

REGIONAL ADVISORY COMMITTEE ON HEALTH STATISTICS

Second Report

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PAN AMERICAN HEALTH ORGANIZATION
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Regional Office of the
WORLD HEALTH ORGANIZATION

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REGIONAL ADVISORY COMMITTEE ON HEALTH STATISTICS

Second Report

I. Introduction

The Regional Advisory Committee on Health Statistics met in Washington, D. C., from 11 to 13 June 1962. At the opening session, Dr. Abraham Horwitz, Director of the Pan American Sanitary Bureau, welcomed the members and described the fields in which recommendations of the first meeting in 1960 had been implemented. Three specific activities supported by the Committee were described.

The Committee endorsed the recommendations of the South American Conference on the Teaching of Medical Statistics and, in accordance with the program recommended, the Professor of Statistics of the School of Hygiene and Public Health in São Paulo developed plans for short courses in 1961 and 1962 which are financed by a research training grant from the National Institutes of Health of the U. S. Public Health Service. These courses stimulate study of medical statistics and encourage utilization of statistical methods in research.

A second important development was the initiation of regional activities directed toward the preparation of the 1965 Revision of the International Classification of Diseases which is the responsibility of the World Health Organization. As a result, the first meeting of the Regional Advisory Committee on Classification was held from 20 to 24 February 1961 and subsequently the proposed classifications of nutritional, diarrheal, and infectious diseases have been tried out in several countries. The second meeting of this Regional Advisory Committee will be on 14 June 1962.

A third accomplishment is the initiation of the research project, Regional Development of Epidemiological Studies, the Inter-American Investigation of Mortality, which will be carried out from 1961 to 1965. In this research program, for which the National Institutes of Health has provided a grant, data will be collected in 10 cities of the Americas with special consideration of cancer and cardiovascular diseases. Records relating to around 40,000 deaths of adults will be obtained for analysis.

The Director stated that the Organization is now faced with new problems, and the recommendations of the Committee are requested for planning for the next decade. The principal objectives of this second meeting of the Regional Advisory Committee on Health Statistics are to obtain advice on the role of statisticians in planning for the next ten years including expansion of education and training programs, and to prepare recommendations for implementation of a strong program to improve basic statistical data and to extend the research program.

II. Planning for the Next Decade

A. Role of Statistics in Achievement of Goals Set Forth in the Charter of Punta del Este

The resolutions of the Special Meeting of the Inter-American Economic and Social Council at the Ministerial Level, Punta del Este, Uruguay,¹ recognize the need for accelerating economic and social development of Latin American countries so that they may achieve maximum levels of well-being. The important elements of national development programs, including health, are indicated.

Resolution A.2 of the Alliance for Progress indicates the need for planning of health programs for progress in the next

decade, duly integrated into national economic and social programs. Planning requires statistical data both for definition of health problems and resources and for evaluation of utilization of resources and progress toward objectives. The Charter of Punta del Este specifically recommends the improvement of collection and study of vital and health statistics "as a basis for the formulation and evaluation of national health programs." Consequently, trained statisticians with proper orientation to objectives and techniques of planning activities are essential to health planning.

B. Methods of Assuring Maximum Contribution of Statisticians

After full consideration of the role of statistics to achieve the goals established for the next decade and to insure adequate use of statistics in planning and in evaluating progress, the Committee recommends that the Organization carry out the following five activities:

1. Organize conferences on health planning for statisticians with important positions in health services. In these conferences the role of statistics in the health planning process should be delineated. Emphasis would also be placed on production and utilization of data required. Other professional personnel, such as health administrators, engineers, etc., should participate in these conferences for mutual understanding of the team approach in planning. Such conferences are necessary for personnel of all Latin American countries. In connection with such a conference the Organization was asked to promote with other agencies a meeting of National Committees on Vital and Health Statistics.

2. Organize short courses on health planning for statisticians, (six weeks to two months) similar to those planned for administrators responsible for national planning programs.

Adequate emphasis would be placed on the statistical aspects and on the role of the statistician in the planning process. In order to facilitate coordination with professional personnel involved in planning for social and economic development, the courses would include other specialists. The statistical consultants of the Organization should participate in courses on health planning.

