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ON HEALTH STATISTICS**

Eighth Report

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EXPERT COMMITTEE ON HEALTH STATISTICS

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EXPERT COMMITTEE ON HEALTH STATISTICS

Eighth Report

The Expert Committee on Health Statistics met in Geneva from 27 November to 3 December 1962. Dr P. Dorolle, Deputy Director-General of the World Health Organization, opened the meeting on behalf of the Director-General. The Committee elected Mr F. Fraser Harris Chairman, Dr G. F. Cerkovnyj Vice-Chairman and Dr Forrest E. Linder Rapporteur.

The Committee adopted the draft agenda, the main topics of which were the development and improvement of national programmes of hospital statistics and the action that WHO might take in furthering these objectives.

HOSPITAL STATISTICS

1. Review of Previous Work of WHO in the Field of Hospital Statistics

Hospital statistics have received attention in several reports of the WHO Expert Committee on Health Statistics. In 1949 the Committee recommended that a subcommittee be set up "in order to initiate the proper action to be taken by the Committee in the field of hospital statistics".¹

This Subcommittee on Hospital Statistics met in 1950 and discussed various problems involved in the compilation of hospital statistics and their interpretation. The conclusions of the discussion were submitted to the Expert Committee on Health Statistics which met in 1950.² This recommended the following topics, among others, for detailed study: adaptation of the International Classification of Diseases (ICD) for hospital diagnostic indexing; definitions and standards used in the compilation of hospital statistics in various countries; morbidity of repeated hospitalizations; collection and utilization of statistics of some specialized hospitals (mental, tuberculosis, obstetrical); and the development of a statistical classification of operations and anaesthetic procedures.

¹ *Wld Hlth Org. techn. Rep. Ser.*, 1950, 5.

² *Wld Hlth Org. techn. Rep. Ser.*, 1950, 25.

In 1951¹ the Expert Committee considered the value of hospital diagnostic records for clinical research and the assessment of the level of morbidity in the community. The Committee recommended that the problem be referred to national committees on vital and health statistics and asked that special attention be paid to the following: (a) the most economical ways of collecting, recording and analysing information recorded as a matter of routine in hospitals; (b) methods of determining the bias of hospital statistics for ascertaining the level of sickness in the community; (c) the identification of diseases treated in the hospital which are free of the selective bias.

In 1956² the Expert Committee recognized the increasing importance of hospital morbidity statistics and the need for standardizing their presentation at the international level. It recommended that WHO study the system of hospital statistics in different countries of the world, and collect and analyse the definitions of terms and rates as a preliminary step to a future and thorough examination of the subject.

In 1958³ the Expert Committee reviewed a series of terms commonly used in connexion with hospital in-patient morbidity statistics (e.g., admission, first admission, readmission, discharge, in-patient, patient-day, duration of stay) and concluded that there seemed to be a large measure of agreement on the definition of these terms. It established certain measures used in morbidity statistics generally (incidence, prevalence) and aligned them with those applicable to hospital statistics.

In 1960⁴ the Expert Committee further stressed the particular usefulness of the hospital individual in-patient record as a source of morbidity statistics, especially where the resulting statistics can be related to the population at risk. It recommended that the quality of hospital admission-discharge records and recording procedures be improved with a view to their use in defining measures of hospital utilization and indicators of community and national morbidity patterns. The Committee noted the recent extensive developments that had taken place in the field of hospital statistics and emphasized the need for reviewing them from the international point of view.

The Sub-Committee on Classification of Diseases was convened in 1961 to consider the preparation of the Eighth Revision of the ICD. It noted the various adaptations of the ICD used for the purpose of hospital diagnostic indexing and recommended that WHO compile a diagnostic index based on the Eighth Revision of the ICD utilizing the experiences of some countries. The Sub-Committee also recommended that WHO

¹ *Wld Hlth Org. techn. Rep. Ser.*, 1952, 53.

² *Wld Hlth Org. techn. Rep. Ser.*, 1957, 133.

³ *Wld Hlth Org. techn. Rep. Ser.*, 1959, 164.

⁴ *Wld Hlth Org. techn. Rep. Ser.*, 1961, 218.

take steps towards the development of a statistical classification of operations capable of expansion into a list of surgical procedures for hospital indexing.

Hospital statistics have also been considered by other international meetings. The First International Conference of National Committees on Vital and Health Statistics, which took place in 1953,¹ pointed out the need for uniform definitions and standards concerning statistics of medical and health institutions, their personnel and activities, and recommended that WHO take steps in this direction.

The Conference on Hospital Statistics and Their Application in Health Administration,² sponsored by the WHO Regional Office for Europe, reviewed the situation in a number of European countries and suggested further steps for international alignment of hospital statistics.

2. Aims of the Committee

The Committee recognized that in its previous reports discussions on hospital statistics had emphasized the morbidity point of view. It agreed that fuller consideration should be given to statistics dealing with the administrative and financial aspects of hospital operation.

The Committee appreciated that it was not feasible, at this stage, to set out rigid and detailed standards of the hospital statistics which it could recommend for national or international purposes.

The type of hospital data available and the extent and use made of statistics depend on a variety of factors. These include the political and administrative structure of the country, the organization of its health services, the position of hospitals in the health scheme, the ownership and operation of the hospital, and the nature of the national statistical programme. The country itself may be a federation of states, each autonomous in organizing its various services, the role of the federal government being largely advisory. On the other hand, it may have a government with centralization of all functions at the national level or with some decentralization to lower administrative bodies. Hospitals may be independent or they may be responsible to a local or regional hospital board or local health unit. In some countries, a hospital, in order to be recognized as such, may have to be approved by some official or semi-official body. In others, no such system of approval exists. Hospitals may be financed completely or

¹ *Wld Hlth Org. techn. Rep. Ser.*, 1954, 85.

² World Health Organization, Regional Office for Europe (1959). *Conference on Hospital Statistics and Their Application in Health Administration, Geneva, 24-28 November 1958*. Copenhagen (mimeographed).

partially from government or other public funds or operated on a self-supporting scheme. Hospital statistics may be collected within the framework of a comprehensive national statistical programme or they may be compiled by the organs responsible for the administration of hospital services, whether local, regional, state or national.

All these factors bear on the detailed type of statistics produced, on the allocation of responsibilities for their collection and compilation, and on the use being made of them at various levels of hospital and health administration.

Nevertheless, the Expert Committee on Health Statistics, appreciating the importance of hospital statistics,

RECOMMENDS

that hospital statistics be regarded in all countries as an integral and basic part of the national statistical programme and be developed from both the administrative and the public health points of view to supplement those statistics obtained from mortality and other morbidity sources.

