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No. 218

EXPERT COMMITTEE
ON HEALTH STATISTICS

Seventh Report

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WORLD HEALTH ORGANIZATION

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GENEVA

1961

EXPERT COMMITTEE ON HEALTH STATISTICS

Geneva, 5-10 December 1960

Members : *

- Mr F. F. Harris, Director, Health and Welfare Division, Dominion Bureau of Statistics, Ottawa, Canada
- Dr D. W. Horn (formerly Senior Specialist (Medical Statistician), Federal Government of Nigeria), Edinburgh, Scotland
- Dr F. E. Linder, Director, National Center for Health Statistics, Department of Health, Education, and Welfare, Public Health Service, Washington, D.C., USA (*Chairman*)
- Dr W. P. D. Logan, Chief Statistician (Medical), General Register Office, London, England (*Rapporteur*)
- Dr S. C. Seal, Officer on Special Duty (Morbidity Survey), Directorate General of Health Services, New Delhi, India
- Dr T. Soda, Vice-Director, Institute of Public Health, Tokyo, Japan (*Vice-Chairman*)
- Dr M. Vacek, Research Worker, Statistical Department, Institute for Research into the Organization of the Health Services, Prague, Czechoslovakia

Representative of the United Nations :

- Miss Nora P. Powell, Statistical Office, United Nations, New York

Secretariat :

- Dr Marie Čakrtová, Chief Medical Officer, International Classification of Diseases and Development of Health Statistical Services, WHO
- Dr M. Grais, Epidemiologist, Consolidation of Health Statistics, WHO
- Dr H. F. Helweg-Larsen, Regional Adviser in Vital and Health Statistics, WHO Regional Office for South-East Asia, New Delhi, India
- Dr E. F. Krohn, Regional Officer for Epidemiology and Health Statistics, WHO Regional Office for Europe, Copenhagen, Denmark
- Mr J. Nielsen, Statistician, International Classification of Diseases and Development of Health Statistical Services, WHO
- Dr B. Pirc, Chief Epidemiologist, Consolidation of Health Statistics, WHO (*Secretary*)
- Dr Ruth R. Puffer, Chief, Epidemiology and Statistics Section, WHO Regional Office for the Americas, Washington, D.C., USA
- Dr M. Sédeuilh, Regional Adviser in Public Health Administration, Brazzaville, Congo
- Dr S. Swaroop, Chief Statistician, Health Statistical Methodology, WHO

* Unable to attend :

- Professor E. A. Sadvokasova, Head, Department of Health Statistics, Semashko Institute of Public Health Administration and Medical History, Moscow, USSR

EXPERT COMMITTEE ON HEALTH STATISTICS

Seventh Report

The Expert Committee on Health Statistics met in Geneva from 5 to 10 December 1960.

Dr P. Dorolle, Deputy Director-General of the World Health Organization, opened the meeting on behalf of the Director-General.

The Committee elected Dr F. E. Linder, Chairman, Dr T. Soda, Vice-Chairman, and Dr W. P. D. Logan, Rapporteur.

1. HEALTH AND MORBIDITY SURVEYS: GENERAL CONSIDERATIONS

1.1 Aims

National and local health administrations require reliable information on the basis of which they can plan, organize and operate their services more efficiently. Information obtainable from routine sources has to be fully utilized. If the results of a proper analysis of routine data indicate that important information is lacking, then special surveys may be organized. The importance of these surveys is rapidly growing and their methodology is being developed. As one of its principal items of work, the Committee has accordingly reviewed the objectives, types, and methodological aspects of morbidity and health surveys, discussed their potentials and limitations, and considered their field of application.

The survey method of obtaining health statistics has to be distinguished from the routine collection and analysis of vital and health statistics which, for purposes of its discussions, the Committee did not regard as being on its agenda. The survey method involves *ad hoc* procedures and arrangements for the collecting of information not otherwise available. Usually special returns or special questionnaires will be required, the objectives of the survey will be specific, and the duration of the survey will be limited. In some circumstances, however, surveys may be organized to collect a wide variety of information; and some surveys may become continuous, thus constituting a routine source of statistical information.

