

*directing council*



PAN AMERICAN  
HEALTH  
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WORLD  
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Topic 31: EDUCATIONAL NEEDS FOR HEALTH PERSONNEL IN THE AMERICAS

Pursuant to instructions contained in Resolution XXIV of the XII meeting of the Directing Council, the Director has intensified his efforts to find extra-budgetary funds in order to expand the educational program of the Organization.

Consideration was given to long-term financing of education of health personnel through the inclusion in the Act of Bogotá of a section dealing with "Measures for the Improvement of Public Health" which specifically refers to the training of professional and auxiliary personnel for health programs.

Estimates have been made of needs of each category of health worker and of costs of their preparation. These have been drawn up in two principal documents for presentation to different groups:

1. A brochure entitled "Improvement of Education for Health and Social Development in Latin America; proposal for a special fund for the Pan American Health Organization", for presentation to Foundations; and
2. A pamphlet entitled, "Facts on Health Problems; health in relation to social improvement and economic development in the Americas", with a section on Education and Training. This was distributed in the Special Meeting of the Inter-American Economic and Social Council at the Ministerial Level, in Punta del Este, Uruguay. At this same Meeting, the Director pointed out the acute shortage of physicians and other professional health workers as well as of auxiliary personnel for health activities in the Americas. It was suggested that "if it is borne in mind that health functions have become diversified as progress is made, a long-range program would consist in defining the requirements of each profession" and the establishment of the necessary teaching institutions. "The immediate action plan must make provision for the training of those technicians that are essential for programs now under way and for the projects to deal with problems that affect large groups of people. Special attention must be given to auxiliary personnel".

These documents are available for the perusal of health authorities in all countries of Latin America, and attention is called to their usefulness in planning of national health programs. The fact that more detailed figures are not given on shortages and needs of certain types of personnel points to the necessity of studies in each country to determine more clearly the functions for which such personnel will be utilized. Only after this has been done can schools and courses be oriented to preparing adequately the various types of personnel in the numbers needed. This applies generally to all health workers, but in a more specific manner to the training of auxiliary personnel.

An estimate of present needs based on minimum standards for each category of health worker reveals substantial shortages (Table I) which it will take years to overcome. In analyzing the possibility of closing the gap between the numbers of existing personnel and recommended figures, there is a remarkable similarity of problems faced by all professional groups. The most outstanding are:

- a) difficulty of recruiting candidates for the health services because of more attractive opportunities in other fields of activity;
- b) limited physical facilities for preparation of personnel;
- c) lack of adequate teaching staff;
- d) insufficient numbers of graduates of secondary schools who might continue into professional education.

Of these problems the most fundamental is the first relating to the assurance of enough budgeted full-time posts in health services to absorb newly graduated professionals at salaries which will attract them from other careers in private practice or profit-seeking organizations.

The Pan American Health Organization has been collaborating with national governments in searching for solutions to these problems. The first in importance has been the move to stimulate the training of auxiliary personnel for sanitary engineering and nursing, thus making available an army of less expensively educated workers who under the guidance of more highly skilled practitioners can carry on the bulk of activities in the health services. This program can be greatly expanded in every country, and the most direct way the Organization can continue to cooperate in the movement is through the preparation of additional instructors for each group.

At the 43rd meeting of the Executive Committee of the Directing Council of the Organization, special attention was called to the training of sanitary engineers and auxiliary personnel. In its Resolution XIX, the Director was requested "to explore ways by which assistance

can be given to Member Governments for the establishment, strengthening and expansion of the training of sanitary engineers and auxiliary personnel in Latin America", and "to continue to investigate, particularly with the United Nations Special Funds", the means for assisting Governments to carry this out.

A special report (Annex I) which fulfills this request illustrates in detail the type of program which might be evolved for each category of health worker.

However, basic to any realistic approach to the problems facing any country in its attempt to accelerate the training of health personnel is an analysis and appraisal of the numbers of the different categories of personnel that a country is able to absorb into its budget over a given period. This, as opposed to the real "needs" which would be the ideal numbers required, must be considered. There is evidence to support the assertion that in the field of nursing at least four countries are now preparing more professional personnel than they are able or willing to employ and, as a result, they are in the position of underwriting the cost of training personnel for other countries, since the unemployed tend to emigrate to localities where work is available. It cannot be said that a country "needs" many more professional health workers and that plans be made to provide these, if no way is opened for their employment.

In addition to stimulating the training of auxiliary personnel and cooperating in an assessment of "absorption possibilities" for health workers, the Organization can further collaborate with national governments in:

- a) strengthening of educational institutions, whether on the basic or advanced professional levels;
- b) organizing short training courses for professional as well as auxiliary personnel to supplement their previous training;
- c) expanding its fellowship program;
- d) assisting health services to expand their facilities for the clinical or field training of physicians and other professions, as well as sub-professional personnel; and
- e) developing in-service training programs for existing health workers.