In order to provide some guidance in the application of the above recommendation the Committee adopted the following topics for discussion :

- (1) uses of hospital statistics ;
- (2) minimum general content of a statistical programme which all countries should attempt to carry out, differentiating between two distinct categories of hospital statistics—namely, those based on (a) the “ hospital ”, and (b) the “ patient ” ;
- (3) tentative definitions of some of the more important items entering into hospital statistics.

3. Value and Uses of Hospital Statistics

In spite of the variety of patterns of hospital statistics in terms of the compilers and users at different administrative levels, the objectives can be broadly classified under the following headings :

- (1) effective administration and operation of a hospital to provide proper care for its patients ;
- (2) organization, co-ordination and planning of hospital services in an administrative area ;
- (3) economic utilization of hospital facilities within the general health programme of the community, region or country ;
- (4) assessment of the morbidity in the population, including epidemiological aspects of diseases.

The same type of statistics may serve several objectives. For instance, hospital personnel statistics are needed by individual hospital managements in organizing professional and non-professional services, in preparing budgets and in determining recruitment policy. These statistics are also required by those responsible for hospital services in an area for such purposes as detecting technical staff surpluses and shortages, effecting redistribution of staff resources and planning training programmes. Statistics of discharged patients by length of stay, type of condition and age of patient may be of interest to the individual hospital. They are particularly useful to higher administrative organs in bringing out variations between hospitals and in pointing the way towards studies aimed at finding out the reasons for such differences.

While the objectives of hospital statistics can be stated under a limited number of broad headings, there is a wide range and variety of specific uses that can be made of hospital statistics. Some of these have been listed in an annex to this report, according to the level at which they might be used. Not all the uses cited in the annex will be pertinent to every country, but any country may be able to identify examples applicable to its own situation.

4. Definition of "Hospital"

The Committee noted that there was no internationally accepted definition of a hospital. The WHO Expert Committee on Organization of Medical Care, in discussing the role of hospitals in programmes of community health protection,¹ adopted the following definition:

"The hospital is an integral part of a social and medical organization, the function of which is to provide for the population complete health care, both curative and preventive, and whose out-patient services reach out to the family in its home environment; the hospital is also a centre for the training of health workers and for bio-social research."

However, this definition, dealing with the functions of a hospital and the part it should play in community health programmes, is not suited to statistical purposes.

The term "hospital" implies a variety of aspects, circumstances and administrative practices. In view of this, not many countries have formulated their own national definitions of a hospital. Some countries prefer to use a detailed classification of all their medical and health institutions, indicating those considered to be "hospitals". The decision as to whether a particular institution is a "hospital" or not is often a purely administrative matter.

¹ *Wld Hlth Org. techn. Rep. Ser.*, 1957, 122.

The Committee considered that the following elements were essential characteristics of a hospital, regardless of its size :

- (1) residential accommodation consisting of bed and board ;
- (2) provision for a stay of 24 hours or longer ;
- (3) facilities for the admission of the sick and injured or parturients ;
- (4) care or service to consist of observation, diagnosis, treatment or rehabilitation ;
- (5) medical supervision (although the extent of it will vary considerably depending on the personnel available).

Bearing these points in mind, the Committee adopted the following working definition of a hospital :

“A hospital is a residential establishment which provides short-term and long-term medical care consisting of observational, diagnostic, therapeutic and rehabilitative services for persons suffering or suspected to be suffering from a disease or injury, and for parturients. It may or may not also provide services for ambulatory patients on an out-patient basis.”

By using such a definition, certain types of institution would be excluded. It is not feasible to provide an exhaustive list of exclusions, but such a list would contain, for example, establishments catering exclusively for old people who are not ill, and institutions for the physically handicapped which offer primarily custodial care including education (e.g., homes for the blind and deaf). In short, those establishments where regular medical treatment is not available would not be classed as hospitals, even though occasional medical care may be provided when needed.

5. Categories of Hospitals

Hospitals can be classified according to various criteria, such as :

- (1) ownership and operation, e.g., government (state), religious organization, industrial enterprise ;
- (2) duration of disease, e.g., long-stay, short-stay ;
- (3) age, e.g., children's, geriatric ;
- (4) range of differentiated services according to size of area served, e.g., basic services for local area ; wider range of services for larger areas ;
- (5) type of condition attended, e.g., general, maternity, infectious.

This last criterion was felt to be generally applicable and the Committee adopted the following definitions :

(1) *General hospital*

“ A general hospital is a hospital which provides a range of differentiated services for patients of various age groups and with varying disease conditions. ”

(2) *Specialized hospital*

“ A specialized hospital is a hospital admitting primarily patients suffering from a specific disease or affection of one system, or reserved for the diagnosis and treatment of conditions affecting a specific age group or of a long-term nature. ”

The Committee appreciated that since specialized hospitals would be subdivided differently in different countries, it would be inappropriate to offer any specific advice as to how this should be done.

6. Statistics Relating to the “ Hospital ” or “ Patient ”

According to the content of the statistics and the purpose which they are to serve, “ hospital statistics ” are variously referred to as “ hospital administrative statistics ”, “ hospital morbidity statistics ” and “ hospital service statistics ”. The Committee recognized that there was a fundamental division of hospital statistics into those based upon the “ hospital ” and those based upon the “ patient ” and it seemed appropriate to consider “ hospital statistics ” in terms of these two divisions.

7. Statistics Relating to the Hospital

The information relevant to the hospital reflects its character as a residential institution for medical care. As such, a hospital has to be equipped with beds, personnel and other resources to render not only a large variety of services for the professional care of patients but also a multitude of other specialized services connected with the maintenance of lodgers and boarders and the management of a complex establishment.

The information based upon the “ hospital ” (normally collected on a periodic and probably annual return) can be grouped under three major headings :

(1) *Resources of the hospital*

Most important of these resources are the beds a hospital provides for the accommodation and treatment of patients. In addition, it is of value to know what type of special diagnostic and therapeutic facilities the hospital has. A prominent part of the resources is the staff available for care of the patient, whether directly or indirectly.

(2) *Utilization of hospital resources*

The extent to which these resources are employed in providing hospital services indicates various measures of their utilization, depending on the type of facility, such as number of patients attended or days of care rendered in respect of bed facilities, volume of services given by the laboratory or radiology department, and number of operations performed in the operating room.

(3) *Administrative and financial data*

Apart from the resources available and the use made of them, there are certain other items of interest. From the administrative point of view, data may be required on services providing for the operational and institutional needs of the hospital, such as number of meals provided, sheets laundered, and telephone calls put through. The financial aspects of the hospital also require separate consideration in terms, for example, of cost per department or per unit of service, e.g., cost per patient-day.

7.1 Resources of the hospital

The Committee discussed the data on hospital resources in terms of material resources, (i.e., beds, out-patient facilities, etc.), staff resources, and other facilities.

7.1.1 *Material resources*

The Committee considered material resources in terms of hospital beds and of other facilities for the professional care of the patient.