3. Augment staff rendering statistical consultant services to place special emphasis on their important contributions in the field of health planning.

4. Develop experimental areas for adequate trial of methods and procedures designed to develop the kinds of data suitable for health planning. In order to overcome some of the deficiencies in data for planning, the Committee proposes the following five areas:

a. Projects in urban and rural areas for development of vital statistics (for rapid improvement of quality as well as of coverage).

b. Program for development of essential data for urban planning.

c. Project for utilization of existing morbidity data for definition of health problems in comprehensive programs, including preventive and curative medicine.

d. Demonstration projects on medical records and statistics in hospitals, to serve as training centers for hospital personnel.

e. Projects for collection and use of service statistics, due in part to the growing needs of planning for manpower, in specific fields.

5. Develop Organizational goals in the field of statistics for the 10-year period.

III. Expanded Education and Training Program

An education and training program embracing health, medical, and hospital statistics for personnel working at the professional, technical, and auxiliary levels, is fundamental in providing essential data for sound planning and for evaluation of programs. Use of the statistical method is essential in this process and must be taught not only for utilization of techniques and procedures but also for full understanding of the reasoning and logical precepts in meeting the needs of a community or nation in accordance with resources in a planned economy.

A. Development of Programs

Several educational programs have been carried on with increasing success in schools of public health and medicine in Latin America. There have been many short special courses principally to stimulate interest in specific fields. For example, in 1960 a course on statistical methods applied to biological evaluation was given in Chile by the faculties of the Department of Pharmacology of the School of Medicine, the Bacteriological Institute, and the School of Public Health. Consultants of the Organization have provided instruction in medical statistics in Argentina, Brazil, Chile and several other countries in which there was interest in applying statistical methods and in more intensive instruction. The School of Public Health in Mexico has provided 5- or 6-month courses for statisticians, for services in their states.

Since 1944 the School of Public Health in Santiago, Chile, has been conducting courses on applied statistics. Beginning in 1953, an international training program in vital and health

statistics has been conducted yearly by the faculty of this school; 293 students from 20 countries have received instruction during the period 1953-1961. The 1961-1962 course offered specialization in biostatistics for physicians and other university graduates who had taken the principal course, "Curso de Licenciados en Salubridad para Medicos y otros Profesionales."

The South American Conference on the Teaching of Medical Statistics, in 1958, recommended the development of courses on medical statistics in Latin America. In 1961 the first course in statistics applied to medical sciences was given by the School of Hygiene and Public Health of the University of São Paulo. Fifty-two students, from faculties of medical, dental, veterinary medical schools, and health services in 12 Latin American countries, attended the six-week course. Many of these students are being invited to an additional six-week advanced course in 1962. A course of instruction in theory of probability and a second elementary six-week course will also be given in São Paulo in 1962. These courses provide instruction which will enable faculty members to teach biostatistics, to give some consultative services on statistical design of medical research, and to appreciate the value of vital and health statistics for health services.

In 1961 the Second Conference of Directors of Schools of Public Health in Latin America² gave special attention to the teaching of biostatistics and the role of statistics in activities related to health, and made recommendations for the program of activities of departments of statistics. Differentiation was made regarding the preparation of statistical personnel of three levels:

1. Professional level, characterized by basic university preparation.

2. Technicians in health statistics, without university preparation but with responsibility in health statistics (hospital, vital statistics, communicable diseases, etc.).

3. Auxiliary personnel.

It was recognized that not all schools of public health would prepare statisticians of professional level; preparation of the second group, technicians in health statistics, would be the responsibility of schools of public health; training of auxiliary personnel could be accomplished by health services with assistance of schools of public health.

B. Plans for the Future

Considering the satisfactory results achieved by centers in Santiago, São Paulo, and elsewhere, the Committee strongly recommends that resources be obtained not only to support and improve programs previously developed, but also to permit necessary expansion. In the field of medical statistics, it recognizes that the next step is to provide instruction for professors in a one- or two-year program. Funds will be required for a five-year program already planned in São Paulo. Based on the experience of schools of public health, especially those in São Paulo and Santiago, the Committee recommends that every effort be made to obtain resources necessary to maintain and expand these centers of training and to create, as soon as possible, other centers that would permit training of statistical personnel at the levels deemed necessary.