1.2 Distinction between "health surveys" and "morbidity surveys"

The term "health survey" has a much wider connotation than "morbidity survey", the latter being, in fact, only one element in the full range of possible components of a health survey. A general health survey is capable of providing information on one or all of the following broad subjects :

(1) Health status of the population : this includes such subjects as general morbidity, morbidity from one disease or group (groups) of diseases, impairments, anthropometric measurements, and mortality.

(2) Conditions influencing or influenced by health : among the conditions to be considered are socio-economic conditions, nutrition, environmental factors, living habits, and genetic factors.

(3) Health services and medical care : subjects included are the need for health services, the availability and utilization of health services, the evaluation of health programmes, and the measurement of expenditures in connexion with the prevention and/or treatment of illness.

Morbidity surveys usually comprise only the first two sub-items mentioned under (1) above, although information may be obtained upon some of the other items so as to provide a background to the morbidity information.

1.3 General characteristics of health and morbidity surveys

(1) The survey may be short-term, periodic, or, in certain cases, continuous.

(2) It may be national or deal only with one or more local areas.

(3) Within the area covered, it may deal with the whole population or with a particular population group. In either case a sample of the population may be surveyed.

(4) Questions on health may be included as part of a multipurpose survey dealing with social, economic, housing and other topics, or the survey may be confined to health questions.

(5) The survey may be a "health" or a "morbidity" survey.

(6) A morbidity survey may deal with general morbidity or with a selected disease.

(7) The survey may be associated with a case-finding programme in which the objective is to offer treatment to affected individuals, or the survey may be for the purpose of estimating prevalence and obtaining related data.

(8) The unit of study is usually the individual, but may sometimes be the family or household, occasionally the local community.

1.4 Selection of type of survey

The selection of the type of survey to be employed in any particular circumstance will depend upon, and will necessitate, a full preliminary consideration of the purpose it is intended that the survey shall serve, the availability of existing data, their suitability for use, or the possibility of their being readily adapted for use, and special local or national problems as regards the situation that is to be surveyed and as regards the availability of the personnel and equipment that may be required.

The decision on the method to be used for carrying out a survey must depend upon the objectives of the survey, and the following points in connexion with these objectives should be considered :

- (1) the extent of information to be collected ;
- (2) the practicability of reaching statistical units for investigations ;
- (3) the kind of items to be included ;
- (4) the practicability of diagnosis of the morbid condition ;
- (5) the type of investigators to be engaged in a field survey ;
- (6) the cost of the survey : as the actual size of sample may have to be the same in large and small countries, the cost will be relatively greater in small countries.

1.5 Further considerations

As regards the varying objectives of health surveys, the Committee considered that the following further points should be noted.

1.5.1 *Comprehensive surveys*

In seeking to obtain a picture of the health status of the population it is natural that information should also be sought on conditions influencing health and on the role health services are playing. When a more or less comprehensive survey whose main subject is " health " is being made, information may also be sought on many other related subjects—as, for instance, water supply, nutrition, housing, education and economic status. In such cases, the survey becomes, in fact, a multi-subject survey.

From the point of view of what information is needed by health administrations for the well-planned and efficient working of their service at various levels of administration, such a comprehensive survey would be very desirable. It must be stressed, however, that such surveys, from which it is intended to obtain all the information in one action, are difficult to organize. It is therefore believed that the aims of a single survey should be more modest. Plans could be made for a series of surveys serving a single or combined purpose which would give, step by step, the complete information desired.

1.5.2 *Morbidity*

The measurement of morbidity is the focus of almost all the surveys organized by health services, and their most common purpose is to present a picture of the general morbidity of the population or of morbidity from one specified disease, or group of diseases. Considerable difficulties of definition and measurement, as described in the Sixth Report of the Expert Committee on Health Statistics,¹ are met in this field. No morbidity survey should be organized without taking into full consideration the first chapter of that Report.

