THE DEVELOPMENT AND IMPROVEMENT OF MEDICAL RECORDS

PROGRAM OF THE PAN AMERICAN HEALTH ORGANIZATION [1]

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The PAHO program in the field of medical records is designed to assist Governments through activities for the education and training of intermediate-level and auxiliary personnel, statistical advisory services, and the publication of educational material.

The Governing Bodies of the Pan American Health Organization have shown considerable vision in establishing requirements in the field of vital and health statistics. The Pan American Sanitary Code, signed in 1924, contained a section on morbidity and mortality statistics (*1*), and the XIV Pan American Sanitary Conference in 1954 approved 10 resolutions delineating the statistics required in health programs and methods of improving the basic data (*2*). Since hospitals are a source of basic data on births, deaths, cases of notifiable diseases, and hospital morbidity statistics, efforts have been directed to the training of hospital personnel in charge of medical records. With the establishment of goals in the Charter of Punta del Este (*3*), the need for statistical data for health planning has resulted in rapid developments in the field of hospital statistics. In addition, the emphasis placed on the planning and administration of hospitals in relation to the cost of the services and the present and potential demand requires that the recording of hospital activities be better organized. The program of the Pan American Health Organization in the field of medical records may be summed up under three headings: education and training, consultant services, and documents and materials.

Education and Training

Personnel at the professional, intermediate or technical, and auxiliary levels are needed for the keeping of medical records. In order to develop and maintain good record systems and to provide basic data for hospital statistics, each hospital must have a person responsible for these functions. For Spanish-speaking countries the Pan American Health Organization has adopted the terms *oficial de registros hospitalarios* (medical record librarian) and *auxiliar de registros hospitalarios* (medical record auxiliary) because it feels that these terms reflect better than those currently used the responsibilities of these categories of personnel in relation to both medical records and statistics. In general, the difference between the librarian and the auxiliary is that the former has the responsibility of organizing and planning the procedures carried out in the department while the latter only executes them.

It is felt that every hospital of more than 200 beds should have at least one medical record librarian at the intermediate or technician level. Personnel at this level will also be responsible for the training of auxiliary personnel. Auxiliary personnel will assist in the keeping of records in large hospitals and —under the supervision of local professional personnel—will be in charge of them in smaller ones, applying procedures developed at a provincial or national level.

Personnel at the professional level, with

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university training, should be responsible for directing the medical record programs at the national or provincial levels and for training intermediate-level medical record personnel.

There is an urgent need for preparing medical record personnel. Since each hospital needs at least one person to take charge of medical records, the number of hospitals in a country provides an indication of how many are required. The magnitude of the undertaking can be demonstrated in Table 1, which gives the number of hospitals in the Americas by countries. Of the 18,433 hospitals in 1964, 8,514 were in Northern America (Canada, United States, Bermuda, and St. Pierre and Miquelon) and nearly 10,000 in Middle and South America.

Large hospitals require a different type of personnel from those with only a few beds. Unfortunately, there are no complete data available that would permit classifying the hospitals in Latin America by size. However, generalizing from those countries that do have this information, it can be estimated that over half of the 10,000 hospitals have fewer than 50 beds; around 35 per cent have 50 to 199 beds; around 10 per cent have 200 to 399 beds; and fewer than 5 per cent have more than 400 beds.

Assuming only one trained person per hospital, and making no provision for attrition, this means that about 10,100 persons are needed to meet immediate minimum needs—8,500 auxiliary personnel for hospitals with less than 200 beds, 1,500 intermediate-level personnel to direct the medical record departments of hospitals of over 200 beds, and 100 personnel at the professional level whose responsibilities would be to direct programs at the national or provincial level and to teach intermediate-level personnel.

Intermediate-Level Courses

Venezuela is the only country in Latin America that is preparing the required number of medical record personnel at the intermediate level. Since 1950 the Ministry of Health and Social Welfare of Venezuela has offered an 11-month course for medical record librarians, and in 1962 it accepted its first students from other Latin American countries. In the five-year period, 1961-

TABLE 1—Number of Hospitals in the Americas, by Country, 1964.

Country	Hospitals	Country	Hospitals	Country	Hospitals
Argentina [a]	2,253	Guatemala	46	Uruguay [a]	78
Bolivia [a]	107	Haiti	36	Venezuela	314
Brazil [a]	2,806	Honduras	32	Territories and other areas	310
Canada	1,381	Jamaica	27		
Chile	347	Mexico [a]	1,925		
Colombia	628	Nicaragua	39		
Costa Rica	49	Panama	28	Northern America [b]	8,514
Cuba	159	Paraguay	143		
Dominican Republic	103	Peru	256	Middle America [c]	2,778
Ecuador	161	Trinidad and Tobago	27		
El Salvador [a]	51	United States of America	7,127	South America [d]	7,141
				Total	18,433

[a] Previous year.
[b] Canada, United States, Bermuda, and St. Pierre and Miquelon.
[c] Central America, Mexico, Panama, British Honduras, and Caribbean islands.
[d] Southern continent and Falkland Islands.