The Committee recommends that each of the schools of public health conduct statistical courses at the intermediate level, i.e. technicians in health statistics, and assist in the training of auxiliary personnel. Full advantage should be taken of the new training center in Chile, "Centro Interamericano

de Enseñanza de Estadística" (CIENES), established in 1962 by the Inter-American Statistical Institute. The need for trained personnel in civil registration in many areas of Latin America was pointed out. The Committee believes that CIENES should be asked to provide special courses in this field as part of a course in vital statistics.

The demand for trained statistical personnel is increasing in nearly all Latin American countries. The Committee therefore recommends that additional funds for fellowships be found so that potential candidates may be prepared for service in Latin America. Resources of different training centers should be considered. Some of these centers should more actively concentrate on a curriculum in medical statistics and others in vital and health statistics, always in accordance with local conditions and needs of the country.

Recognizing that the deficiency of trained personnel will persist for some time, the Committee recommends that short advanced courses on sampling, planning, and other special subjects be conducted, to increase the knowledge of statisticians in these fields. In order to conduct successful training programs, the Committee recommends that the Organization stimulate governments in facilitating the training of statisticians by assuring full-time positions on completion of studies and by overcoming regulations that interfere with support of training.

Finally, the Committee recommends to the extent possible the promotion of pedagogical techniques that tend to simplify or facilitate the teaching of statistics.

C. Training in Medical Records and Hospital Statistics

Hospital statistics are of great importance in medical care administration at local and national levels. Data from

hospitals, when properly developed, can provide morbidity and administrative information for planning. Data on utilization of hospital beds, patients treated, and services rendered are needed to develop efficient hospital programs both from the standpoint of the hospital itself as well as of the national, provincial, and local health services. Experience in various Latin American countries has demonstrated the lack of qualified personnel in charge of medical records and hospital statistics. The first step toward providing adequate data is training of this personnel.

The facilities for training hospital statistical personnel (known as medical record librarians in the United States) in Spanish-speaking countries are limited or completely lacking. Training programs are being carried on in Puerto Rico, Venezuela, and Brazil. A six-month course was conducted in Argentina in 1961 with the participation of the Organization.

In order to meet training needs in this field, the Committee proposes that accelerated medical records and statistics courses be provided in several countries for the training of teachers and chiefs of hospital departments of statistics, as well as of statistical personnel for hospitals. The training course should be developed to meet the needs of personnel working in all types of hospitals, both large and small. In view of the magnitude of the task, it is advisable to initiate training programs as soon as possible.

As an adjunct to assisting in the development of training programs in hospital statistics, the Organization should carry on studies of hospital and medical care systems in the different countries insofar as they relate to record systems and hospital statistics. For example, exploration is desirable to learn what data are needed for planning of medical care programs, how sampling systems can be developed, etc.

Considerable explorative work should be done; international definitions and standards are highly desirable.

Since many of the hospitals in Latin American countries are part of government systems, opportunity is offered for rapid progress in hospital statistics. The Committee therefore recommends that the Organization promote a training program for personnel working on medical records and hospital statistics and support research in this field.

IV. Development of Research

The Committee believes that expansion of the research program of the Organization in the field of statistics should be carried out in accordance with the proposal given below.

A. Program in Operation

The Committee notes that the Organization is conducting an extensive research project, the Inter-American Investigation of Mortality. This research project, planned for 10 cities in the Americas, was made possible by a grant from the National Institutes of Health. The field work was initiated during the first months of 1962 as a first step in the development of regional epidemiological studies. Records of approximately 40,000 fatal illnesses and injuries of persons 15-74 years of age will be collected and analyzed, maintaining throughout the same procedures for recording data and for assigning and classifying causes of death so that age-adjusted death rates will be obtained which will be as nearly comparable as possible. Preliminary information obtained from the first returns points to interesting findings in the patterns of mortality of the adult population of the participating cities. Rewarding by-products are also being obtained from the study. Besides its research implications, there should be mentioned the growing awareness among physicians of the importance of adequate medical certification of causes of death; the

noticeable interest in this type of studies for investigation of cancer, cardiovascular, and other diseases; and the demonstration of efficiency of methods for conducting this kind of investigation.