1.5.3 *Anthropometric measurements*

No indices of positive health have yet been established. Various anthropometric measurements are being applied which may give an indication in this direction. Various body measures (and their relation) and tests relating to physiology of the body are used in surveys for this purpose. Valuable as this information is, it requires that the procedures used for obtaining it are applied under the strictest observation of standard rules for measurement. It is therefore possible to collect these data only in special circumstances, for which surveyors well trained in the particular field and up-to-date laboratory methods are basic conditions. Work is required to establish international standards for anthropometric measurements.

1.5.4 *Mortality*

In general, information on mortality should not be collected in a survey if a reliable vital statistics registration system exists. Mortality surveys may be carried out in cases where an attempt is being made to evaluate the completeness of registration. In this case, however, a survey should be limited to this particular problem. Surveys may also be used as an interim measure to obtain information on populations which do not have a death registration system. There are so many difficulties in such circumstances, especially regarding causes of death, age of the deceased, and date of death, that the aim should be modest. Usually the data obtained give only an orientation on the subject.

Where a death registration system exists special surveys can be carried out, utilizing the death certificate as the basis for initiating additional inquiries to the certifier as regards clinical, laboratory, socio-economic and other data. Such surveys are of value in epidemiological studies and in research programmes.

¹ *Wld Hlth Org. techn. Rep. Ser.*, 1959, 164

1.5.5 *Conditions influencing health*

Health is affected by a multiplicity of causes. If the aim of a survey is to elucidate "conditions relating to health", it must be understood that it can deal only with a limited number of those causes. A selection will have to be made of those which are considered of importance in the population under survey.

In advanced countries, much is usually known in this connexion from statistics collected regularly or *ad hoc* on subjects such as housing, water supply, education, and economic status. However, the data may not be available for the particular population aggregate under survey and may therefore have to be collected. In such cases the survey must provide data which can be compared with the data existing for the general population, otherwise they are not as useful as they could be. Hence the methodology used in health surveys should correspond absolutely to the methodology applied generally in collecting data on those subjects. Items of ancillary information requested in a health survey can be added from the point of view of what is regarded as "influencing health", but in general this has to be done with the full co-operation and agreement of the statistical services responsible for those subjects.

If the survey is made in circumstances where there are no data at all on "Conditions relating to health", it may be practicable to apply international recommendations as far as they exist, with the addition of the items of interest to health on the particular subject. In this connexion the Committee were informed of relevant activities of the World Health Organization, particularly in the field of public health administration.

The addition of items regarding genetic factors in the concept of a survey must be specially mentioned, since this information has usually been neglected in health surveys. A seminar held jointly in 1960 by the United Nations and WHO on the Use of Vital and Health Statistics for Genetic and Radiation Studies (see Annex 2, page 26) stressed that, with simple modifications of existing records systems, great possibilities exist for obtaining very valuable information on this subject of growing importance for the health of populations.

1.5.6 *Health services*

Frequently the aim of health surveys is to collect information on the availability and utilization of health services and medical care, on their efficacy, and on the cost to the population of maintaining health and combating disease. In health surveys the information is sought from the population for the purpose of attempting to find out what are its needs, how the existing health institutions are used, the efficacy of the work being accomplished, and how much the population is spending in promoting and restoring its health. When related to morbidity data collected in the

same survey, the information obtained can serve an extremely useful purpose for the health service.

As mentioned above, however, care must be taken not to try to collect too much information in one survey. A too comprehensive survey will defeat its purpose.

2. CHARACTERISTICS, POTENTIALS AND LIMITATIONS OF THE PRINCIPAL TYPES OF SURVEY

2.1 Three principal types of survey

A health or morbidity survey generally utilizes one or more of three principal sources of information, depending on its purpose and the availability of those sources. The organization and results of the survey will radically differ according to the source used. The sources are as follows:

(1) special interrogation of individuals, carried out by means of household visitation by trained interviewers (interview survey);

(2) special health examinations of individuals to determine the prevalence of morbidity in general, or of a selected disease in the area under investigation (health examination survey);

(3) special analysis of existing health records, such as those of hospitals, of dispensaries, of doctors in general practice, and of social security services: the routine analysis of these records would not, however, be regarded as a survey (medical record survey).