1965, the course had 103 graduates. Of these, 93 were from Venezuela and the rest were from Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Honduras, and Peru.

Intermediate-level courses have also been conducted in Argentina (in 1961) and in Brazil (in 1961 and 1962).

For many years Puerto Rico has conducted a one-year program, designed to prepare department heads for island hospitals, that requires a university degree of entering students. The entrance requirements make it difficult for Latin Americans who will be working at the hospital level to qualify for admission.

If the number of personnel needed is to be trained in a reasonable period of time, additional training centers should be established and the courses should be as short as is consistent with good training.

In July 1966, a 4½-month course for medical record personnel at the intermediate level was initiated by the Ministry of Public Health in Costa Rica with consultant services provided by the Organization. Of the 17 students enrolled, 14 were from Costa Rica and the others were from El Salvador, Nicaragua, and Panama.

The courses conducted by the schools of public health for health statistics technicians have served to prepare polyvalent personnel and accordingly have covered, in part and for a limited period of time, the subject of medical records. Since 1962, the Pan American Health Organization has cooperated with the schools of public health of Argentina, Chile, Colombia, and Peru in conducting classes in medical records and hospital statistics. Assistance has also been given to the four-month health statistics course provided by the University of the West Indies for students from English-speaking areas. Although the number of class hours was small in these courses, the lectures served to develop an awareness in those working in hospitals of the need for longer training. As a result, the School of Public Health in Lima, Peru, is extending its course for health statistics technicians to eight months in order to incorporate two months of classes on medical records and hospital statistics.

Many factors have to be taken into consideration in developing an intermediate-level course in medical records in any given country. Continued experimentation will have to be done to arrive at the optimal duration and content of these courses. The following general recommendations seem pertinent:

- The course should be centered in a school of public health, particularly one in which courses on hospital administration are conducted. Having courses for administrators and medical record personnel in the same school permits students of both disciplines to work on projects together, which promotes an appreciation of each other's roles.
- The minimum requirement for entrance to the course should be a complete secondary education.
- The course should be 4 to 6 months in length. The subjects should include medical record science, anatomy and physiology, medical terminology, introduction to medical sciences, statistics (general, vital and health, hospital) and administration (general, hospital). In addition to these classes, which are theoretical and practical, provision should be made for directed practice assignments.

The Regional Advisory Committee on Health Statistics in its Third Report (*4*) suggested the following institutions as training centers:

School of Public Health, University of Buenos Aires, Buenos Aires, Argentina
School of Hygiene and Public Health, University of São Paulo, São Paulo, Brazil
Institute of Hygiene, University of Recife, Recife, Brazil
School of Public Health, University of Chile, Santiago, Chile
School of Public Health, University of Antioquia, Medellín, Colombia

Medical School, University of Costa Rica, San José, Costa Rica
Medical School, University of the West Indies, Kingston, Jamaica
School of Public Health, Mexico City, Mexico
School of Public Health, Lima, Peru
School of Public Health, University of Venezuela, Caracas, Venezuela

Auxiliary-Level Courses

In 1965, with the assistance of the Organization, courses of two and four weeks duration were conducted in Costa Rica, Honduras, and Guatemala for hospital medical record and health center personnel; similar four-week courses were conducted in 1966 in Panama and Nicaragua. An average of 40 students participated in each course. In Chile, which has a satisfactory number of trained statistical personnel at the technician (intermediate) level, a two-week course was conducted in 1965 for instructors who were in charge of the statistical functions in nine of the 13 health zones. Each instructor in turn conducted two-week courses in his own zone, and in this way 117 medical record auxiliary personnel were trained that year. These short courses were to continue in 1966, and by 1967 the National Health Service in Chile hoped to have completed its first stage of training the auxiliary personnel at all its hospitals.

Venezuela has been giving short courses since 1963. Prior to the opening of a new hospital a course is conducted to train all the auxiliaries who will be working in the medical record department.

Table 2 shows the short courses conducted during 1965 for auxiliary personnel in hospitals and health centers and the number of students trained. The duration of the courses ranged from two weeks (Argentina, Chile, Costa Rica, and Paraguay) to three months (Venezuela). The average duration was four weeks. Chile trained the largest number of auxiliaries, followed by Argentina and Venezuela.

Reliable statistical data on all hospitals in a country will be available only when adequate information is reported from each hospital. The urgent need of this information to serve many purposes, including the planning and evaluation of health programs, makes it imperative to train a large number of personnel rapidly to provide certain minimal data.

