. The decision about general educational requirements depends on specific local conditions and the category of auxiliaries for which recruitment is made.

Age limit is a further factor in the selection of candidates. The question should be tackled with flexibility. Experience has shown that the optimum recruitment age for auxiliary health workers is between 18 and 30 years of life. But in this connection, attention should be drawn to the following problem. The period from the completion of primary school (or 2-3 years of secondary school) till the beginning of technical training for which, in our case, the age limit is 18 years, represents a vacuum for young people. What should they do from 15 - 18 years of age? It would be worthwhile to give this problem due consideration.

By selecting candidates for training in auxiliary health activities, special attention should be paid to that group of auxiliary health workers who are already employed but have no formal training. There are over 100,000 health workers of that kind, in Latin American countries. This group should be given priority in the selection of candidates. Very good examples of simultaneous interchange education of newly recruited and already existing auxiliary health workers in some countries may be of considerable value in the souution of this problem.

The duty of those making selection is to tell each candidate quite clearly and openly about all advantages and disadvantages of their future career. If each candidate knows what role he is going to play, there will be fewer drop-outs in the course of training and fewer unhappy and disillusioned people after training.

In selecting the candidates, attention should also be paid to the character, social consciousness, interest in work, motivation, knowledge of local dialect, and other qualities of the candidate, including health and physical condition, because the latter may be of extreme importance in the candidate's future work (strenous field activities, night work, tool handling, etc.). With regard to all these characteristics according to which the selection of candidates should be made, it may be useful to discuss the question of probationary in-service work for all those wanting to take up the career of auxiliary health worker. Such organized in-service work lasting one to two years (or less) and carried out under the supervision and guidance of experienced professional, technical, or even auxiliary health workers may offer valuable information about the candidate's character, while the candidate himself may get a clear picture of what is expected of him in his future work. Mutual advantages of such a checking system should not be underrated.

8. In-service training and refresher courses

(learning, a lifelong task of auxiliary health workers)

For any health worker learning should represent a continuous process which starts in school rooms and goes on throughout his active life. This is perhaps even more valid for health workers on the auxiliary level. It is important that eagerness and ambition to acquire new knowledge should be fostered in auxiliary health workers throughout their active life, especially during the first period of organized training. The principle of continued learning as regards auxiliary health workers can be put in practice in the following three ways:

a) through a continuous system of inservice training,
b) through refresher courses,
c) by an inservice system of rotation.

Auxiliary health workers carry out their functions under constant supervision of professionals of the same or similar categories. Inservice training is an integral part of supervision and, consequently, one of the supervisor's responsibilities. For example, if a supervisor notices that the auxiliary health workers does not sterilize the vaccination syringe properly, he will draw his attention to it, and at the same time he will teach him how to perform this task in the future. By applying this working principle, supervision is gradually transformed into a system of continuous inservice training.

Health practices and techniques are steadily improving. Knowledge about these improvements can best be spread through the system of refresher courses which should be organized according to actual needs, regardless of any established intervals. The carrying out of such refresher courses should primarily be the task of schools for auxiliary health workers, and only exceptionally of other institutions (hospitals, institutes of hygiene, health centres). Refresher courses need not last longer than 7-14 days. The programme of the course should be carefully planned and directed towards a clearly defined goal. As to methods, preference should be given to practical work, demonstrations, group discussions, and seminars. During the course a certain amount of time should be allotted to free discussions on current problems and experience from the field, which would help the participants, on the one hand, to widen their knowledge and the teachers, on the other, to evaluate the results of their training programs and training methods.

In some countries there are developed permanent training systems based on the principle of rotation, according to which after the necessary orientation health workers from the field are sent to work in health institutions, and those from health institutions go to work in the field. These systems have achieved particularly good results in the exchange of urban and rural health workers. Health workers coming from rural areas into urban health institutions are given the chance of learning new medical advances and getting in touch with cultural manifestation of the town, while urban health workers sent to rural areas are given the chance of acquainting themselves with rural health problems and with real life which often appears to them, working in urban institutions, as something rather remote and inapprehensive. Such exchanges of health workers should be organized according to well-defined plans, and their duration regarding auxiliary health workers should be limited to 1-3 months.

In addition to these ways of acquiring knowledge, some other possibilities can be used as well (books written for auxiliaries, manuals, meetings, special periodical for individual categories of auxiliaries, etc.). All these possibilities are quite common amongst professionals, but unfortunately, very rarely used amongst auxiliaries.

## 9. Selection and training of teachers

The selection of teachers is one of the major questions in the training of auxiliary health workers. The teacher in a school for auxiliary health workers should possess all the qualities required from any other teacher: good character, strong personality, enthusiasm for teaching, technical competence in the subjects he teaches, understanding of the environment for which the students are trained, etc. In addition, such a teacher should be familiar with specific jobs which his pupils are going to perform in their future career.

Teaching bodies of the schools for auxiliary health workers should consist of local professional and auxiliary health workers who possess the above quoted qualities and also certain field experience. It has to be aimed that each school for auxiliary health workers should have at least 2-3 full-time teachers to cover basic subjects and a series of part-time teachers for specific subjects. It is important that the director of the school should be selected from among professionals of the same category. The greatest mistake is to appoint doctors for directors of such schools in a part-time function.

Latin American countries have a sufficient number of professional health workers technically qualified to take over teaching functions in schools for auxiliary health workers. However, for a successful carrying out of teaching functions, in addition to professional training and working experience, a special training is needed. For this reason all categories of teaching staff, before taking over teaching functions, should attend special courses designed to prepare them for their complex teaching functions. These courses, lasting from a couple of weeks to several months, should be organized at renowned professional schools of the same categories or at the Schools of Public Health which just in the training of teaching staff (not in the training of auxiliaries which some of them are doing) could play an important part. Here again, in connection with the education of teaching staff, consideration should be given to a continuous training organized in the form of refresher courses, technical meetings, exchange of visitors, publications, etc.

At the end there is a key question to be answered in connection with the training of auxiliary health workers: Who should take over the responsibility for the training of auxiliary health workers? The answer is contained in one of the WHO documents (Techn. Rep.Ser. 109, 4.2). It reads: "All health auxiliaries should be selected and trained under regulations, statutary or otherwise, of the health administration, so that the practical aspects of the work may be stressed from the beginning." Accepting this principle it would be useful from the organizational point of view to make provision in national or district health administrations for special divisions responsible for the training of auxiliary health workers which, in addition to planning and supervision, would also develop and improve the training of this important category of health workers.