2.2 Interview surveys

The interview survey may have a variety of characteristics, in that it may be multi-purpose or limited to a single specific purpose, it may be national or local, it may be of short duration or of a continuous evolving character, and in the area concerned it may cover the total population or only some sample of it.

The selection of the interview-type survey and the design of the survey will depend on the purposes to be served, the other types of data available, the particular circumstances in which the survey is to be taken, and the available resources.

The Committee noted the following potentials and limitations of interview type surveys.

(1) *Broad subject coverage.* A general health interview survey can provide general background data which reflect the over-all health picture and show the various components of the health problem in relation to each other. It can measure in approximate terms the extent of illness and disability, the number, age, sex, ability to work, and usual activity status

of persons afflicted with diseases or handicapping conditions, the length of time during which afflicted persons have had varying degrees of disability, the amounts and types of care sought or received, and the economic and social impact of illness and disability. Thus the health interview survey can serve a broad range of persons and institutions concerned with health problems.

(2) *Flexible survey design.* Many types of morbidity statistics are derived as by-products of organizational machinery which was not primarily established for the measurement of health factors; for example, a social security system and the statistics derived from such a system are prescribed by the operational details of that system.

In contrast to the situation when data are derived as a by-product of administrative operations is the degree of flexibility which it is possible to achieve when the data collection system exists primarily for the purposes of measuring the health status in an area. It may be limited by financial or technical considerations, but the content of the data collected are not predetermined by extraneous administrative considerations.

(3) *Population base.* Statistical measures of health or morbidity greatly increase their scientific meanings when they can be expressed as proportions or rates in relation to the population under consideration. Interview-type surveys have the advantage, not always enjoyed by other types of survey, of automatically providing the necessary population figures in all the sub-classes that are required for the analysis of all of the health-related variables collected in the survey.

(4) *Person as a focus.* The interview survey takes advantage also of the fact that there is one point from which all of the needed information is generated—namely, the individual. While some of the desired data can be collected, perhaps much more accurately, from hospital records, from physicians' or clinic records, from rehabilitation agencies, or from schools or offices, there is no easy way to combine all the data from these varied sources so as to relate them to the same individual in a way permitting cross-tabulation of all the factors.

The survey method, in going directly to the individual, can obtain a wide range of data in a form with maximum analytical possibilities.

(5) *Response error.* The greatest limitation of the interview survey, aside from financial, organizational, and operating problems, lies in the so far largely unknown character and magnitude of the response error encountered.

Proceeding from a theoretical base, sampling errors can be computed and their significance is widely appreciated. No such theoretical foundation exists for the evaluation of response errors, and the importance of these can be understood only on the basis of slowly accumulated empirical experience.

It should not be assumed, *a priori*, that response error is a negligible factor with regard to any one variable. In the field of health, the greatest limitations with regard to response accuracy are expected to be found with regard to the diagnostic data, and great care should be taken in interpreting diagnostic data derived from interview surveys. Most people are willing to accept the idea that if a person states he is ill, he is ill. However, much less credence can be placed in the cause to which the illness is ascribed by the person interviewed, except perhaps in the sub-class of cases where there has been medical care and where the physician has determined a diagnosis and has informed the patient.

Having regard to these potentials and limitations of surveys of the interview type, the Committee considered that they were of particular value in obtaining information, not readily available otherwise, about levels of general morbidity and the utilization of health services in relation to broad social, environmental and economic characteristics. The method does not provide accurate information on the incidence or prevalence of specific diseases.

The Committee reviewed the factors that have to be considered in the technical design of an interview survey, and has listed these items as Annex 1 (see page 25).

2.3 Health examination surveys

In studies where it is important to have precise diagnostic information based on appropriate laboratory or other tests, health examination surveys are a particularly valuable method.

Surveys conducted by means of special medical examination can range in character from the thorough physical examination, supported by appropriate laboratory and other diagnostic tests, of a relatively small number of persons to the examination of very large numbers of persons by simple diagnostic screening procedures such as mass radiography.