Two different levels of auxiliaries could be prepared: for hospitals of 50-199 beds (one- to two-month courses) and for smaller hospitals (two-week courses).

TABLE 2—Auxiliary Hospital and Health Center Statistical Personnel Trained in the Americas, 1965.

Place	Duration of course (weeks)	Number trained	Place	Duration of course (weeks)	Number trained
Argentina			*Costa Rica*	2	34
Buenos Aires	2	22			
La Plata		30	*Guatemala*	4	43
Tucumán [a]	2	40			
Brazil			*Honduras*	4	47
Fortaleza	4	30			
Recife	4	25	*Paraguay*	2	
Chile					
Many areas [b]	2	117	*Peru*		
Colombia			Arequipa	6	27
Cali	10	...			
Fusagasugá [a]	3	...	*Venezuela* [a]	12	70

Data not available.
[a] Two courses.
[b] Fifteen courses.

Courses for auxiliary personnel should be practical, limited to functions that they are expected to fulfill at the present time and based on procedures established in each country. In order to train in a uniform manner the number needed in the shortest period of time, it is advisable to develop instructor's manuals and to include in the intermediate-level course techniques that the graduates might use in teaching auxiliaries.

Naturally, the training of auxiliaries is the responsibility of each country. The Pan American Health Organization has assisted countries in developing courses, in preparing teaching materials, and in training instructors.

The turnover of auxiliary personnel makes it essential that training at this level be a continuous function. As the hospital programs develop, training will have to be modified or expanded to meet the needs.

Other Courses

In 1965 the Ministry of Health and Social Welfare of Venezuela, with the cooperation of the Organization, conducted a short course for instructors in medical records at the intermediate level. The participants, who were from Argentina, Chile, Colombia, Costa Rica, and Venezuela, had prior training and hospital experience.

Courses on specific topics such as the WHO *International Classification of Diseases* (*5*) should be conducted as needed.

The preparation of medical record personnel at the professional level is an important area that will have to be developed in the future.

Other members of the hospital team should also receive orientation in records and statistics. For example, medical students would profit if their clinical training were in hospitals with a well-organized medical record system. Nursing and other hospital personnel should be aware of their responsibilities in the medical record program. Of paramount importance, however, is a recognition by hospital directors and administrators of the significance of medical records and statistics and the role they play in the efficient administration of the hospital. Without a trained hospital administrator it is extremely difficult to obtain the financial and administrative support necessary to implement a medical record system in the hospital or to stimulate interest in using the statistical data collected.

Consultant Services

In 1961, because of the interest expressed by the health authorities of Argentina, the Organization initiated a program in the field of medical records in that country. A medical record librarian was employed and was stationed in Buenos Aires to develop demonstration centers and train personnel working in medical record departments in hospitals. Requests for the consultant's assistance increased, and instruction was given also in schools of public health in Chile, Peru, Colombia, and Brazil, as well as in Argentina. In 1964 she was transferred to Headquarters in Washington so that she would be able to render service throughout the Region and assist in the expansion of the program. In July 1965, at the request of Trinidad, another consultant was assigned to assist in the development of medical records in that country. In August 1965 a third was recruited to continue the work in Argentina and to collaborate as requested in neighboring countries.

Through a grant made in 1965 by the W. K. Kellogg Foundation of Battle Creek, Michigan, in keeping with its program of promoting the teaching of hospital administration, a medical record librarian was added to the Washington Office staff of the Organization in January 1966. She has provided assistance in the development of courses at the intermediate level. In addition to these consultants in full-time positions, short-term consultants have served as advisers in El

Salvador and Haiti at the request of the Governments.

Priority is given to requests for advisory services for training programs, for the development of system-wide procedures, or for the organization of demonstration centers, particularly in teaching hospitals.

The Third Meeting of the Regional Advisory Committee on Health Statistics (*4*) reviewed the requirements for a satisfactory medical record system in each hospital and formulated recommendations that have guided the consultants in their work.

Individual Medical Record

In some countries it is common practice in hospitals for each clinical service to maintain its own medical record system, with the result that there are as many different records for a patient as services in which he has been treated. There are hospitals in which inpatient and outpatient records are decentralized. Finally, there are institutions in which the outpatient and occasionally the inpatient record is sketchy or even nonexistent. This duplication and/or lack of records results in inefficient utilization of hospital resources and handicaps patient care.

The Committee therefore recommended:

(a) That every patient have a medical record.

(b) That this be a unit medical record (only one record in the hospital for each patient) based on a single number.