With regard to bed facilities, it reviewed the practices adopted in various countries for defining and classifying hospital beds. Existing national definitions of "hospital bed" vary according to the criteria used. Some of the definitions consider hospital beds in terms of the physical features according to the age of the user (e.g., regular beds for adults, cribs for children, and bassinets for the newborn). Others stress their ready availability for occupancy (i.e., "installed", "staffed") or their continuous use (24-hour) by in-patients.

Weighing the different national practices, the Committee adopted the following working definition :

" A hospital bed is one maintained for continuous (24-hour) use by in-patients. "

By implication, this definition includes beds in quiet rooms, observation rooms and other areas utilized as normal places of residence of in-patients, and excludes, for example, beds in store-rooms or those intended for special purposes such as recovery or delivery.

While data on beds are generally reported, not many countries collect data on other material resources of the hospital. The Committee, however, believed that knowledge of the availability of special diagnostic and therapeutic facilities would be very useful since it provides information on the type of specialized services the hospital can offer.

The Expert Committee on Health Statistics, considering the type of basic information on material resources which any hospital would be competent to produce,

RECOMMENDS

that countries collect and publish statistics on hospital beds and other facilities for the professional care of the patient, indicating :

- (1) the number of hospital beds ;
- (2) the availability of the following :
 - (a) organized laboratory
 - (b) radiological department
 - (c) operating theatre
 - (d) delivery room
 - (e) rehabilitation services
 - (f) social services
 - (g) out-patient facilities
 - (h) emergency services.

The Committee appreciated that the above items represent a minimum of basic information and that many countries may wish to subdivide these items. For example, a laboratory may have facilities for performing simple tests, such as urine testing and blood counts, or it may provide a complete range of pathological and histological services. Further facilities may cover bacteriological, virological, serological or biochemical services, to mention but a few, and it is left to individual countries to decide which of these services are to be separately identified. The Committee felt that, for international purposes, it would be unwise to go beyond the simple all-embracing category of whether laboratory facilities are available or not, either within the confines of the hospital or through a central laboratory outside serving the needs of several hospitals.

Countries may also wish to extend the above list by including other facilities, such as electrocardiography, blood bank, electroencephalography, psychological testing facilities, and physiotherapy.

These types of questions are not directed towards an assessment of the adequacy of the services provided. To this effect, a much more detailed examination would be necessary which would have to take into account not only the existence of such facilities but also the type and quality of the services offered.

The Committee appreciated that there were bound to be variations as to the definition of the items to be included under each of the headings relating to material resources, so that exact international comparability would not be possible at the present time.

7.1.2 *Personnel*

The Committee recognized the difficulties of devising a classification of hospital personnel in terms which would be applicable in all countries. In some countries, for example, the possession of a university degree in medicine was not essential for the practice of medicine; the completion of a course of study and of examinations was sufficient. In others, graduates were registered only provisionally until they had served their intern year. Similar difficulties arose in the distinction between professionally qualified nurses and other nursing personnel.

The Committee considered that fairly broad categories were all that were appropriate to a basic minimum analysis of hospital personnel and recognized that in many countries more detailed sub-divisions could and would be made, e.g., by department of hospital, and additional information presented, such as the turnover in staff. Countries using the broad categories might need to add explanatory notes in order to define the contents more precisely. The existence of part-time employment would disturb the figures unless separate statistics were given for full-time and part-time personnel or the latter were expressed in terms of full-time equivalents.

The Expert Committee on Health Statistics

RECOMMENDS

- (1) that statistics of hospital personnel be published for at least the following categories:
 - (a) professional medical
 - (b) nursing
 - (c) other professional and technical
 - (d) other, including administrative and general service staff;
- (2) that for each category the statistics indicate the numbers of full-time and part-time personnel employed or express the latter in full-time equivalents.

7.1.3 *Educational facilities*

The Committee considered the statistics which might be expected to be generally available in respect of educational and training facilities for hospital personnel. It concluded that, whereas information concerning medical schools would probably be available from other sources, the one

item which would be valuable in a basic list of data concerning a hospital was whether or not it included a school for the training of nursing staff.

Accordingly, the Expert Committee on Health Statistics

RECOMMENDS

that statistics concerning hospital facilities include a statement as to the presence or absence of a training school for nurses.

7.2 Utilization of hospital resources

Utilization of hospital resources is indicated by the volume of services given. The number of patients attended, or of days of care rendered, gives information on the extent of in-patient care. The amount of diagnostic and therapeutic services produced provides a measure of the utilization of other facilities for the professional care of the patient.

The Committee considered the following three types of statistics, intended to serve as measures of the professional activities of the hospital.

7.2.1 *Statistics of patient-movement*

The number of in-patients under care in any given year is one of the measures of utilization of bed facilities during that period. It is the sum of patients in the hospital at the beginning of the year and of those admitted during the year. Deducting from this total the number of discharges during the year, one obtains the number remaining at the end of the year. Shown fully, the movement of patients during the year consists of the following elements: number of patients at the beginning of the year, number admitted during the year, total under care, number discharged during the year and number remaining at the end of the year, "total under care" being obtainable from either admissions or discharges.

The Committee felt that the compilation of statistics of patient-movement during the year would be within the possibilities of any hospital. The preparation of such a table did not require the keeping of records of both admissions and discharges and could be derived from records of discharges only and from the census figures at the beginning and end of the year.

Some of the elements in patient-movement need further precision. The Committee took account of the various national definitions of "in-patient" and of the terms "admission" and "discharge", referring to the formal acceptance or release of an in-patient by the hospital. For the purpose of the discussion, the Committee adopted the following working definition of an "in-patient":

"An in-patient is a person admitted to hospital who occupies an adult or child hospital bed for observation, care, diagnosis or treatment."

The term "discharge" was used by the Committee, in line with the practice in several English-speaking countries, to cover departures from the hospital, whether alive or dead, and it was stressed that whenever "discharge" referred only to departures alive this should be made clear in the statistics. The Committee further noted the global term "separation" to comprise both "discharges" (i.e., alive) and "deaths", corresponding to similar terms in other languages. However, in view of the limited usage of the term in English, the Committee did not make any recommendation on this point.

In respect of babies born in the hospital, the Committee noticed the different practices—the newborn being included in "in-patients", "admissions" and "discharges", or considered separately, or left out altogether from the statistics. The Committee emphasized that, for the sake of uniformity, the newborn movement should be given separately.

The Expert Committee on Health Statistics

RECOMMENDS

- (1) that statistics on the movement of patients include the following as a minimum :
 - (a) number in hospital at the beginning of the year
 - (b) number of admissions/children born in hospital during the year
 - (c) total under care during the year
 - (d) number of discharges during the year
 - (e) number in hospital at the end of the year ;
- (2) that figures for each of the above items be given separately for babies born in hospital.