## 10. Utilization of auxiliary health workers

Here again we should first recall the health problems (health illiteracy, poor environmental conditions, endemic diseases, tuberculosis, infant mortality, and health problems connected with rapid urbanization) and some of the principles on which the existing health services in Latin American countries are based (the responsibility of the state for people's health, regionalization of health institutions, integration of medicine, preventive aspects in health services). While, on the one hand, there is no doubt about the existence of the above quoted problems, on the other,

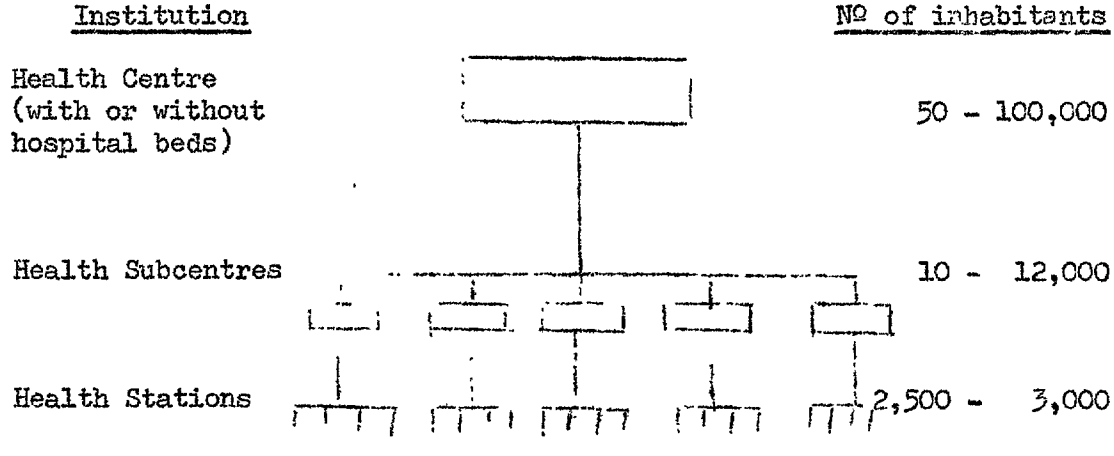
towards the application of the principles quoted only first attempts can be noticed. The best general picture of the organization of health services in this part of the world can be obtained from a PAHO document (Health Trends in the Americas, by A. Horwitz, 1965) in which it is said:

"The usual pattern is for preventive to be separated from curative services and for coordination with teaching institutions to be lacking. In the field of medical care there is no correlation between the activities of ministries of health and those of the social security services. In many instances, the institutions and services are unnecessarily duplicated. In Latin America the health services, regardless of their organization and their function, do not cover the entire geographic area of the countries or the entire population. In the latter's "scattered rural areas" - where dwellings are not close enough together to form communities and there are no social relationships between the people - there is a complete absence of health services or they can be said to hardly exist. Where the rural population is concentrated in communities with 500 or more inhabitants, medical care is usually sporadic or intermittent, and is not supported by preventive measures and health promotion activities. The population does not take part in health work nor is it motivated to do so; it is purely passive. In the urban areas there is a greater concentration of resources. Nevertheless, there are instances where the demand for medical care outstrips the available means, a fact which is aggravated by lack of coordination between the agencies responsible for preventive and health promotion activities."

In spite of this, impressions are obtained that all Latin American countries, regardless of the pattern of health organization, make certain efforts towards providing their peoples with basic health protection and medical care through a system of regionalized health services. This principle is the leading force of health administrations in most Latin American countries in their noble efforts to improve the health of their peoples. However, these strivings are met with insurmountable difficulties. They are frustrated not only by difficult economic and social conditions, but also by inadequately developed health services based on a medicine concerned in most cases exclusively with curative activities, and using methods that are most often unequal to cope with serious health problems which in Latin American countries are usually of a mass character. The health administrations, on a larger or smaller scale, are trying to carry out field health activities through the system of health centres which, in addition to hospitals, are meant to represent the main operative force in the provision of health services. While in some areas the idea of the establishment of health centres has already given good results, in some other parts it is still in its infancy. However, all the reports and publications by renowned Latin American health workers give the impression that the concept of the establishment of health centres is accepted as a basis for the future health organization meant to provide health protection and medical care in these countries.

While on the one hand there are pronounced tendencies that all health services should develop through an integrated system of health centres, on the other hand, there are tendencies to develop individual health activities through separate, administratively independent services and institutions. There exist completely independent services which -apart from the existing system of health centres and hospitals- take over certain specific tasks (e.g. malaria control, maternity and child health, control of some vectors, etc.) and perform them through their organizational units independently of existing public health services. Just because of a limited number of health workers and very modest material means, the establishment of independent health organizations should be avoided, and efforts should be made to channel health actions of any kind through the public health administration and its services and institutions. This is important not only for a unified planning and coordination of the efforts made, but also for an economical use of the personnel and material resources available. To which degree these independent and separate health activities mar the picture and complicate the planning of the health workers needed and of their education and training needs no illustration, the fact being far too obvious.

Without a thorough knowledge of political, economic, health and other conditions, without being fully informed about the system of the public administration (on which, after all, every public health administration depends), I shall embark upon giving, on the basis of the data available and my own impressions, a tentative, schematic proposal for the organization of public health services as the starting point for discussion on the utilization of auxiliary health workers in Latin American countries. It appears that the basic health organization in nearly all Latin American countries should be as follows:




The Health Centre with its Health Subcentres and Stations represents, from the standpoint of health administration, the only health unit responsible for the total health of the people of a certain region. The activities of such a Health Centre, its Subcentres, and Stations should be based on the principles of integrated medicine. The Centre should approach all health problems, no matter whether they relate to the individual, the family, or the community as a whole, from the curative, preventive, and social aspects.

At this point it should be pointed out that team work is the basic method for the carrying out of all health activities within a Health Centre and its subcentres.

If within the framework of this organizational scheme and in accordance with realistic personnel and material possibilities of Latin American countries, we try to distribute professional and auxiliary health workers, we will not be much mistaken if on the Health Centre level we foresee professional health workers of general and special profiles and auxiliary health workers as their assistants within working teams; on the Health Subcentre level only professionals of general profiles (GPs and nurses) and auxiliary health workers as their assistants, again within working teams; and on the Health Station level only auxiliary health workers with defined responsibilities for basic health care. In this connection it should be stressed that a Health Subcentre with adjacent Health Stations should function as an integrated health unit, in fact as an integrated health team (a doctor, a nurse, and 6-7 auxiliaries). Such a system of health organization makes possible a continuous supervision of the work of auxiliaries and referrals of cases from the lower to the higher level.

Remote rural areas with scattered small communities, without health institutions and without communications, represent a considerable problem in the organization of health services. To offer basic health care, covering the total population, to such areas is one of the hardest problems of health services. For the time being, from the personnel and economic point of view, only one realistic solution appears possible:

a) a sound utilization of locally recruited and trained multipurpose auxiliary health workers, and

b) the building of small health units in which, in addition to the consulting room, one more room with 2-3 beds should be available for serious emergency cases (waiting for transportation to health institutions on a higher level), and also a dwelling unit for the health worker.

The problem of the health care of people living in such areas has a priority character in Latin American countries and should, therefore, be a special subject of any discussion dealing with the training and utilization of auxiliary health workers in this part of the world.