Combined with the health examination, information may be obtained by the interview method concerning a variety of factors—for example, medical and family history, and socio-economic circumstances, relating to the persons examined. Furthermore the diagnostic examination can be extended by the addition of tests and measurements outside the diagnostic field, as, for example, anthropometric measurements.

The primary purpose of *ad hoc* health examination surveys is the assessment of the prevalence of morbidity (general or specific) with a view to more effective formulation of public health programmes. A series of surveys before the establishment of the programme and during its operation also provide a reliable baseline for the evaluation of the efficacy of a particular programme.

It should be noted that the primary objective of health surveys does not preclude immediate health action in respect of individual cases.

The principal advantages of surveys based on *ad hoc* medical examinations are: (1) the relatively high degree of diagnostic accuracy that can be achieved; and (2) the fact that, provided proper sampling techniques are employed or the whole community is examined, the results are directly applicable to a known population.

These surveys can be of particular value if due care is taken of certain points—namely, that compared with other types of surveys the cost of medical examination surveys is high; care must be taken to ensure the application and maintenance of uniform diagnostic procedures; difficulty may be encountered in finding personnel with the desired qualifications for the proper conduct of the medical and/or laboratory examinations; and special diagnostic equipment must be available in sufficient quantity for the efficient conduct of the survey.

Obtaining the co-operation of the individuals selected for examination may or may not prove easy, depending upon the simplicity of the examination, the time involved, the carrying-out of painful or embarrassing tests, the confidentiality of the findings, and the necessity for return visits. The offer of free treatment for conditions found will often induce individuals to co-operate. In sampling surveys designed to estimate prevalence, the Committee emphasized the importance of ensuring that all the persons in the selected sample should be examined, so as to avoid the bias arising from the self-exclusion of a proportion of examinees.

Having regard to all of these factors, the Committee considered that surveys based on special medical examinations are particularly suitable for the detection of specific diseases in a fairly small area. With proper sampling design and with adequate resources, this technique can be carried out on a wider scale.

2.4 Health and morbidity surveys based on existing record systems

The third main source of information which can be utilized for statistical appraisal of health status and health conditions, using survey methods, is represented by the variety of records which are kept as part of the administration of official health, welfare, and social security programmes, or are maintained by institutions and persons providing health services. Among others, these would include, as being primarily of a medical character, the medical records of hospitals (including such institutions as outpatient clinics, health centres, dispensaries, etc.), of medical practitioners, of social insurance agencies receiving certificates of medical incapacity as a qualification for unemployment benefit, and of special case registers relating to specific conditions.

The usefulness of such records as a source of morbidity information will vary according to the purpose of the survey, the degree of co-ordination of medical, hospital, and other health services in particular countries, the form in which record systems are maintained, the purposes for which they are kept, and similar factors. These factors apply in different degrees in different countries. Even in countries with similar kinds of such record systems, the contributions to morbidity statistics will vary according to differing conceptions of statistical needs and the availability of alternative statistical information. It would accordingly be impossible to assert categorically, without taking these considerations into account, the relative merits of record-based surveys in comparison with the examination-based survey and interview-based survey described above.

The Committee felt, nevertheless, that it would be helpful to point out certain features of the record-based type of survey in order to assist nations to decide which of the three types (or what combination of them) would be most suitable to national conditions and needs.

(1) Bearing in mind the importance of bringing together, in health statistics, all available information centring on the person or group being counted, the record-based survey method would be particularly applicable in countries where all health services are provided through a single, integrated system. In other countries, provision should ideally be made to consolidate information derived from several dissociated record systems and to supplement this where necessary by securing related personal and socio-economic data which may not be available on routine records.

(2) The statistics yielded by existing health records will be of greatest usefulness for the specialized purpose of administering the particular programmes with which they are associated. Depending on the type of record, including its content, quality and coverage, their usefulness extends also to a broader range of other purposes in assessing health status, health conditions, and health services.