Supportive services of any educational program are the library and the publication of texts, journals or pamphlets. These services in the field of health are only just beginning to develop in Latin America but the Pan American Health Organization collaborates as much as possible through the publication of literature on health in Spanish and

especially its Boletín, and has plans to improve the training of medical librarians. Were funds available these programs would be greatly intensified.

The extent to which the Organization is able to cooperate financially in the continent-wide program in relation to estimated needs for funds may also be seen in Table I.

The above summary brings into sharp focus two main areas of need which involve greatly increased expenditures of funds:

a) the need for the Ministries of Health to employ ever larger numbers of professional and auxiliary personnel to carry out the health services to the public which are their unique responsibility; and

b) the need for large expenditures of funds for the preparation of this personnel.

Custom has placed a double burden on one agency of the Government which should rightfully be shared with other agencies expressly created by national governments to carry on the education of their people. The time seems ripe for negotiations between the Ministries of Health and those of Education to discuss this question, and to develop a mutual program of collaboration among them and the university authorities to approach the problem of financing the preparation of health personnel.

TABLE I

PERSONNEL NEEDS FOR HEALTH SERVICES IN LATIN AMERICA

	Exist *	Additional * Needed	Funds being re- quested for 10 yr. program	Amount reserved in PASB/WHO/TA budget(1962) for this training
Physicians	100,000	103,000	24,000,000	144,949
** Nurses	37,000	23,000	8,000,000	402,370
** Nsg. Aux.	94,000	169,000		
Sanitary Engineers	2,000	4,000	10,900,000	130,869
Sanitarians	7,500	5,500		
Dentists	38,000	62,000	2,000,000	40,497
Veterinarians	4,000	16,000		22,500
Others				1,200,640
TOTAL				1,941,825 ***

\* Facts on Health Problems. PASB.

\*\* It is considered that the most critical shortage in health personnel in the Americas is that of well prepared nurses and nursing auxiliaries because only a small proportion of existing personnel have been prepared for the functions with which they are entrusted.

\*\*\* This represents 44.7% of the total PASB/WHO/TA budget.

TABLE II

ESTIMATED COST OF PREPARATION AND EMPLOYMENT OF  
ADDITIONAL NURSING PERSONNEL NEEDED IN LATIN AMERICA

	Additional number needed	Approximate Cost of Prepa- ration	Approximate Cost of Employ- ing this per- sonnel (annual)
Nurses	23,000	57,500,000	41,000,000
Nsg. Aux.	169,000	33,800,000	169,000,000

EDUCATION AND TRAINING OF PERSONNEL  
FOR PROGRAMS OF ENVIRONMENTAL SANITATION

With the attention and priority being given by the Act of Bogotá and by banks to projects concerned with water, sewage, sanitation, and housing, it becomes immediately apparent that to properly avail themselves of funds, to convert such funds to construction and use by the people, and to insure proper public health safeguards, governments must immediately act to increase the number and quality of the appropriate staff. In Ministries of Health this will mean sanitary engineers, sanitary inspectors, and health educators. In other ministries, municipalities and water agencies this will mean sanitary engineers, civil engineers, construction workers, technicians, administrators, accountants, water works managers, and operators. In Ministries of Health, engineers and inspectors should be consolidated in a Division of Environmental Sanitation, headed by a competent sanitary engineer.

The field health organizations, based on whatever national health plan exists, will require sanitary engineers and sanitary inspectors in sufficient numbers and so located as to permit direct and frequent service to the municipalities and rural areas under their supervision.

The expanded programs of water, sewage, and sanitation will require that the Ministries of Health increase their activities in the following:

- A. Assistance to Municipalities and the National Water and Sewer Agencies in the stimulation of projects for construction.
- B. Review and investigation of all projects and plans to assure compliance with public health requirements.
- C. Assistance to rural communities and areas in the development of projects of rural water supply, excreta disposal, and sanitation. Preparation of such projects for procurement of funds both locally and elsewhere, and responsibility for construction.
- D. Provision of health education and public information programs to assure community support and participation in all water, sewer, and general sanitation projects, rural and urban.
- E. Assistance to and cooperation with the engineers and officials of other ministries interested in water, sewage, municipal planning, etc., to insure maximum utilization of resources and proper public health safeguards.
- F. Assistance to universities, technical schools, colleges, and special courses in the development of engineers, sanitary inspectors, technicians, and other auxiliaries in number and properly prepared to meet the national needs, year by year.

G. Expansion of activities of the Ministry of Health in preparation of sanitary engineers and sanitation auxiliaries for not only the health Ministry but also for all ministries and agencies using or needing this type of personnel.

Present and Future Requirements for Environmental Sanitation Personnel - Latin America

An estimate of the number of sanitary engineers required year by year and for the next 10 years, and a similar estimate of requirements for auxiliaries, must be primarily based on three considerations. These are:

1. The extent to which the Ministry of Health proposes to enter into, and carry out a national program of environmental sanitation.
2. The present number of trained personnel in the country and the extent to which the government wishes to employ outside engineers and auxiliary personnel.
3. The extent and rate at which the government wishes to enter into a national program of municipal and rural water, sewage, and sanitation development and improvement and the rate at which it secures funds to implement such projects.