In connection with the proposed organizational scheme a number of questions will appear which should be given due consideration. One of them will probably be: Is this organizational pattern realistic for Latin America? Whether it is or not is not very important. If it is not today, it will be to-morrow. But what is essential in connection with the question raised is:

a) that a certain concept of health organization is accepted and gradually developed in accordance with economic and personnel possibilities, and

b) that in accordance with the accepted concept the training and recruitment of individual categories of health workers be planned and developed.

Or another question may be raised: Is not this system of health organization in contradiction with the existing medical practice based on private clinics and commercialized medicine which prevails in Latin American countries? Yes, it appears it is, but efforts should be made to find ways and modes to minimize this discrepancy.

Or one more question: Is such an organization of health services, with regard to the existing passive attitude of the people, likely to give the results expected? No, it is not, but it is just the health service organized in this way that can change the present attitude very quickly.

Or: In which way can such a health service use auxiliary health workers to the best advantage? This is a question of real importance in connection with the training and utilization of auxiliaries. The utilization of auxiliary health workers depends in the first instance on the attitude towards them held by professional health workers, and only partially on the organizational form of health services. If professional categories of health workers are of the opinion that "auxiliaries are a danger to professionals, that they are the result of temporary needs, that owing to their lower remuneration they are ousting professionals from a number of jobs" etc. -then the whole system of the training and utilization of auxiliary health workers will sooner or later fail. Efforts should, therefore, be made to develop in professionals a correct attitude towards auxiliaries and their role in modern health service. The attitude that the auxiliary health worker is a mere tool in the hands of professionals who most often do not know how to use it, should be suppressed. In many medical and other schools in the world the question of correct utilization of auxiliary health workers is given great attention throughout the whole professional study. In some schools there is even a special subject aiming at teaching the future professional workers what the function of individual categories of auxiliaries is and how they should be utilized. It appears that this question deserves to be discussed at greater length.

At the end it should be emphasized that if the auxiliary career of health workers is a permanent one, then, in connection with their utilization, a series of basic questions should be solved, among which the following should be set forth in particular:

a) provision of regulations for the establishment, training, and utilization of individual profiles of auxiliary health workers;

b) definition of their status, promotion, remuneration, and other rights deriving from their working relations;

c) recognition of their social status (in this connection appropriate titles for individual profiles of auxiliary health workers should be found).

If the governments, in agreement with these condiserations, start with a planned tackling of the problem of the training and utilization of auxiliary health workers, this category of health workers will become one of the main forces in the development of health of Latin American peoples.

TABLE 1

SOME DEMOGRAPHIC DATA ON LATIN AMERICA

1962

| | |
|---|---|
| Number of inhabitants in millions | 215 |
| Annual increase in percentage | From 1.3 (Jamaica) to 4.0 (Venezuela) |
| Urban population in percentage | From 22.5 (Honduras) to 67.4 (Argentina) |
| Birth rate | From 22.1 (Argentina) to 47.7 (Guatemala) |
| Crude death rate | From 7.0 (Venezuela to 17.2)(Guatemala) |
| Infant mortality rate | From 42.7 (Panama) to 119.3 (Chile) |
| Illiteracy in percentage | From 9.0 (Argentina) to 55 (Honduras) |
| National income per capita in US $ | From 117 (Paraguay) to 585 (Venezuela) |
| Population under 15 years of age in percentage | From 48.0 (Honduras) to 39.8 (Chile) |

TABLE 2

INFORMATION ON AUXILIARY HEALTH WORKERS TRAINED IN FORMAL COURSES IN SELECTED HEALTH FIELDS IN 17 LATIN AMERICAN COUNTRIES

| | Nº of countries reporting | Number available at present | Number currently employed | Number trained in 1964 | Additional positions to be created in 1965 |
|---|---|---|---|---|---|
| Environmental Sanitation (1) | 17 | 10,629 | 10,319 | 1,833 | 1,351 |
| Nursing (2) | 17 | 39,370 | 35,919 | 6,455 | 3,445 |
| Laboratories (3) | 12 | 2,388 | 2,272 | 190 | 164 |
| Others: | | | | | |
| X-ray assistants | 1 | 562 | 562 | 26 | 26 |
| Dental Auxiliaries | 1 | 199 | 199 | 41 | 41 |
| Statistics Aux. | 3 | 196 | 186 | 83 | 55 |
| Com.Develop.Aux. | 1 | 141 | 141 | 20 | 20 |
| Nutrition Aux. | 1 | | | 70 | 75 |
| Health Ed. Aux. | 2 | 13 | 13 | 6 | 18 |

(1) Includes total field of sanitation (milk, food, water, air, sewage, vectors, etc.)

(2) Includes auxiliary nursing personnel in hospitals and all other health services who have taken a formal course of training

(3) Includes auxiliary personnel in hospitals and all other health service laboratories.

TABLE 3

SOME DEMOGRAPHIC DATA[x] ON FIVE SELECTED LATIN AMERICAN COUNTRIES

| | Brazil[xx] 1964 | El Salvador 1963 | Mexico 1962 | Peru 1961 | Venezuela 1961 |
|---|---|---|---|---|---|
| Number of inhabitants in thousands | 82,222 | 2,720 | 37,283 | 10,365 | 7,524 |
| Number of inhabitants per sq.km. | 9 | 125 | 20 | 9 | 9 |
| Urban population in percentage | 36.1 | 39.0 | 50.7 | 47.0 | 62.0 |
| Age group 0-14 in percentage | 45.2 | 44.8 | 44.3 | 43.5 | 44.8 |
| Age group 65 and over in percentage | 2.3 | 3.2 | 3.4 | 3.8 | 2.8 |
| Birth rate | 43.0 | 48.9 | 44.7 | 38.2 | 44.7 |
| Crude death rate | 25.0 | 10.9 | 10.8 | 10.6 | 7.3 |
| Infant mortality rate | 228.0 | 67.9 | 74.2 | 83.0 | 44.6 |
| Illiteracy in the population aged 15 and more in percentage | 51.6 | 48.0 | 35.0 | 50.0 | 35.0 |
| National income per capita in US $ | 130 | 213 | 344 | 173 | 585 |
| Annual increase of the population in percentage | 3.1 | 2.8 | 3.1 | 2.5 | 4.0 |

[x] Very often estimated figures only

[xx] Data for a few cities.