(3) By reason of its medical source, the quality of the diagnostic data available by this method is superior to that derived from interview-based surveys, so that for such purposes as inquiry into the proportionate frequencies of various diseases or groups of diseases, it is to be preferred to household surveys. For the same purpose, however, the diagnostic quality is probably inferior to that produced by special medical examinations under controlled conditions.

(4) Since the records in question have probably been initially designed for a purpose other than that of supplying statistical data, serious limitations may attach to the results of a "retrospective" record-based survey—that is, a survey based on pre-existing records probably designed for other purposes. Preferably the survey should be of a prospective nature, with the records and recording procedures designed for the specific objectives

of the survey. However, existing health records may be highly useful for producing certain gross information such as total numbers of admissions or visits, number of days of incapacity, etc., and also as the source or starting point for specially designed surveys of the examination or interview type and for developing more sophisticated methods for record-based surveys concerning health status and health services.

(5) From the combined viewpoint of the quality and comparability of diagnostic data, hospital records are superior to those of medical practitioners except in those countries referred to under (1) above (see page 12), where the recording of diagnoses for all medically attended illness is subject to control.

(6) Record-based surveys initiated as one-time or periodic projects may, after demonstration of their usefulness, be developed into continuing statistical collection systems.

(7) The usefulness of record-based surveys is limited when the information cannot be related to a population of known size and characteristics, and is greatly enhanced when it can.

Before undertaking major actions on the strength of a survey based on existing health records, every effort should be made to carry out the following steps :

(a) Formulate the purpose and design of the survey as precisely as possible.

(b) Organize the records and recording procedures, with respect to definitions, terminology, contents, etc., in such a way as to fit into the conceptual framework of the survey.

(c) Build into the survey as many checks and controls as possible.

(d) Test all aspects of the survey as fully as possible beforehand by carrying out a pilot study, with particular assessment of all potential sources of bias and error.

(e) Use the survey results in the first instance for administrative and other limited purposes, and continuously adapt the methods to current or widening needs.

In many instances the needs for morbidity and related data may be so pressing that it is not possible to wait until these stipulations have all been met. It is, in fact, usually necessary to start with what is available and, on the basis of the problems encountered, to improve the techniques along sound statistical lines.

In spite of the limited value of hospital and dispensary records for projecting the data on the population involved, there are certain specific situations where the hospital data have been found to be a valuable source of information, as in tetanus, cancer, and other diseases that are usually

hospitalized. Also, in certain countries where the population is well served with hospital and dispensary facilities, where the records can reasonably be related to a population base, and where health surveys with person or family as a source would be difficult to justify, organized hospital and dispensary records may be profitably utilized or exploited for the purpose of designing effective public health programmes and general health policies.

However, the important step in this regard would be to improve the existing recording systems in the hospitals and dispensaries and to evolve a uniform and simple standard record card for statistical purposes.

2.5 Recommendations

The Expert Committee on Health Statistics,

Taking note of the demand for current and comprehensive morbidity statistics on which to base public health policy, programming and evaluation, especially in the developing areas, and being aware of the fact that population data as well as conventional record systems pertaining to vital and health statistics tend to be either inadequate or incompletely developed in these areas,

RECOMMENDS

that countries consider the advisability of supplementing existing health statistics by establishing health survey programmes based on modern scientific survey procedures adapted as appropriate to the area, taking into account the various types of surveys described in this report, their potentials and limitations, and the requirement that each survey be designed to meet a specific objective.

The Expert Committee on Health Statistics,

Taking note also of the recommendations made in its Sixth Report regarding the adoption of the concepts, definitions and terms expressed in that Report for the tabulation and publication of morbidity statistics, including morbidity statistics derived from various types of survey,

RECOMMENDS that

(1) the World Health Organization again draw the attention of national health statistics administrations to the concepts, definitions, and terms proposed in the Sixth Report,

(2) these concepts, definitions and terms be adopted, in so far as possible, in the publication of the results of morbidity surveys, and that in the publication of survey results, attention be given to describing the survey methods used.