Present Situation

- a) Ministries of Health - An estimate of the number of personnel now working in environmental sanitation with Ministries of Health with an estimate of immediate needs follows:

	<u>Now</u>	<u>Needed</u>
Sanitary engineers	300	650*
Sanitarians	7,500	13,000

\* It should be noted that the number needed is based on the assumption that the Ministry of Health is not itself engaged in actual construction work and is only carrying out advisory, review, and inspection services. At present many Health Ministries are doing extensive work in water, sewage, and sanitation construction. Therefore, although in some instances the present need of Ministries for sanitation personnel can be met by doubling the numbers, this will be true only if such Ministries do not increase their activity in the fields of construction. Where construction work in rural or urban water, sewer, housing and general sanitation is increased, these numbers must be again increased.



b) Other Ministries - Estimates of present numbers of personnel now employed in design, construction, and operation of water works are unreliable. It can be stated with a reasonable degree of accuracy that in Latin America there are today about 1,700 engineers (sanitary and civil) engaged in the design, administration, or construction of sanitary works in Ministries other than Health and in private practice. It also can be stated that if the program of water and sewer construction develops to any appreciable extent (a situation which seems certain) and if the governments are to attempt as far as possible to do the engineering and construction work through utilization of local engineers, contractors, and labor, there will have to be an immediate program to increase this personnel resource in every country.

Total Sanitary Engineer Requirements

	<u>Present</u>	<u>Immediate Needed</u>	<u>Further possible need*</u>
Ministries of Health	300	650	1,200
Ministries of Works, Municipalities, and Water and Sewer Agencies	1,700	3,400	

It will be seen that the immediate minimum need for sanitary engineers for all purposes is about double the present number. Present training facilities for all Latin America are turning out sanitary engineers at the rate of about 100 per year. There is a need for 400 per year on an average for the next 20 years and this ignores the immediate urgent demand for work about to be initiated.

Because personnel must be made available at once in many countries and because each year increasing numbers of young engineers and auxiliaries must be turned out, the PASB has carried out during the past year, activities directed at helping countries to solve the problem. These have been as follows:

Seminar on Teaching of Sanitary Engineering in Engineering Schools

This Seminar was held in Lima during July 1961 with the view of exploring ways and means for improving curricula, staff, and facilities; increasing the number of sanitary engineering graduates; and to the approaches which can be used to generally strengthen the Schools.

\* Needed if Ministries of Health themselves engage in extensive water and sewer construction programs for rural and/or urban areas.

## Development of Project Proposals for the UN Special Fund

Two meetings have been held with the UN Special Fund Office in New York to determine the type of assistance which can be anticipated for projects concerned with training of sanitary engineers and auxiliaries. Information obtained has been transmitted to the PASB zone and project personnel for assistance to governments. Projects have been drawn up by two universities and submitted to the Fund for consideration. Every effort is being made to assist governments that have an interest in developing such projects.

### Short Courses for Engineers

Courses, in the legal, financial, and administrative aspects of water supply were sponsored jointly with the Government of Mexico and the Government of Brazil for Middle and South America respectively. A total of 110 engineers from nearly every country of the region attended and received basic information on those aspects of water supply which are essential for planning and development of sound water projects.

Fellowships were provided for attendance at the Ground Water Development Courses given by the School of Public Health, University of Minnesota, and by the Government of Costa Rica in San José.

### Water Supply Design Course

A pilot course on water supply design is being developed which will offer to advanced engineers a three or four month concentrated refresher course. Based on this experience, the course will possibly be developed as a semi-permanent facility for rapid development of design and construction engineers.

### Water Supply Management and Administration

With the emphasis being placed on sound management of water utilities, the need for competent administrative personnel is rapidly increasing. Exploratory activities have been carried out to determine the available resources for providing concentrated instruction to selected personnel in this field.

### Schools of Public Health

Fellowships for engineers and sanitary inspectors have been provided to Schools of Public Health and provision made for special assistance to these Schools in Latin America when requested. Such assistance will be continued and whenever possible and requested, will be increased.

Sanitary Inspector Courses

Courses for sanitary inspectors are now being conducted in nearly every country of the region. In many instances these courses are functioning as part of national integrated health projects. Advanced training for sanitary inspectors is being provided in Chile and Brazil to which selected personnel are sent on fellowships from the Organization.

Annual Additional Training Requirements for PASB for the Next 10 Years

The following is an estimate of costs for a PASB program which could be added to present efforts and which would begin to provide the personnel needed to carry out the new program of governments in environmental sanitation:

	<u>Annual Cost for 10 Years</u>
Support to Schools of Engineering and Public Health	\$ 300,000
Fellowships for engineers	400,000
Fellowships for water administrators and administrative auxiliaries	200,000
Courses for sanitation auxiliaries	90,000
Short Courses	100,000
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