TABLE 4

TEN MAIN CAUSES OF DEATHS IN FIVE SELECTED LATIN AMERICAN COUNTRIES

| Group of disease | Brazil[x] - 1961 | | El Salvador-1962 | | Mexico - 1961 | | Venezuela-1962 | | Peru-1962 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. Ord. | Per 100,000 inhabit. | No. Ord. | Per 100,000 inhabit. | No. Ord. | Per 100,000 inhabit. | No. Ord. | Per 100,000 inhabit. | No. Ord. | Per 100,000 inhabit. |
| Tuberculosis 001-019 | 9 | 34.9 | - | - | - | - | 10 | 15.9 | 4 | 72.1 |
| All other Infectious and parasitic diseases | 8 | 40.8 | 3 | 91.1 | 4 | 81.5 | 6 | 34.6 | 7 | 58.4 |
| Malignant Neoplasms 140-205 | 4 | 72.4 | 9 | 21.8 | 7 | 35.6 | 3 | 53.9 | 5 | 63.0 |
| Vascular Lesions of the Central Nervous System 330-334 | 7 | 52.9 | - | - | - | - | 8 | 22.6 | 9 | 27.0 |
| Avitaminoses 280-289 | - | - | 10 | 15.7 | - | - | - | - | 10 | 24.3 |
| Heart Diseases 410-416, 420-422, 430-434, 440-443 | 1 | 146.0 | - | - | 5 | 66.3 | 2 | 65.4 | 6 | 59.9 |
| Pneumonia 490-493 | 6 | 53.5 | 7 | 29.9 | 2 | 134.2 | 7 | 24.2 | 1 | 117.3 |
| Bronchitis 500-502 | - | - | 8 | 25.9 | 10 | 28.3 | - | - | - | - |
| Gastritis, Enteritis, etc. 543, 571, 572 | 3 | 77.2 | 4 | 64.2 | 1 | 152.0 | 4 | 48.1 | 3 | 83.9 |
| Other Diseases of the Gastro-Intestinal Tract | - | - | 2 | 134.7 | 9 | 30.8 | - | - | - | - |
| Diseases of Early Infancy 760-766 | 2 | 72.7 | 1 | 208.4 | 3 | 129.8 | 1 | 65.8 | 2 | 110.9 |
| Accidents E 810-E835, E800-E802 | 5 | 55.7 | 6 | 30.7 | 6 | 40.9 | 5 | 43.8 | 8 | 51.3 |
| Suicides and Homicides E963-E979, E964-E965 | | | 5 | 44.3 | 8 | 31.2 | 9 | 16.4 | - | - |

[x]Data for São Paulo State and Cities of Recife and Rio de Janeiro.

TABLE 5

TEN MAIN GROUPS OF REPORTED INFECTIOUS DISEASES IN FIVE SELECTED LATIN AMERICAN COUNTRIES 1962[x]

| Diseases | Number of reported cases | | | |
|---|---|---|---|---|
| | El Salvador (a) | Mexico | Peru[xx] (a) | Venezuela[xxx] (a) |
| Bacillary dysentery | b) 10,042 | 5,219 | b) 18,575 | b) 84,774 |
| Measles | 5,443 | 54,558 | c) 21,692 | 30,257 |
| Syphilis | 6,552 | 18,219 | 3,872 | 9,127 |
| Pertussis | 3,049 | 30,562 | 9,295 | 6,263 |
| Tuberculosis | 4,581 | 16,242 | 24,005 | 8,138 |
| Typhoid and paratyphoid | 1,404 | 8,600 | 4,318 | 691 |
| Gonococcal infection | 3,718 | d) 3,718 | 7,492 | 19,125 |
| Malaria | 15,433 | 13,781 | 2,195 | 898 |
| Amebiasis | 553 | 32,764 | 3,341 | 26,476 |
| Ankylostomiasis | 516 | 25,843 | 3,498 | e)232,225 |

[x] For Brazil there are no data available; in 1962 9,450 cases of smallpox were reported.

[xx] Infectious hepatitis 2,251

[xxx] Infectious encephalitis 6,897

a) Reporting area except for malaria

b) Including other and unspecified dysentery

c) Other sources give this figure as 21,692

d) Other sources give this figure as 18,882

e) Including other infections caused by cestodes

TABLE 6

REPORTED CASES OF TUBERCULOSIS AND TUBERCULOSIS AS THE CAUSE OF DEATH IN FIVE SELECTED LATIN AMERICAN COUNTRIES

1957 and 1962

| | Reported cases of tuberculosis | | Deaths due to tuberculosis | |
|---|---|---|---|---|
| | per 100,000 inhabitants | | | |
| | 1957 | 1962 | 1957 | 1962 |
| Brazil[x] | 204.2 | 158.9[xx] | 87.4 | 79.1 |
| El Salvador[xxx] | 262.7 | 302.6 | 17.3 | 13.2 |
| Mexico | 32.6 | 43.6 | 29.8 | 26.1 |
| Peru[xxxx] | 472.8 | 465.8 | 118.5 | 72.1 |
| Venezuela[xxx] | 200.3 | 154.2 | 26.1 | 15.9 |

x Data for State of Guanabara and capitals of other states and territories, with exceptions

xx 1961 data

xxx Reporting area for case data

xxxx Reporting area for case data, and area of information for death data.

TABLE 7

HEALTH SERVICES AND HEALTH INSTITUTIONS IN FIVE SELECTED LATIN AMERICAN COUNTRIES in 1964

| | Brazil | El Salvador | Mexico | Peru | Venezuela |
|---|---|---|---|---|---|
| **HEALTH SERVICES** | | | | | |
| 1. Organized by the Ministry or Secretariat of Public Health | Yes | Yes | Yes | Yes | Yes |
| 2. Public health administration at the state or regional level | Yes | Yes | Yes | Yes | Yes |
| 3. Other health administrations (social security, other Ministries) | Yes | Yes | Yes | Yes | Yes |
| **NUMBER OF HEALTH INSTITUTIONS** | | | | | |
| Hospitals | 2,654 | 40 | 1,925 | 215 | 314 |
| Beds in hospitals | 232,905 | 6,504 | 62,964 | 23,481 | 27,873 |
| Beds in Health Centres | 8,361 | 900 | 7,977 | ... | ... |
| Beds per 1,000 inhabitants | 3.0 | 2.5 | 1.7 | 2.3 | 3.5 |
| Health Centres of various types[x] | 2,336 | 66 | 563 | 341 | 540 |
| Health Stations[xx] | ... | 8 | 797 | 210 | 1,050 |
| Mobile Health Units | ... | 62 | ... | none | none |

... Data not available

x Estimated figures

xx Without a permanent physician (except El Salvador)

TABLE 8

NUMBER OF HEALTH WORKERS BY PRINCIPAL CATEGORIES AND RATIO OF INHABITANTS PER HEALTH WORKER IN FIVE SELECTED LATIN AMERICAN COUNTRIES