7.2.2 *Statistics of days of care*

The number of days of care during the year, as another measure of bed services, is obtainable from the daily census of patients. Each patient represented in the daily census is to be considered as having contributed one patient-day for the 24-hour period preceding the census. The daily census figures correspond to so many patient-days for a particular day, the sum of the daily censuses over a year providing the number of patient-days for that period. Corrections for patients admitted and discharged on the same day and thus not appearing in any daily census could, for the sake of simplicity, be ignored in a table intended to provide some measure of comparability between hospital systems in various stages of development. As the daily census of patients is essential for the day-to-day efficient operation of any hospital (being necessary, for example, for calculating food requirements), the Committee concluded that this count could be assumed to be readily available.

The Expert Committee on Health Statistics

RECOMMENDS

- (1) that countries publish statistics of days of care in a year, expressing them as the sum of the daily censuses over that period ;
- (2) that these statements be given separately for babies born in hospital.

7.2.3 *Statistics of other professional services*

The Committee considered the question of measures concerning the volume of other services given by a hospital, such as counts of laboratory examinations, X-ray investigations, operations, deliveries, stillbirths, and out-patient visits. It concluded that the diversity of the services given and the complexities involved in evaluating, for example, the wide variety of laboratory examinations rendered these measures inappropriate to a basic minimum list of hospital statistics and made no recommendation on this point.

7.3 **Data on the quality of care**

The Committee discussed the availability of statistics giving some measure of the quality of medical care. Among the examples quoted were autopsy rates, post-operative infection rates, deaths during or shortly after operation, proportion of staphylococcal infections in the newborn, and numbers of neonatal deaths. It was noted that some countries did, in fact, publish statistics on a number of these factors but it was concluded that many of them were more appropriate to *ad hoc* studies than to the field of routine reporting. The establishment of reliable statistics of post-operative infection, for example, was almost a piece of research in itself, and the interpretation of neonatal deaths was doubtful unless they were restricted to deaths in the first 24-48 hours. The Committee considered that such items should not be requested as basic minimum information.

7.4 **Administrative data**

It was noted that some countries collected data on the ancillary services of the hospital, such as the number of meals served, in order to provide some measure of the work-load of services not connected with the professional care of patients. The Committee agreed on the value of such measures to the management of individual hospitals, but thought that they were not appropriate in a minimum list of basic data.

7.5 Financial data

The Committee noted that WHO was working on the development of methods for the assessment of health costs. This research is being carried out in countries with diverse socio-economic backgrounds and different methods of financing health services, with a view to obtaining sufficiently detailed information for the construction of a standardized system of health accounts. The envisaged system is to have a special section devoted to hospital costing, and will, it is hoped, provide a sound basis for the compilation of data on hospital expenditure needed by national accounting statisticians.

The Committee fully recognized the need for generally acceptable methods of analysing hospital costs but it also realized that a detailed discussion would be possible only after information on international variations in recording and classifying such data became available.

Considering the extensive studies being carried out in this field, some of them nearing completion, the Committee felt that it would be unwise, at this stage, to attempt more than the broadest recommendations.

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RECOMMENDS

that financial data be regarded as an essential item of hospital statistics and be collected under the following main headings :

- (1) total annual current income of hospitals ;
- (2) total annual capital expenditure ;
- (3) total annual current operating expenditure.

It appeared that a considerable amount of comparability already existed among countries in the manner in which these major headings are further broken down. For example, current operating expenditures usually identify separately such components as salaries and wages, medical and surgical supplies and equipment, drugs, dressings, and food costs, the primary criterion of classification being the object of expenditure. However, pending the development of uniform methods of hospital accounting through the studies referred to above, the Committee agreed to confine its present recommendation to the above three major headings. The Committee hoped that this item would be considered further at the proposed joint UN/WHO meeting of national accounting statisticians and health statisticians in 1964 to discuss statistics of health expenditures.

8. Statistics Relating to the Patient

The Committee discussed the statistics relating to the "patient" as the unit of enumeration. Acknowledging the useful information presented in a number of countries concerning out-patients, the Committee nevertheless concluded that for the present purpose the consideration should be restricted to in-patients. A working definition of "in-patient" has previously been given in this report under Section 7.2.1 ("Statistics of patient-movement"), namely :

"An in-patient is a person admitted to hospital who occupies an adult or child hospital bed for observation, care, diagnosis or treatment."

8.1 Scope of statistics relating to the patient

Statistics of in-patients described in terms of their hospital experience and personal characteristics serve two main purposes. One is to provide more refined data about hospital utilization than are given by patient-movement, in specifying the type and morbidity of patients receiving hospital services. The second aim of hospital morbidity statistics is to supplement the picture of the health status of the population obtained through mortality statistics, and morbidity statistics from various other sources.

The Committee considered that the minimum requirements for these purposes were counts of patients and of hospitalization days since admission, according to sex and diagnosis, the classification of diagnoses to be according to the International Classification of Diseases. The Committee appreciated that in many countries this minimum would be extended. Wherever possible, countries should include cross-classification by age in order to allow comparison with other types of morbidity statistics and with mortality statistics.

Statistics relating to the patient will form a major and costly part of the national constellation of health statistics, and use of appropriate sampling methods should be considered in order to obtain the desired data. Whatever method is used, the basis of the statistics should be an individual report containing information recorded at admission and maintained during the patient's stay in hospital. These forms should be standardized in respect of their content at least within each hospital and preferably throughout each country.

The question whether statistics of cases should be based on admissions or discharges was discussed. If the turnover of patients is fairly uniform, as is the case with short-term diseases, these two approaches can be considered equivalent. The advantages of the latter are that by the time of

separation the patient has completed the whole course of his stay in hospital, the diagnosis has been confirmed by diagnostic procedures and details of treatment and length of stay are available. For general use, therefore, statistics based on discharges are to be preferred, distinction being made between discharges alive and dead when desirable. However, the Committee recognized that for certain long-stay institutions discharge data may not adequately represent the current position and that data based on admissions and on patients resident in the hospital as of a given day could be a valuable supplement.

The Expert Committee on Health Statistics

RECOMMENDS

- (1) that countries compile hospital morbidity statistics, giving, as a minimum, a count of patients discharged and of their hospitalization days since admission, by diagnosis and sex ;
- (2) that such statistics be produced at least annually ;
- (3) that the data be collected through an individual statistical report completed at the discharge of the patient ;
- (4) that the International Classification of Diseases be used for the classification of diagnoses ;
- (5) that in long-stay institutions these statistics be supplemented, wherever possible, by statistics based upon admissions and patients resident in the hospital as of a given day (for example, the first day of the year).