The study has thus far underlined the scarcity of pathological work in several cities of the Americas and the need for expanding facilities for education and training of pathologists as rapidly as possible.

B. Development of Research in Cancer Epidemiology

Analyses of available mortality statistics in cities of the Americas and records of autopsies and of other pathological examinations in hospitals indicate that there may be striking differences in the distribution of cancer by site in the countries of the Americas. The first step in the development of cancer research for the study of factors responsible for such differences was establishment of the program, Regional Development of Epidemiological Studies. A part of the program, the Inter-American Investigation of Mortality, is already under way. Preliminary results from this study indicate that approximately 25 per cent of total deaths within the age group 15-74 years will be due to cancer.

In view of the importance of the problem as indicated by the high proportion of deaths from cancer of persons 15-74 years, and considering that interest has been expressed in the development of cancer statistics in selected areas and countries, both for improving diagnostic procedures and treatment and for research purposes, the Committee agrees to recommend that the Organization proceed with the planning of epidemiological cancer research and with the promotion of study of the incidence of this disease. A group of specialists with specific interest and programs in the field should meet to plan research in cancer epidemiology, and should convene in early 1963.

C. Expansion of Investigation of Mortality

In the Inter-American Investigation of Mortality, deaths of persons between 15 and 75 years of age are being investigated. In the age period 1-14 years mortality is excessive due to common communicable diseases of childhood, such as measles, whooping cough, and diphtheria, diarrheal diseases, and respiratory diseases. In a few countries, death rates from measles and diphtheria appear to be increasing. In one city a study of child mortality has already been started, utilizing the procedures of the Investigation of Mortality. Upon completion of the field work of the Inter-American Investigation of Mortality in 1964, it seems advisable to carefully investigate the causes of excessive mortality in children in several of the cities with high rates. It is proposed that laboratory facilities be available or provided for diagnostic work in this project so that confirmation of causes of death would be possible. Since virus diseases may be involved in the excessive mortality, a virus laboratory would be required.

The Committee believes that as the Organization makes progress in the Investigation of Mortality, it will be in a position to undertake additional research projects. The Committee supports and encourages the Organization to extend its research program for understanding patterns of mortality in the Region.

D. Operational Research

There is need to promote the use of proper methods of operational research in public health in the Americas. More efficient results may be obtained with more adequate utilization of existing resources. Operational research is useful to detect the defective phases of a process and to take the necessary steps to correct them. The need for investigating applicability of existing methods and the possibilities for

devising more appropriate methods to be used in public health are recognized.

The Committee recommends that the Organization promote activities in this field by providing the countries with consultants, and suggests that schools of public health include instruction on methods of operational research in their courses in statistics.

V. Considerations of Policy of PAHO on Organization of Statistical Services in Health Administrations

Rapid social progress requires programs planned for simultaneous and balanced developments in health and in many other fields. Adequate measurement of health problems, resources, and needs necessitates data regarding populations, natality, and morbidity and mortality resulting from diseases and injuries, from unfavorable sanitary or working conditions, from lack of adequate food supplies, etc. The inclusion of vital and health statistics in Resolution A.2 of the Alliance for Progress clearly indicates the important role given to statistics.

In order to go forward with planning, utilizing information on health conditions, improvement in the collection of vital and health statistics is of great urgency. For many years health leaders in the Americas have emphasized the necessity of systems for collection and tabulation of vital and health statistics. Article 14 of the Pan American Sanitary Code³ states these principal points. Although these recommendations on vital and health statistics systems have been on record since 1924 and have been implemented in many respects, much more needs to be done to provide the essential data for planning. In view of the immediate needs for the decade, this is a most opportune time for further action to carry out recommendations of the past.