1964

| Category | Brazil | El Salvador | Mexico | Peru | Venezuela |
|---|---|---|---|---|---|
| Physicians | 35,200 | 690 | 25,000 | 6,010 | 6,396 |
| One physician/inhabitant | 2,300 | 3,600 | 1,800 | 1,300 | 1,400 |
| Nurses | 7,300 | 575 | 6,980 | 3,299 | 3,183 |
| One nurse/inhabitants | 11,200 | 4,300 | 5,700 | 3,400 | 2,500 |
| Nursing auxiliaries | 54,664 | 1,541 | 12,304 | 8,347 | 10,825 |
| One nurs.aux./inhabitants | 1,500 | 1,600 | 2,800 | 1,300 | 700 |
| Midwives | - | no | 3,964 | 1,560 | no |
| One midwife/inhabitants | | | 10,000 | 7,000 | |
| Dentists | 28,000 | 168 | 3,200 | 1,953 | 1,500 |
| One dentist/inhabitants | 2,950 | 14,800 | 11,000 | 5,400 | 6,500 |
| Sanitary engineers | - | 10 | 24 | 182 | 195 |
| One sanit.eng./inhabitants | | 270,000 | 180,000 | 57,000 | 40,000 |
| Auxiliary sanitarians[x] | 6,564[+] | 136 | 968 | 140 | 1,133 |
| One san.aux./inhabitants | 12,000 | 18,000 | 40,000 | 70,000 | 8,300 |

x All categories

\+ In malaria eradication programme

TABLE 9

SCHOOLS FOR HEALTH WORKERS AND THE NUMBER OF GRADUATES PER YEAR IN FIVE SELECTED LATIN AMERICAN COUNTRIES IN 1964

| School | Brazil | El Salvador | Mexico | Peru | Venezuela |
|---|---|---|---|---|---|
| Medical Schools | 36 | 1 | 23 | 5 | 7 |
| Number of graduates per year | 1,550 | 50 | 1,200 | 400 | 300 |
| Schools of Public Health | 3 | no | 1 | 1 | 1 |
| Nursing Schools | 36 | 3 | 91 | 12 | 12 |
| Number of graduates per year | 380 | 60 | 1,200 | 325 | 250 |
| Schools for auxiliary nurses | no[x] | no[x] | 9[x] | no[x] | 3 |
| Number of graduates per year | xxx | 211 | 200 | 300 | 170 |
| Schools for auxiliary sanitarians | no[x] | 1 | no[x] | no[x] | 1 |
| Number of graduates per year | xxx | 20 | 30 | 50 | 50 |
| Dental Schools | 39 | 1 | 10 | 2 | 3 |
| Number of graduates per year | 1,300 | 20 | 250 | 250 | 120 |
| Midwifery Schools | 2 | no | 22 | 1 | no |
| Number of graduates per year | 30 | ... | ... | 15 | ... |

[x] Courses only

[xx] Centros de adiestramiento para auxiliares de enfermería (Centres for the Training of hospital auxiliaries)

... No information available

ANNEX 1

# INFORMATION ON AUXILIARY PERSONNEL TRAINED IN FORMAL COURSES IN SELECTED HEALTH FIELDS

Country _____ Date _____

| | Number available at present | Number currently employed | Number trained in 1964 | Additional positions to be created in 1965 |
|---|---|---|---|---|
| Environmental Sanitation (1) | | | | |
| Nursing (2) | | | | |
| Laboratories (3) | | | | |
| Others (specify) (4) | | | | |

(if necessary, use another sheet)

(1) Includes total field of sanitation (milk, food, water, air, sewage, vectors, etc.)

(2) Includes auxiliary nursing personnel in hospitals and all other health services who have taken a formal course of training.

(3) Includes auxiliary personnel in hospitals and all other health service laboratories.

(4) Only consider groups prepared in considerable numbers.

ANNEX 2

TRAINING OF PROFESSIONAL NURSING PERSONNEL
IN FIVE SELECTED LATIN AMERICAN COUNTRIES

| Category | Admission requirements | Length of training |
|---|---|---|
| BRAZIL | | |
| Nurse | 5 years of primary school and 7 years of secondary school (4 years of high school and 3 years of courses in sciences, or pedagogy) | 3 years |
| Nurse specialist in Public Health | Nurse diploma | One year in Public Health in a school of nursing |
| Nurse specialist in Obstetrics | Nurse diploma | One year in Obstetrics in a school of nursing |
| EL SALVADOR | | |
| Nurse | 6 years of primary school and 3 years of secondary school | 3 years |
| MEXICO[x] | | |
| Nurse | 6 years of primary school and 3 years of secondary school | 3 years |
| PERU[x] | | |
| Nurse | 5 years of primary school and 5 years of secondary school | 4 years (2 years of liberal arts and 2 years of nursing) |
| Nurse | 5 years of primary school and 5 years of secondary school | 3 years |
| VENEZUELA[x] | | |
| Nurse | 6 years of primary school and 3 years of secondary school[xx] | 4 years |
| Nurse | 6 years of primary school and 3 years of secondary school | 3 years |

x For Public Health specialization, attendance in a one-year course in the School of Public Health is required.

xx This kind of Nursing School also admits girls with less than 3 years of secondary school, but in this case they have to complete the full secondary schooling (3 years) during their regular nursing training.

EL SALVADOR ANNEX 3

## PROGRAMME OF THE COURSE FOR NURSING AUXILIARIES

### General or Theoretical Part

Duration: Six months (580 hours of lectures and 300 hours of practical work)

A. General education and development of the student
   1. Orientation of the student in the training programme.
   2. Applied ethics, departement.
   3. Human behaviour.
   4. Human relations.
   5. Personal hygiene.

B. Family - health needs
   1. Constitution and organization of the family. Needs.
   2. Concepts of health. Characteristics of the healthy individual.
   3. Structure and functioning of the human body.
   4. Hygiene of the home and environmental sanitation.
   5. Fundamentals of microbiology and parasitology.
   6. Normal nutrition.

C. Family and disease
   1. Needs of the sick individual. Participation of the family.
   2. Characteristics of the sick.
   3. Concepts of general and infectious diseases .
   4. Means of the community for the care of the sick and of their rehabilitation. Participation of hospital personnel.
   5. Hospital care, medico-surgical treatment, diet, medication.
   6. Isolation techniques.

D. Family. Procreation. Needs
   1. Mother as the nucleus of the family. Interests. Needs.
   2. Notions about conception, pregnancy, puerperium.
   3. Nursing care in various stages.
   4. Participation of hospital auxiliaries.
   5. Growth and development of the child. Needs.
   6. Characteristics of the healthy and sick child.
   7. Concepts of child diseases.
   8. Hospital care of the child.
   9. Participation of hospital auxiliaries.

E. Family as regards the programmes for health promotion
   1. Organization and functioning of health services.
   2. Importance of statistics in health promotion programmes.
   3. Means of the community for health promotion.
   4. Hospital techniques.
   5. Participation of hospital auxiliaries.