8.2 Supplementary data

Apart from recommending a basic statistical programme, the Committee stressed the desirability of maintaining flexibility in the production of statistical tabulations, thus avoiding stagnation of the programme by mere repetition of the same type of statistics. This can only be achieved by the routine collection of various other data on the patient, even though they may not be tabulated annually. With the availability of such basic data in the statistical report completed at the discharge of the patient, the tabulation programme could be adjusted to produce information of a kind which is most suited to the needs of the moment.

The additional statistical programme should be oriented from the point of view of the population as well as from the point of view of the hospital so that as many different problems as possible can be studied periodically. Thus, useful information will be available to administrations both inside and outside the hospital and to medical workers in the field of epidemiology and public health.

Among the additional items that should be collected within the framework of the basic statistical programme, the following were specifically mentioned by the Committee.

8.2.1 *Area of residence of the patient*

Periodic special tabulations by area of residence of the patient are desirable, but their scope and nature will vary according to the needs of hospital and health administrations. More frequent use will probably be made of tabulations on a regional rather than on a local basis, although the latter will also be useful, for instance, in indicating the working radius of a hospital. The Committee appreciated the difficulty of obtaining information on a patient's usual place of residence of a type suitable for statistical analysis, but it felt that efforts should be made to secure such data whenever possible.

8.2.2 *Marital status*

This item is of considerable importance from both the administrative and epidemiological points of view. Particularly with the aged and mentally ill, the requirement of hospital services may vary widely according to the marital status of the patient.

8.2.3 *Dispositions following discharge of the patient*

Whether a patient discharged alive is transferred to another hospital, to a convalescent home, to ambulatory care, or sent back to his own home is an item of interest to administrators, e.g., in examining the role of several establishments in the care of the same patient.

8.2.4 *Other items*

Various other items might be mentioned, such as the referral source (e.g., out-patient department, general practitioner), the particular type of diagnosis which should be recorded (e.g., principal or underlying cause of admission), and whether or not the patient had been previously admitted to the hospital. The Committee felt, however, that such further guidance was beyond the scope of its report and that detailed instructions of this kind should be the subject of special manuals.

Further, the Committee considered that statistics from long-stay hospitals presented many problems of a special nature which could not adequately be covered in this report. Aware of the wealth of material that had been placed before it, the Committee suggested that the World Health Organization give consideration to a wider dissemination of some of the papers prepared for the meeting.

9. Populations Served by Hospitals

The Committee emphasized that the value of hospital statistics is considerably enhanced when data are available concerning the population served. Such information is necessary if hospital services are to be directly related to the needs of the population. However, it seems that, except in a few countries with defined hospital service areas, there are many difficulties preventing an accurate estimation of the population served by individual hospitals. For example, while general care may be offered by small local hospitals, any patient requiring more specialized care may have to be sent to a hospital some distance away. In view of this, it would be impossible to provide population data for anything less than a relatively large hospital region, in order to allow for the allocation of some patients to hospitals in the region other than that nearest to their residence. Free choice of hospital on the part of the patient, as it exists in many countries, interferes in the same manner in estimating the population from which a hospital draws its patients.

The Committee, while recognizing the desirability of defining the population at risk, was aware that the approach in individual cases would depend on the particular circumstances involved and did not feel that it could recommend any generally applicable methods for obtaining such data.

10. WHO Manuals on Hospital Statistics

The Committee discussed certain technical aspects of a hospital statistics programme, such as definition of some of its items, measures of in-patient care, type of statistical reports, etc. However, it recognized that comprehensive instructions on how to carry out a hospital statistics programme were not appropriate to its report, which was intended to deal with questions of policy rather than detailed technical matters. Such guidance could be better provided in a separate manual, or series of manuals, to be prepared by the World Health Organization. These manuals should describe the practices in various countries, discuss the merits of different approaches and point out methods and procedures that are sound from the technical standpoint and appropriate to the purpose in view. They should deal with routine methods of collection, classification and tabulation of the data recommended in this report but should not attempt to go beyond this—for example, into methods of conducting *ad hoc* research into specific problems. They should include some guidance on the design and content of reporting forms and the setting up of systems of collection and compilation.

It was felt that these publications would not only assist developing countries to establish hospital statistics systems but would also be of

value to other countries already producing hospital statistics. In presenting the differences in the definitions used in various countries, such manuals could serve to indicate the degree of comparability now existing between published statistics. Furthermore, they would contribute to the improvement of international comparability by stimulating and promoting efforts for alignment of national methods and procedures.

10.1 Manual of statistics relating to the hospital

The Committee noted the views expressed by the WHO Regional Statistical Advisers present that manuals of this type were urgently needed. They should be issued, even in provisional form, with sections on different aspects published as they are completed. The first instalment of such a manual might deal with statistics of bed facilities and their utilization. These are the most common items of statistical reports on the hospital and material on them is already available from a number of countries, in respect of procedures, definitions and measures.

Accordingly, the Expert Committee on Health Statistics, considering the need for guidance in the development of hospital statistics and the desirability of improving their comparability,

RECOMMENDS

that the World Health Organization should, as a matter of urgency, prepare and issue manuals dealing with the technical aspects of the recording, collection, compilation and presentation of statistics relating to the hospital.

10.2 Manual of hospital morbidity statistics

The Committee noted with satisfaction that a manual dealing with statistics relating to the patient already existed in draft form and was included in the documents before the Committee. It had been prepared by Dr M. A. Heasman of the Ministry of Health, London, who had had considerable experience in the collection and analysis of data on hospital in-patients.

The Committee considered the suitability of this document for early issue as an international document by the World Health Organization. The consensus was that the manual successfully avoided any undue local bias and that many of its provisions were generally applicable. There were some parts where revision was required, so as, for example, to give fuller attention to administrative as opposed to epidemiological uses and to provide full discussion of such topics as sampling procedures, presentation of the data by area of residence and centralization of coding.

In view of the need for such a manual the Committee felt that the document should be issued with the minimum of amendment as a provisional manual, to be followed by a final version resulting from a more thorough revision.

WHO STATISTICAL PUBLICATION PROGRAMME

In order to improve the usefulness of its two statistical publications—namely, *Annual Epidemiological and Vital Statistics* and the monthly *Epidemiological and Vital Statistics Report*—the Organization had circulated to national health administrations, to members of the Expert Panel on Health Statistics, and to WHO Regional Offices and Headquarters staff a questionnaire asking for answers to a number of specific questions and for more general comments on content and presentation. An analysis of the replies had resulted in several suggestions for changes in these publications, and the views of the Expert Committee were sought on the more important of these.