The agencies responsible for collection, tabulation, and analysis of vital statistics vary in the countries, and their functions are often divided among offices of registration, statistics, and health services. Maximum assistance and coordination of these agencies should now be developed to make rapidly available data for planning of a quality and type that health administrators, planners, and economists may use as the basis for programs and for evaluation of progress in meeting goals established. In the health field, some of these goals require vital statistics data, such as the goal to reduce by one-half the present mortality rate among children under five years of age. Another goal, eradication of malaria and smallpox, necessitates complete case-finding, case-reporting, and medical certification systems, with adequate coordination to ensure that cases are always immediately investigated and measures taken to prevent spread. The intensification of control programs of other common communicable diseases, such as enteric diseases and tuberculosis, are also established as goals.

The Pan American Health Organization is primarily concerned with rendering consultant services to Ministries of Health and, in the field of statistics, to statistical services in health administrations. The XIV Pan American Sanitary Conference recommended that "Member States create, or stimulate and strengthen, the statistical services in health administrations, providing them with material facilities and adequately trained statistical personnel."⁴ Thus the policy has been recommended that each Member State should have a statistical service in its health administration. Health programs need statisticians specialized in health and medical statistics to work as important members of the health team. In order to work effectively with the medical staff who are usually trained in schools of public health, statisticians also need training in public health disciplines.

The importance of coordination with other agencies is fully recognized. The World Health Organization⁵ and the Pan American Health Organization⁴ recommended the establishment and development of National Committees on Vital and Health Statistics in order to coordinate programs and to eliminate duplication.

The administrative structures of National Health Services vary according to health problems and to emphasis directed to specific fields. They are constantly being realigned to keep up with progress. In recent years, in several countries, including Mexico, Peru, and the United States, Ministries of Health have established statistical services at a high functional level. This is important because activities of a general statistical unit, included under a division with a specific field of activity, are apt to be concentrated in that specific field. Historically, statistical services have frequently been developed within programs of communicable diseases because of the magnitude of such problems. However, at the present time, the many and varied fields of health in which statistical services are required are fully recognized.

In the Headquarters Offices of the World Health Organization and of the Pan American Sanitary Bureau statistics occupies a high place in the organizational structure. In both it is recognized that statistical services must be rendered in all types of programs. The Committee therefore recommends that the following policy be adopted for implementation throughout the Americas:

In view of the recommendations of the Charter of Punta del Este urging planning of health programs for the next decade, and the necessity of adequate data concerning vital and health statistics, health needs, resources, and manpower for health planning, and in view of recommendations of the Pan American Sanitary Code and the XIV Pan American

Sanitary Conference that statistical services be established within National Health Administrations,

The Advisory Committee recommends that the Organization adopt a policy which would promote

1. The establishment of a Statistical Service, at a proper level, in Ministries of Health, to make services accessible and responsive to all needs of the Ministry. The director of the Statistical Service should have special training in health and health statistics and the staff should be very well qualified.

2. The development of the following functions by the Statistical Service:

- a. To collect and produce current statistical data which are essential for health programs and which are the responsibility of the health administration.

- b. To undertake, as a principal function, statistical analysis of health data. The statistical office should have full access to all basic data.

- c. To promote and establish standards for systems of collection and production of health data.

- d. To promote the development and improvement of systems of collection of health statistics.

- e. To participate in health planning activities with other members of the health team.

- f. To provide consulting services in the collection and analysis of health data.

- g. To promote or conduct operational research.

h. To assist Ministries of Health in their contribution to the planning of national programs for social and economic development.

i. To coordinate health statistical activities with other governmental agencies through appropriate means, particularly by national committees on vital and health statistics, as recommended by WHO.

3. The provision by the Statistical Service of the following data for National Health Administrations: (Although the collection of some of the data may be the function of another agency, the Statistical Service in the Health Administration is responsible for utilization and analysis of these data for planning and evaluating health programs.)

a. Population statistics.

b. Vital statistics.

c. Morbidity statistics.

d. Statistics of resources devoted to health and service statistics.

e. Sanitation and environmental health statistics.

f. Socio-economic statistics related to health.

g. Statistics of expenditures for health.

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