ANNEX 4

EL SALVADOR

## PROGRAMME OF THE COURSE FOR SANITARY INSPECTORS

Duration: Ten months (4 months theory, 6 months practice)

Plan of the study
from August 24-December 10, 1964

| | | | |
|---|---|---|---|
| 1. | Health administration and organization | 16 hours | |
| 2. | Practical work in statistics | 10 " | |
| 3. | Supervision | 6 " | |
| 4. | Human relations and professional ethics | 8 " | |
| 5. | Legislation | 4 " | |
| 6. | Infectious diseases | 38 " | |
| 7. | Science of conduct | 30 " | |
| 8. | Health education | 40 " | |
| 9. | Nutrition | 8 " | |
| 10. | Mathematics | 12 " | 172 hours |

Special chapters in sanitation

| | | | |
|---|---|---|---|
| 1. | Organization and administration of sanitation programme | 10 hours | |
| 2. | Legislation | 12 " | |
| 3. | Sanitation: | | |
| | a) Water | 40 " | |
| | b) Disposal of excreta | 30 " | |
| | c) Sewage disposal | 20 " | |
| | d) Vectors | 28 " | |
| 4. | Housing and public buildings: | | |
| | a) Housing | 20 " | |
| | b) Public buildings, beaches and spas | 10 " | |
| | c) Construction and water supply | 12 " | |
| 5. | Sanitation of coffee and sugar plantations | 10 " | |
| 6. | Food hygiene | 70 " | |
| 7. | First aid and health measures in accidents | 10 " | |
| 8. | Geodetic suverying | 8 " | |
| 9. | Evaluation | 20 " | 300 hours |

ANNEX 5

MEXICO

PROGRAMME OF THE COURSE FOR NURSING AUXILIARIES

Duration: Three months

Theory and demonstrations

| | | | |
|---|---|---|---|
| 1. | General orientation | 10 hours | |
| 2. | The healthy and sick individual | 25 " | |
| 3. | Notions of Hospital work | 90 " | |
| 4. | Notions of social anthropology | 15 " | |
| 5. | Notions of nutrition | 25 " | |
| 6. | Notions of administration | 15 " | 180 hours |

Practical work:

4 weeks in the Health Centre "A"
5 weeks in hospital
3 weeks in a rural Health Centre
4 weeks in a Health Centre with a sanatorium

MEXICO

ANNEX 6

# PROGRAMME OF THE COURSE FOR NUTRITIONISTS AND TECHNICIANS IN NUTRITION

Duration: One year

---

First period (February 18 - May 31)

| | | |
|---|---|---|
| Cooking techniques. Theory and practice | 164 hours | |
| Food. Theory and practice | 78 " | |
| Administration of sanitation | 26 " | |
| Pedagogy | 27 " | |
| Behavioral Sciences | 56 " | |
| Anthropology, sociology, panel discussions | | |
| Nutrition | 40 " | |
| Statistics I | 39 " | |
| Library | 50 " | 480 hours |

Second period (June 1 - July 31)

| | | |
|---|---|---|
| Education programme | 108 hours | |
| Seminar on dietetics | 36 " | |
| Visits to institutions | 36 " | |
| Food hygiene. Practical work | 36 " | |
| Epidemiology | 18 " | |
| Food hygiene | 27 " | |
| Dietetics | 36 " | |
| Health education I | 27 " | |
| Administration of dietetic services in institutions | 9 " | |
| Preparation of reports | 14 " | 347 hours |

Third period (August 2 - October 2)

| | | |
|---|---|---|
| Hospital practice | 120 hours | |
| Practice in other institutions | 20 " | |
| Practice in surveying | 48 " | |
| Seminar on nutrition | 36 " | |
| Round-table discussions in practice | 9 " | |
| Agricultural education | 45 " | |
| Health education II | 23 " | |
| Administration of nutrition programmes | 17 " | |
| Library | 13 " | 323 hours |

Fourth period (October 4 - December 14)

| | |
|---|---|
| Field work and discussion on field work | 10 weeks |
| Programmes at the local level | 2 " |
| Programmes at the regional level | 4 " |
| Preparation of reports and final round-table discussions | 4 " |

ANNEX 7

MEXICO

## PROGRAMME OF THE COURSE FOR SANITARY TECHNICIANS

Duration: One year

### First period (February 18 - May 31, 1965)

| | | |
|---|---|---|
| Administration of sanitation | 32 hours | |
| National economic problems | 20 " | |
| Behavioral Sciences | 76 " | |
| Social anthropology, sociology, evolutionary psychology, social psychology, panel discussions | 64 " | |
| Environmental sanitation I | 26 " | |
| Statistics | 38 " | |
| Epidemiology I | 12 " | |
| Correspondence | 38 " | |
| Technical drawing | 78 " | |
| Field observations | 44 " | |
| Workshops | 38 " | |
| Library | 26 " | 492 hours |
| Round table discussions | | |

### Second period (June 1 - July 31)

| | | |
|---|---|---|
| Health education I | 26 hours | |
| Environmental sanitation II | 34 " | |
| Sanitation of food | 26 " | |
| Epidemiology II | 8 " | |
| Statistics II | 8 " | |
| Field work | 198 " | |
| Workshops | 36 " | |
| Discussion on field work | 8 " | 344 hours |

### Thid period (August 2 - October 2)

| | | |
|---|---|---|
| Environmental sanitation III | 34 hours | |
| Occupational health and safety | 17 " | |
| Education of food handlers | 17 " | |
| Field work | 233 " | |
| Workshops | 36 " | 337 hours |

### Fourth period (October 3 - December 14)

| | |
|---|---|
| Rural and urban field work | 7 weeks |
| Discussions on field work in the Schools and final examinations | 3 weeks |

ANNEX 8

MEXICO

PROGRAMME OF THE COURSE FOR SANITARY TECHNICIANS

Duration: Three months

| | Theory | Practice |
|---|---|---|
| Orientation concerning the course | 4 | - |
| Introduction to Public Health | 6 | - |
| Control of infectious diseases | 11 | 6 |
| Environmental sanitation | 115 | 79 |
| Organization and development of the community | 17 | 8 |
| Health education | 8 | 4 |
| Field work | - | 202 |
| Round table discussions | 24 | - |
| Evaluation | 5 | - |
| Total | 190 | 299 |

ANNEX 9

MEXICO

PROGRAMME OF THE COURSE FOR TECHNICIANS IN HEALTH STATISTICS

Duration: Ten months

| | | |
|---|---|---|
| **First period (February 18 - May 31** | | |
| Health administration | 26 hours | |
| Epidemiology | 26 " | |
| Preparation of reports | 12 " | |
| Statistical methodology I | 124 " | |
| Population statistics | 60 " | |
| Vital statistics I | 59 " | |
| Drawing | 50 " | |
| Economics | 20 " | |
| Field work I | 55 " | |
| Library | 32 " | 464 hours |
| **Second period (June 1 - July 31)** | | |
| Statistical methodology II | 82 hours | |
| Vital statistics | 66 " | |
| Filing and clinical archives | 20 " | |
| Documentation and information on auxiliary health services | 21 " | |
| Morbidity statistics | 45 " | |
| Field work II | 70 " | |
| Library | 40 " | 344 hours |
| **Third period (August 2 - October 2)** | | |
| Methodology III | 76 hours | |
| Statistics of means and services | 110 " | |
| Organization of statistical services | 28 " | |
| Industrial health statistics | 14 " | |
| Fundamentals of economic statistics | 10 " | |
| Field work III | 68 " | |
| Library | 31 " | 337 hours |
| **Fourth period (October 4 - December 14)** | | |
| Statistics in programmes | 42 hours | |
| Field work IV | 236 " | |
| Discussion on reports and round table discussion | 60 " | |
| Library | 48 " | 386 hours |