The Committee did not feel that it was within its competence to submit a formal recommendation, since several of the issues raised were an internal matter for WHO. However, it considered that the following proposed changes might be useful and reasonable :

(1) that the Annual be published in three parts instead of in one volume as at present ;

(2) that the Intermediate List of 150 Causes be used for numbers of deaths and for death rates for countries making this information available ;

(3) that infant mortality data, at present shown as part of the table analysing deaths in the whole population by cause and age, be consolidated into a separate table ;

(4) that the Intermediate List of 150 Causes be used for the presentation of hospital morbidity statistics for countries making this information available ;

(5) that the Organization publish other types of morbidity statistics if reasonably accurate data are available for a sufficient number of countries ;

(6) that some written commentary, with diagrams, be added to the Monthly Report, but this should be explanatory rather than interpretative.

The Committee expressed the view that more promotion and wider distribution were needed for the two publications and it hoped that the issue of the Annual in three volumes would give the opportunity for using more informative individual titles ; the present global title of the Annual giving no indication that statistics on such topics as hospital establishments

and personnel were included. In conclusion, the Committee stressed the great value of the Organization's statistical publications as a unique source of international data presented in a convenient manner and enabling each country to evaluate its own statistics in relation to those of other countries.

PREPARATION OF THE EIGHTH REVISION OF THE INTERNATIONAL CLASSIFICATION OF DISEASES

1. First Report of the Sub-Committee on Classification of Diseases

The Sub-Committee on Classification of Diseases held its first meeting in November 1961 to examine the usefulness of the International Classification of Diseases (ICD) as a whole and of its various disease sections, and to make recommendations in respect of the preparation of its Eighth Revision. In reviewing the various purposes for which the ICD was being used, the Sub-Committee stressed that the basic function of the ICD was that of classifying morbidity and mortality data for statistical presentation. While recognizing that this function should be the primary consideration in revising the Classification, the Sub-Committee recommended that the Eighth Revision of the ICD should not prejudice its use for other purposes.

The Sub-Committee had considered in detail the classifications of mental disorders, cardiovascular diseases and causes of perinatal morbidity and mortality and had made tentative proposals for their revision. The report of the Sub-Committee was submitted to national administrations for study and action on the recommendations contained in it, with the request that WHO be informed of national revision studies and their results.

The Expert Committee on Health Statistics, having considered the First Report of the Sub-Committee on Classification of Diseases, containing many suggestions for further study and investigation,

NOTES the report ;

STRESSES the interim character of the proposals made in the report ;

EXPRESSES appreciation to the Sub-Committee for its valuable work.

2. Review of Recent Developments

Several countries notified WHO that the proposals of the Sub-Committee were being studied by the competent authorities ; some of them reported on the results of the discussions. In the United Kingdom, the General Register Office Advisory Committee on Medical Nomenclature and Statistics was studying the classification of congenital malformations and disorders,

cardiovascular diseases, mental disorders and the general structure of the ICD, involving, for example, the classification of symptoms and short lists in relation to the numerical arrangement of the ICD.

In the United States of America the Sub-Committee on the International List Revision, apart from continuing its work on other subjects, was examining the structure of the Classification, on the one hand, with a view to multiple-cause tabulations, and, on the other, in terms of "combination categories" intended to provide the maximum information in a single code.

Several other countries had established committees for the preparation of the revision, such as Australia, Czechoslovakia, Japan and the USSR (in co-ordination with those of other East European countries). A number of Latin American countries were co-operating in the intra-regional revision programme discussed below.

On the international level, the Regional Advisory Committee on Classification of Diseases of the Pan American Sanitary Bureau (WHO Regional Office for the Americas) continued with its programme of promoting and co-ordinating activities in the region in respect of the revision. The Latin American Centre for Classification of Diseases organized studies in the region recommended in the First Report of the Advisory Committee¹ in respect of the classification of nutritional deficiencies, diarrhoeal diseases and infectious diseases.

At its second session in 1962 the Regional Advisory Committee² reviewed the activities in the region and outlined further steps in fulfilling the programme. In view of the effective co-operation of a number of Latin American countries (e.g., Argentina, Colombia, Mexico, Panama, Peru, and Venezuela) and the progress made in the work, it was felt that a co-ordinated revision proposal could be submitted which would reflect the experiences, views and needs of the region.

The WHO Centre for Classification of Diseases participated in the work of the revision sub-committees of the General Register Office Advisory Committee and was also engaged in giving effect to other recommendations of the WHO Sub-Committee, such as exploring a possible simplification of the alphabetical index and studying the usefulness of the ICD in classifying morbidity data from various sources.

The Committee appreciated the intensive work being carried out in a number of places through national, inter-country and regional efforts.

¹ Pan American Sanitary Bureau (1961) *Regional Advisory Committee on International Classification of Diseases. First report*, Washington, D.C. (Scientific Publications, No. 53).

² Pan American Sanitary Bureau (1962) *Regional Advisory Committee on International Classification of Diseases. Second report*, Washington, D.C. (Scientific Publications, No. 66).

However, it stressed that the co-operation of all countries was necessary to obtain a wide international basis for the revision.

Countries which have not yet informed WHO of their activities in relation to the revision should be reminded to submit their comments and suggestions for use by WHO and also in their own interest, since there was danger that important proposals might be made too late for adequate consideration.

In turn, WHO should disseminate information on studies being carried out in various countries and on the conclusions reached, and provide for an exchange of views between countries engaged in the same problem.

3. Second Meeting of the Sub-Committee on Classification of Diseases

The Committee recognized the amount of work involved in preparing the second meeting of the Sub-Committee on Classification of Diseases in October 1963 to formulate revision proposals relating to the ICD as a whole. Several sections of the Classification were still awaiting attention and other problems on which work had already been done would need further intensive study in solving pending items, consolidating various experiences and preparing the basis for consideration by the Sub-Committee. In the foreground there was the question of the general structure of the International Classification of Diseases, involving, for example, the numerical arrangement of the ICD, the position of symptoms in the Classification, and the type of "combination categories" to be built into the system. An early decision in this matter was essential to avoid delay in the work on a series of other items dependent on it, such as the structure of the individual sections and the form of tabulation lists.

Even with meticulous preparations for the meeting, the task of the Sub-Committee would not be easy. Detailed consideration of the Classification was essential to revise it in line with progress in medicine, to improve its usefulness as a morbidity classification and adapt it to purposes other than statistical—for example, indexing of medical records by diagnosis. At its second meeting the Sub-Committee would be faced with the results of two years of work carried out by the Organization and many individual countries, and would need sufficient time to assess this material and accordingly formulate proposals for the revision of the ICD.

The Expert Committee on Health Statistics

RECOMMENDS

that the second meeting of the Sub-Committee on Classification of Diseases be of sufficient length to allow adequate consideration of the problems involved and formulation of well-balanced proposals for the Eighth Revision of the ICD.