(c) That at least the following items be included in the records:

Identification number
Name
Age
Sex
Residence
Marital status
Date of admission
Chief complaint
Medical history
Physical examination
Provisional diagnosis
Diagnostic procedures (laboratory, X-ray, electrocardiogram, etc.)
Treatment, medical and surgical
Progress notes
Final diagnosis
Outcome
Date of discharge or death
Post-discharge recommendations
Summary

It was recognized that the stage of development of the hospital and the manpower available would affect the amount of detail to be recorded. Observations by nursing personnel (nurses' notes) were not included as a minimum requirement because there are countries in which the number of trained nurses is insufficient to permit this.

It was recommended that where the lack of adequate forms is a factor contributing to poor records, Pan American Health Organization staff provide assistance in their design. There are no internationally approved medical record forms, and each country or hospital should develop forms to meet its own needs in the light of its resources and stage of development.

Central Department of Hospital Records

To ensure proper handling of the unit medical record the Committee recommended that each hospital maintain a central record room.

Handbook of Procedures

The Committee recommended the preparation, publication (in the languages of the Region), and distribution of materials designed especially to assist hospital staffs in the proper handling and filing of medical records and indexes.

Disease and Operation Indexes

The Committee recommended that in hospitals in which disease and operation indexes are maintained the WHO *International Classification of Diseases* be used. An

adaptation for diagnostic indexing is available in the United States and there are also Adaptations in Spanish and in Portuguese (6).

Medical Record Committee

It was considered advisable for each hospital to have a medical record committee composed largely of physicians. The purpose of such a committee is to establish standards for the medical records, review the records in order to make sure that the standards are being fulfilled, and develop the necessary forms. It is also responsible for the adequacy of the clinical data recorded and available for many uses, including care of the patients, reports for administrative and statistical purposes, teaching, medical audit, and research.

Statistics on the Hospital and Its Patients

Administrative, morbidity, service, and financial statistics are developed according to the purpose they are to serve. The first objective of hospital statistics is effective administration and operation of a hospital to provide proper care of its patients.

In recommending that plans be made in each hospital for the collection and utilization of the statistical data cited below, the Committee followed the recommendations included in the Eighth Report of the WHO Expert Committee on Health Statistics (7).

(a) *Statistics relating to the hospital.* The minimum essential data for each hospital are as follows:

Number, distribution and utilization of beds
Services provided by laboratory, operating room, emergency room, outpatient clinics, etc.
Number and type of staff
Fiscal data, revenues and expenses

Financial statistics is a field for the professional accountant; however, the cost of operating the hospital is closely connected with the statistics on activities.

(b) *Statistics relating to patients.* Patient statistics serve two main purposes: to provide data on utilization of hospital beds by types of illnesses and conditions and to provide hospital morbidity statistics for knowledge of the health status of the population. These statistics would be derived from the individual medical records maintained in the central record department. The minimum data are as follows:

Age and sex
Length of stay
Diagnosis
Operation
Condition at discharge

Documents and Materials

The lack of literature in Spanish on the subject of medical records has long been recognized as an impediment to the rapid expansion of training programs and to the promotion of interest in the field.

In 1961 the Latin American Center for Classification of Diseases prepared the Spanish version of the *International Classification of Diseases Adapted for Indexing of Hospital Records,* which was published and distributed by the Organization, and during 1966 the Portuguese version was issued (6). In order to assist in the teaching of the use of the Adaptation, the Latin American Center also prepared a Spanish version of *Programmed Instruction in the Use of the ICDA* (8).

The American Hospital Association's *Guide to the Organization of a Hospital Medical Record Department* was published in Spanish by PAHO in 1964 and has been widely distributed (9). During 1965 the School of Hygiene and Public Health of the University of São Paulo published the *Guide* in Portuguese (10).

The most recent undertaking of the Organization in this field has been the translation of selected articles from journals. These

translations are being distributed through a mimeographed series, the first issue of which appeared in June 1966 (*11*).

In addition to these formal publications, draft manuals and mimeographed materials for instructors and for students have been prepared, translated, and adapted.

Work is currently under way on the preparation of a filmstrip entitled *The Patients' Name Index*. The development of additional visual aids is planned.

Summary

The PAHO program of medical records includes education and training of personnel, advisory services in vital and health statistics, and the publication of educational material.

To fulfill medical record functions, personnel are required at the professional (university-trained) and intermediate (medical record librarian) levels who, in addition to their own work, will be responsible for the training of medical record auxiliaries. These auxiliaries will assist in large hospitals and will be in charge of medical records in smaller hospitals. The author estimates the number of personnel needed in the Americas, describes the courses being conducted in some Latin American countries, and offers suggestions on the training and orientation of personnel.

PAHO has helped several countries to initiate and operate courses by providing experts and establishing minimum requirements for a satisfactory medical record system: clinical history, procedures, hospital and patient statistics, etc.

In the field of publications, PAHO has issued various handbooks, manuals, and articles, as well as visual aids. □

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