ANNEX 10

PERU

PROGRAMME OF THE COURSE FOR NURSING AUXILIARIES

Duration: Six months

| Content | Number of hours | | | |
|---|---|---|---|---|
| | Theory | Work | Practice | Total |
| **Theory** | | | | |
| Introduction to the programme | 2 | - | 3 | 5 |
| Introduction to Public Health | 14 | - | 8 | 22 |
| Introduction to nursing | 4 | - | 7 | 11 |
| Community health | 30 | 16 | 22 | 68 |
| The person as an individual | 10 | 6 | - | 16 |
| Maternity and child health | 138 | 41 | 46 | 225 |
| Care of the adult | 98 | 28 | 31 | 157 |
| Total | 296 | 85 | 123 | 504 |
| **Practice** | | | | |
| Orientation (one week) | - | - | 39 | 39 |
| The Health Centre: | | | | |
| Hygiene of the adult (1 week) | - | - | 39 | 39 |
| Mother and child (2 weeks) | - | - | 78 | 78 |
| Control of infectious diseases (2 weeks) | - | - | 78 | 78 |
| Hospital: | | | | |
| Outpatient (1 week) | - | - | 39 | 39 |
| Surgery (2 weeks) | - | - | 78 | 78 |
| Obstetrics (2 weeks) | - | - | 78 | 78 |
| Pediatrics (2 weeks) | - | - | 78 | 78 |
| Total | - | - | 507 | 507 |
| Grand total | 296 | 85 | 630 | 1,011 |

ANNEX 11

PERU

## PROGRAMME OF THE COURSE FOR SANITARY TECHNICIANS

Duration: Six months

| Content | | Number of hours |
|---|---|---|
| **Theory** | | |
| Mathematics - repetition | | 27 |
| Topography and drawing | | 39 |
| Material and techniques of construction | | 24 |
| Hydraulics | | 12 |
| Statistics | | 26 |
| Microbiology | | 40 |
| Epidemiology and control of infectious diseases | | 37 |
| Health administration and legislation | | 23 |
| Health education and social sciences | | 39 |
| Environmental sanitation: | | |
| Water conditioning | 46 | |
| Disposal of excreta | 44 | |
| Food hygiene | 38 | |
| Sewage disposal | 10 | |
| Control of vectors (insects) | 19 | |
| Control of rodents | 11 | |
| Control of public establishments | 12 | |
| Control of industrial establishments and workshops | 7 | |
| Control of housing and plumbing | 19 | |
| Control of schools | 10 | |
| Control of bathing ponds, public baths, and beaches | 12 | |
| Emergencies and disasters | 4 | 232 |
| Personal hygiene | | 4 |
| First aid | | 2 |
| Professional ethics | | 5 |
| | | 510 |

**Practice**

1. Observations and orientation

In this period the candidate has the opportunity to observe the work of the sanitary inspector of a Health Unit in order to get acquainted with different working techniques he uses in the carrying out of his functions.

2. Field work

In this period the candidate gets in touch with the community by applying the knowledge gained in the carrying out of basic sanitation work according to the following programme:

a. Preparatory work:
- Identification of the problem and preliminary study.
- Selection of a basic sanitation project and its presentation to the Technical Committee of the area or the Unit organizing the Course.
- Drawing up of the working plan.
- Presentation of the working plan to the Technical Committee of the area or the Unit organizing the Course, as well as to other professional and technical personnel, so that the plan may be included into the activity programmes.

b. Development of the plan:
- Survey on topographic, sanitation, demographic, and social aspects of the community selected.
- Survey on housing.
- Interview of the community key persons.
- Drawing up of outlines and plans.
- Formation of the Health Committee in the community.
- Carrying out of work.
- Report on the work done and discussion with professional and technical personnel of the area, the executive staff of the Course, and the students.
- Evaluation.

Field work is carried out in groups to which the tasks described are given and they carry it out under the supervision of the sanitary inspector assigned by the Technical Committee of the area, or the Health Unit responsible for the Course, or the engineer in charge of the Course.

ANNEX 12

PERU

PROGRAMME OF THE COURSE IN STATISTICS FOR TECHNICIANS

Duration: Six months

First period:

The first period is devoted to the repetition of fundamentals of mathematics and the basic concepts of Public Health. The subjects are as follows:

| | |
|---|---|
| Mathematics | 124 hours |
| Medical terminology | 24 " |
| Administration and documentation and archives | 64 " |
| Infectious diseases | 16 " |
| Classification of the causes of death | 32 " |

Second period:

During this period the students are given fundamental knowledge of Public Health enabling them to study and tackle most common administrative problems, including some other specific subjects. The subjects taught are:

| | |
|---|---|
| General statistics | 106 hours |
| Introduction to Public Health | 24 " |
| Elements of finance techniques | 16 " |
| Health education | 48 " |
| Demography I | 32 " |

Third period:

Training in some specific subjects is continued, including some notions of planning. The subjects taught are:

| | |
|---|---|
| Health statistics | 80 hours |
| Demography II | 24 " |
| Planning | 16 " |
| Hospital statistics | 70 " |

Fourth period:

The student is given the opportunity to put the knowledge acquired into practice. He works at the institutions of statistics and makes visits. His observations are discussed at the conferences organized for the purpose.

ANNEX 13

VENEZUELA

PROGRAMME OF THE COURSE FOR NURSING AUXILIARIES

Duration: One year

| Content | Hours per week |
|---|---|
| Care of the healthy and sick child | 1 |
| Ethics and history of hospitals | 1 |
| Obstetrics and gynecology | 1 |
| Pathology | 1 |
| Public Health | 1 |
| Medical sciences, (Internal - Surgery) | 2 |
| Pharmacology | 1 |
| Chronic diseases | 1 |
| Nursing | 15 |
| Spanish language | 5 |
| Mathematics | 4 |
| Biological sciences | 6 |
| Social education | 1 |
| Total | 40 hours |

ANNEX 14

VENEZUELA

PROGRAMME OF THE COURSE FOR HOSPITAL AUXILIARIES

| Content | Hours |
|---|---|
| Nursing | 80 hours of demonstration and practical work |
| Care of the healthy and sick child | 16 hours of theory and practice |
| Obstetrics and gynecology | 15 " " " " " |
| Public Health | 10 " " " " " |
| Fundamentals of pharmacology and clinical medicine | 16 " " " " " |
| Professional ethics | 16 " " " |
| Fundamentals of Anatomy and Physiology | 16 " " " " " |
| First aid | 16 " " " " " |
| Fundamentals of medical Sciences | 8 " " " |
| | 194 hours |

In addition to 194 hours of demonstrations and lectures held in lecture rooms, there are 480 hours of practical work carried out in clinics.