4. Time-table for the Revision

The Committee reviewed the time-table suggested by the Organization for the preparation of the Eighth Revision :

- October 1963 Second meeting of the Sub-Committee to frame firm revision proposals on the ICD as a whole, which are to be submitted to countries for comments.
- 1964 Meeting of the Expert Committee on Health Statistics to take account of comments received and draft revised proposals for further study by countries.
- 1965 Revision Conference to adopt revision proposals and to discuss various other topics concerned with health statistics.

It was stressed that the meeting of the Expert Committee in 1964 would be the last opportunity for taking account of suggestions from countries and other sources. As on previous occasions, the Revision Conference could not deal with new proposals, especially extensive ones, submitted after the meeting of the Expert Committee.

GENERAL PRINCIPLES OF HEALTH STATISTICS

Health administrations concerned with the level of health of the community, whether on the local, regional or national level, need statistical data of various kinds for the formulation of health programmes, control of operations and evaluation of the results. Data are required on the health status of the population, and conditions of the environment affecting health, as well as on facilities and services intended to protect, promote and restore health. The types and sources of the information needed are of a wide range and variety, such as : population censuses ; statistics of births, marriages and deaths, including causes of death ; morbidity data obtained through surveys or as a by-product in the operation of health and welfare programmes (e.g., notification of communicable diseases, mass-screening campaigns to detect cases of illness, and examination of school children) ; service statistics of health establishments and medical institutions ; data on conditions of the environment (e.g., housing, climate, and air pollution).

All these are data which either deal with "health" or have a direct bearing on it. But other statistics dealing with entirely different subjects could provide information useful to the health administrator.

For instance, data on food production in terms of calories, protein and other nutrients may permit some estimate of the nutritional status of the population. In fact, while statistical data dealing with health as the primary topic of interest form the larger part of the numerical information needed by health administrations, valuable knowledge can be obtained from statistics treating other aspects of life which may implicate "health" (e.g., employment, education, clothing, and social welfare),

Summarizing the above, the Committee stressed that a broad meaning be given to health statistics as the numerical information essential for the formulation, operation and evaluation of health programmes, to comprise the large variety of data bearing on health, irrespective of the source of the data and the methods of collecting them.

The Committee considered the steps to be taken by WHO in line with the above concept and scope of health statistics. It recognized the value of a series of recommendations already made in respect of one or the other sector of health statistics—e.g., statistics of causes of death, hospital statistics, health and morbidity surveys. It also appreciated the work done by WHO through various expert groups in respect of measures of levels of health. However, it felt that the time had come for consolidating the various efforts into a systematic body of knowledge and guidance and for presenting them in a comprehensive framework.

In terms of concrete approaches, the Committee discussed ways and means by which this objective could be achieved through manuals to be prepared by WHO. In the first place, there was need for a detailed and well-considered statement as to the requirements of health administrations for statistical data of various types and from various sources. Emphasis is to be placed on the utilization of the statistics not only as a direct basis for health action but also as an indicator to further intensive *ad hoc* studies. Very often statistics are considered an end in themselves, serving the primary purpose for their collection, without its being realized that they can profitably be used as the starting-point for further appropriately designed investigations able to produce answers to a number of questions. Examples of this kind are retrospective inquiries on possible etiological factors of the cause of death on the basis of death certificates, or intensive studies of the possible reasons for differences in length of hospitalization for a particular disease.

The Committee visualized two types of manuals: (a) a general handbook containing a comprehensive statement on the needs of health administrations for statistical data, the sources of such data and their utilization in health work; (b) a series of handbooks dealing in detail with methods of compiling specific types of health statistics, such as a handbook on hospital statistics, already recommended in this respect. The general manual should also include factual data on the organization of health statistical services in different countries and the type of health statistics produced in

order to provide information on the various approaches in developing health statistical services.

The Expert Committee on Health Statistics, considering the need for systematic guidance in developing and improving health statistical programmes,

RECOMMENDS

that WHO prepare manuals along the following lines :

(1) A general manual containing :

(a) discussion of the theoretical needs of health programmes for statistical data, the sources of such data and their utilization in health work ;

(b) factual data on the organization of health statistical services in the Ministry of Health in various countries, the relationship of these services to other statistical organizations in the country, and the content of health statistics programmes irrespective of the agency with primary responsibility for the compilation of the statistics.

(2) A series of manuals dealing with specific types of health statistics—e.g., notifiable disease statistics and hospital statistics.

The Committee stressed that the appreciation and use of health statistics can be achieved only if they are regarded as an organic and integral part of health administration. Only in this way will it be possible to assure the co-ordinated collection of basic statistics and current operational data, to stimulate their utilization in the administration of health services, and to promote the application of statistics dealing with other topics, outside the field of health.

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Annex
UTILIZATION OF HOSPITAL STATISTICS

Type of hospital statistics	Uses made at hospital or community level	Uses made at regional level	Uses made at national level
<p>A. Statistics relating to the hospital (Derived from annual return of services, facilities, utilization, personnel and finances, completed by each hospital)</p> <p>1. Distribution of beds by service area and type of accommodation, and utilization (Medical, surgical, obstetric, etc., and private, semi-private, standard, etc.)</p>	<ol style="list-style-type: none"> 1. Plan maximum use of hospital beds. 2. Indicate areas of overcrowding or under-utilization. 3. Maintain optimum occupancy ratio. 4. Adjust allocation of beds among units as indicated by use. 5. Total days of care indicate staffing needs. 6. Assess adequacy of accommodation for community requirements. 7. Control average length of stay. 	<ol style="list-style-type: none"> 1. Plan distribution of beds and services. 2. Evaluate requests for new construction. 3. Maintain desired bed-to-population ratios for specific units (e.g., paediatric). 4. Disclose excessive average length of stay. 5. Days of care used as basis for payments to hospitals under insurance arrangements. 	<ol style="list-style-type: none"> 1. Describe volume and distribution of basic hospital resources. 2. Establish bed-to-population standards for specific types of units. 3. Evaluate applications for national hospital construction grants. 4. Market analysis by manufacturers of drugs, supplies and equipment.