ANNEX 15

VENEZUELA

# INSTRUCTIONS ON HEALTH PROTECTION IN DISPERSED RURAL POPULATIONS BY NON-PROFESSIONAL PERSONNEL

by Dr. Emilio Lopez Vidal, Caracas 1964

Requirements for "simplified medical services"

Chapter I:
- Health conditions in dispersed rural populations
- Socio-cultural and economic factors
- Actual means for the care of dispersed rural population
- Actual condition of rural auxiliaries and their best utilization
- General working plan. Its organization
- Supervision and evaluation
- Problems of secluded areas

Chapter II:
- Concepts of the healthy individual
- Concepts of the sick individual. Causes.
- Infection due to living organisms
- Forms of transmission and infection:
  - Tetanus bacillus
  - Ancylostoma
  - Virus of rabies
- Conduct of the healthy and infected person. Immunity.
- Conditions favouring the development of disease
- Control of infectious diseases:
  - Actions against the source of infection
  - Actions against the ways of transmission
  - Protection of the healthy. Vaccination.
- Animals dangerous to man because they can transfer their disease to man

Chapter III:
- First aid in acute diseases
- Pneumonia:
  - In children
  - In adults
- Diarrhea in children
- Dysentery
- Influenza and common cold
- Angina (throat)
- Measles
- Pertusis
- Yellow fever
- Rabies

- Infectious diseases of the eye
  - Supuration of the eye in the newborn
  - Conjunctivitis
  - Sties
  - Foreign bodies in the eye
- Diseases of the skin
  - Impetigo
  - Effect of plants, powdered soap, soap grains, and soap flakes on the skin
- First aid in chronic diseases
- Intestinal parasites
  - Privies
  - Sewage
- Tuberculosis
- Malaria
- Leprosy
- Chagas Disease
- Asthma
- Syphilis
- Gonorrhea
- Buba (mucocutaneous leishmaniasis)
- Carate (a form of treponematosis)
- Leishmaniasis

Chapter IV:

- Anemia and malnutrition

Chapter V:

- First aid in accidents
- Detention of hemorrhage
- Protection of wounds
- Prevention of nervous disorders
- Wounds of the Thorax
- Wounds of the abdomen
- Wounds of the mandibula
- Burns
- Fractures in general
- Fractures of the leg
- Fractures of the hip
- Fractures of the arm and wrist
- Fractures of the neck
- Foreign bodies:
  - in the eye
  - in the throat
  - in the nose
  - in the ear
- Fainting
- Effect of heat or insulation
- Strangulation
- Transportation of the sick and wounded
- Bite of poisonous snakes
- First aid in snake bites
- Stings of the ray, the scorpion, and the spider

(Annex 15 continuation)

Chapter VI:
- First aid in pregnancy
- During labour
- After labour
- Care of the newborn
  Premature children
  Care of the child: food, hygiene, clothes
- Control of midwives

Chapter VII:
- Recording of births
- Recording of deaths
- Recording of first aid:
  given to children with penumonia
  given to children with diarrhea
- Recording of medical help given in the field or hospital
- Survey on the prevalence of leishmaniasis
- Preparation of forms for recording first aid
- Recording of vaccination
- Monthly reports
- Annual reports

Chapter VIII:
- Health education
- Personal hygiene
- Food hygiene
- Vaccination
- Importance of cleanliness:
  flies, sewage, and privies

ANNEX 16

VENEZUELA

PROGRAMME OF THE COURSE FOR INSPECTORS OF RURAL AQUEDUCTS
at the School of Malariology and Environmental Sanitation

Duration: Five months

| Content | Number of hours | | |
|---|---|---|---|
| | Theory | Practice | Total |
| Arithmetic | 28 | 42 | 70 |
| Geometry | 8 | 17 | 25 |
| Spanish | 20 | - | 20 |
| Sanitation | 14 | - | 14 |
| Operations and maintenance | 27 | - | 27 |
| Accounts | 38 | 46 | 84 |
| Organization of the community | 46 | 60 | 106 |
| Health administration | 17 | - | 17 |
| Organization of administrative units of rural aqueducts | 19 | - | 19 |
| | 217 | 165 | 382 |

ANNEX 17

VENEZUELA

PROGRAMME OF THE COURSE FOR SANITARY INSPECTORS

At the School of Public Health

Duration: 10 months

| Content | Number of hours | |
|---|---|---|
| | Theory | Practice |
| Administration | 25 | 10 |
| Statistics | 20 | 40 |
| Social sciences and Health education | 60 | 60 |
| Drawing | 10 | 28 |
| Epidemiology | 25 | 8 |
| Photography | 26 | 18 |
| Food hygiene | 100 | 160 |
| Industrial hygiene | 10 | 20 |
| Health legislation | 30 | 6 |
| Microbiology and parasitology | 40 | 70 |
| Nutrition | 20 | 19 |
| First aid | | 30 |
| Sanitation | 100 | 60 |
| Zoonoses | 25 | 40 |
| Special subjects | | 94 |
| Conferences | 30 | - |
| Group practical work | | 220 |
| Practical training in individual departments | | 100 |
| Final examinations | | 20 |
| | 521 | 1,003 |

Total..... 1,524 hours

VENEZUELA ANNEX 18

PROGRAMME OF THE COURSE FOR MEDICAL RECORD LIBRARIANS

Duration: Ten months

| First period: | Hours |
|---|---|
| Hospital organization | 30 |
| Medical terminology | 86 |
| Statistical methods | 30 |
| Elements of preventive medicine | 58 |
| Elements of medical sciences | 58 |
| Elements of human anatomy | 29 |
| Elements of physiology | 50 |
| Hospital statistics | 30 |
| International statistical classification | 29 |
| Library | 40 |
| Organization of archives | 43 |
| History of medicine | 30 |
| Practical work in the Statistical department (statistics of morbidity, admission and discharge of patients, diagnostic and therapeutic services) and in the secretariat | 60 |
| Practice in the army hospital | 18 |
| Practice in the institute "Luis Razetti" | 18 |
| Practice in health education | 16 |
| | 625 |

Second period:

This period lasts 2 and a half months. It is devoted to hospital administration and is carried out either in hospitals or institutions designed for the purpose. This practical training covers:

a) Department of Admission
b) Outpatient Department
c) Secretariat
d) Card index of patients
e) Card index of diseases and operations (codification)
f) Card index of physicians
g) Quantitative analyses, filing of history cases
h) Filing of clinical histories
i) Recording of deaths, biopsies, autopsies, incomplete histories, etc.
j) Committee of the History of Medicine
k) Statistical services: utilization, diagnosis and therapy, births, operations, etc.
l) Analysis of the diary of hospital services (the greenbook)
m) Other details in the Department of the History of Medicine
n) X-ray department, Blood Bank, laboratories and other hospital departments.