Annex (continued)

Type of hospital statistics	Uses made at hospital or community level	Uses made at regional level	Uses made at national level
<p>2. Departmental service statistics (Laboratory, radiology, clinical, operating-room, emergency, etc., and dietary, housekeeping, etc.)</p>	<ol style="list-style-type: none"> 1. Plan space, staff, equipment. 2. Control utilization and costs. 3. Evaluate and improve standards of care. 4. Maintain standards for recognition as hospital. 5. Basis of fee-for-service remuneration of professional staff. 6. Relate resources to work-load. 7. Develop fuller range of services to community. 8. Assess staff production - performance. 	<ol style="list-style-type: none"> 1. Appraise applications for equipment grants. 2. Plan regional services and facilities. 3. Review hospital budgets. 4. Assess staffing needs. 5. Evaluate comparative standards of care. 6. Decisions related to health programmes (tuberculosis, case-finding, blood banks, etc.). 	<ol style="list-style-type: none"> 1. Evaluate applications for national health grants (research, training, equipment). 2. Indication for professional consultative assistance. 3. Describe amount, nature and distribution of hospital services. 4. National planning of insured health care. 5. Research and teaching in hospital administration. 6. Market analysis by manufacturers. 7. Studies by professional staff organizations (e.g., physiotherapists).
<p>3. Hospital personnel statistics (Numbers employed, qualifications, work conditions, hours worked, remuneration, etc. Occupational and departmental breakdowns)</p>	<ol style="list-style-type: none"> 1. Plan hospital staff needs. 2. Evaluate personnel policies. 3. Negotiate wage levels. 4. Prepare hospital budget. 5. Internal deployment of staff resources. 6. Evaluate volume of professional care of patients. 7. Determine need for training facilities. 8. Appraise level of qualification of staff. 9. Reveal misuse of trained staff. 10. Disclose excessive staff turnover. 	<ol style="list-style-type: none"> 1. Review hospital budgets and control costs. 2. Plan programmes of regional training. 3. Detect technical staff shortages or surpluses. 4. Regional distribution of staff resources. 5. Indicate need for recruitment programmes. 6. Establish standards in employee-patient ratios. 7. Provide regional guides on wage levels and work conditions. 	<ol style="list-style-type: none"> 1. Medical and paramedical manpower resource studies. 2. National distribution of qualified personnel. 3. Identify variations in provincial costs <i>per caput</i> attributable to staffing. 4. Evaluate applications for training grants, bursaries, etc. 5. Economic analysis related to employment and national product. 6. University teaching in hospital administration. 7. Information needs of national associations of professional and technical hospital workers.

<p>4. Statistics of hospital training facilities (Particulars of courses, enrolment, costs, etc., of courses for nurses, orderlies, technicians)</p> <p>5. Statistics of hospital revenues (Amounts and sources of operating revenue: earnings from services to patients, grants, donations, investment income, etc.)</p>	<p>1. Plan training programmes.</p> <p>2. Evaluate effectiveness of programmes.</p> <p>3. Indicate training opportunities available to community.</p> <p>1. Prepare financial statement and budget.</p> <p>2. Establish appropriate charges for services.</p> <p>3. Basis of fund-raising campaigns.</p> <p>4. Decisions concerning investment of funds.</p> <p>5. Community knowledge of hospital financial position</p>	<p>1. Assess adequacy of regional distribution of training facilities.</p> <p>2. Indicate over-all effectiveness of facilities.</p> <p>1. Review hospital budgets.</p> <p>2. Decisions concerning assistance in meeting deficits.</p> <p>3. Equitable distribution of grant funds.</p> <p>4. Establish standards for charges to patients.</p>	<p>1. National distribution of facilities.</p> <p>2. Plan educational assistance programmes.</p> <p>1. Part of evaluation of national hospital insurance programme.</p> <p>2. Research and teaching on hospital financing patterns.</p>
<p>6. Statistics of hospital expenses (Detailed expenditure by type of service and object of expenditure; departmental breakdown; costing data)</p>	<p>1. Prepare financial statement and budget.</p> <p>2. Over-all control of costs.</p> <p>3. Maintain balanced internal distribution of funds.</p> <p>4. Indicate areas of uneconomical operation.</p> <p>5. Control purchase of supplies, drugs, equipment.</p> <p>6. Basis for charges to patients.</p> <p>7. Provide information to community.</p>	<p>1. Review hospital budgets.</p> <p>2. Prepare government estimates of cost of providing insured hospital care.</p> <p>3. Identify high-cost hospitals or regions, and reasons.</p> <p>4. Establish regional unit-cost standards.</p>	<p>1. Determine cost of national hospital programme.</p> <p>2. Establish national norms of unit costs.</p> <p>3. Estimate cost of extended care programmes.</p> <p>4. Prepare government budgetary provision for national share of hospital costs.</p> <p>5. Investigate reasons for geographic variations in costs.</p> <p>6. Research and teaching on hospital financing.</p>
<p>7. Statistics of hospital financial balance sheets (Detail of assets and liabilities for revenue fund, plant fund, endowment fund)</p>	<p>1. Financial statement and budget.</p> <p>2. Control investments, accounts receivable, bad debts, overdrafts, etc.</p> <p>3. Decide application of available capital plant funds.</p> <p>4. Basis of application for capital fund assistance.</p>	<p>1. Review budgets.</p> <p>2. Establish guides regarding investment, bad debt reserves, depreciation, etc.</p> <p>3. Decisions on capital fund assistance to hospitals.</p>	<p>1. Describe national distribution of hospital assets and liabilities.</p> <p>2. Decision on national grants of capital funds.</p>

Annex (concluded)

Type of hospital statistics	Uses made at hospital or community level	Uses made at regional level	Uses made at national level
<p>B. Statistics relating to the patient (Derived from admission-discharge record completed on discharge of patient)</p> <p>1. Cases and days by residence of patient</p> <p>2. Cases and days by diagnosis, age and sex (Detailed list, special hospital list, intermediate list. For country and each province)</p> <p>3. Operations by diagnosis</p>	<p>1. Control volume of referrals-in.</p> <p>2. Assess adequacy of resources to area served.</p> <p>1. Orient medical research in hospital.</p> <p>2. Medical staff review of long-stay cases, for specific diseases.</p> <p>3. Adjust allocation of beds and staff by type of service.</p> <p>4. Organize clinical and specialist services in relation to needs.</p> <p>5. Identify community health problems.</p> <p>6. Orient local health programmes.</p> <p>1. Control of operation rates.</p> <p>2. Planning operating suite staff, facilities.</p>	<p>1. Plan geographic distribution of hospital services.</p> <p>2. Decide approval of requests for new hospital construction.</p> <p>1. Orient medical research.</p> <p>2. Regional review of long-stay cases.</p> <p>3. Determine needs for beds, staff, clinical and specialist services.</p> <p>4. Identify public health problems, and orient programmes.</p> <p>5. Formulate admission policies.</p> <p>1. Plan regional distribution of surgical services and facilities.</p> <p>2. Treatment research.</p>	<p>1. Evaluate adequacy of regional distribution of hospital resources in relation to needs.</p> <p>1. Allocate medical research funds.</p> <p>2. Identify long-stay patterns and reasons.</p> <p>3. Special studies of amounts of hospital care required for various diseases.</p> <p>4. Assess national health status and health problems.</p> <p>5. Establish national and regional rates for specific diseases.</p> <p>6. Public health planning, research, teaching.</p> <p>7. Integrate with mortality for enhanced view of proportionate importance of various diseases.</p> <p>1. Establish national and regional norms.</p> <p>2. Special studies evaluating results of treatment.</p> <p>3. Refinement of diagnostic information.</p>