The Expert Committee on Health Statistics,

Having regard to the particular usefulness of hospital in-patient records as a source of morbidity information, especially where the resulting statistics can be related to a population at risk,

RECOMMENDS

that countries should take all possible steps to improve the quality of hospital admission-discharge records and recording procedures with a view to their use in statistical surveys or systems to provide measures of hospital utilization and indicators of community and national morbidity patterns.

3. LOCAL HEALTH SURVEYS, SPECIFIC DISEASE SURVEYS, AND SURVEYS IN LESS-DEVELOPED AREAS

The Committee's comments in sections 3.1, 3.2, and 3.3 below do not represent a full discussion of these topics. They are intended to supplement the more general discussion in section 2 above, which should be read in conjunction with this section.

3.1 Local health surveys

Health surveys carried out in more or less circumscribed geographical areas may be made to serve one or more of three main purposes.

Firstly, the survey may be carried out to determine the incidence of morbidity in a defined community at special risk by reason of peculiar geographical, climatic or industrial factors. An example would be to determine the incidence of respiratory disease in a mining community. This is usually an *ad hoc* exercise carried out as an end in itself, with specific public health action in view as a result.

Secondly, the local area may be carefully selected to serve as representative of a much larger area. This may be necessary where the organization of medical services is such that the desired information cannot be elicited from existing records, or where the medical coverage of the population is not complete, or where financial or other considerations prohibit investigation on a larger scale. Under any of these circumstances, it is an advantage if the local survey is conducted to a standardized design and is replicated in several sample areas of a territory, as such standardization ensures comparability. Such sample surveys may be made as *ad hoc* exercises to determine whether it is necessary to carry out control programmes for specific diseases; where the local public health organization permits, however, they may be carried out on a continuous basis, utilizing the routine domiciliary visits of health visitors or sanitary inspectors to collect

detailed information from **selected households**. The household registers thus compiled may have a use for many other purposes apart from the assessment of morbidity.

Thirdly, the local survey may be used as a methodological pilot study for a much larger investigation. This is a particular necessity in underdeveloped territories where medical coverage of the population is scanty and where it may be necessary to train medical staff in the technique of field investigations.

To take the family or household as the unit of the investigation, instead of the individual, is usually more practicable in local than in more widespread surveys.

3.2 Specific disease survey

This is designed for the measurement of a specific problem under circumstances where its extent or nature is not precisely known and where data are lacking for the design of a public health programme directed towards the control or eradication of a specific disease. It is of little value to a health administration or to a community to carry out such a survey unless there is at least the possibility of putting into effect a control programme. This field is one where a survey technique based on the medical examination of the individual is usually the method of choice, although in special circumstances it may be possible to use existing records as the source of the desired information—as, for instance, the investigation of the incidence of cancer in a community with well-developed medical facilities; the interview technique may also be possible where information is sought on easily-recognizable conditions such as defects of hearing or vision.

3.3 Surveys in less-developed areas

In underdeveloped areas, medical facilities are usually scanty, and the information to be derived from medical records even more so. Although there may exist a body of subjective opinion, derived from the experience of local medical men, on the prevalence and relative importance of the various endemic diseases, accurate and detailed information is usually lacking. Hospital patients represent a selected sample of sick persons, and, more important still from the statistical point of view, the population denominator of the sample is unknown. Under these circumstances, surveys based on the medical examination of a representative sample of individuals is the only way in which accurate information for the planning of disease control measures can be acquired.

Refined sampling techniques are usually not applicable in these territories. The survey is conducted by a specially-trained team of assistants headed

by a doctor, and is begun by conducting a special census of the population of the selected area. This census not only serves to provide an accurate population denominator for the subsequent calculation of rates of incidence, but also serves as a check on the absenteeism that may otherwise vitiate results, and ensures that no individual is examined more than once. The people are then examined on the basis of the census, receiving a complete medical examination, coupled with such laboratory examinations as are necessary and possible under field conditions.

A survey of this type may be regarded as a special instance of the local health survey mentioned on page 15. It must again be emphasized that such a fact-finding survey, although producing data of considerable scientific value, must not be regarded as an end in itself. If it is decided to undertake control measures directed against one or more specific diseases (and it is fortunate that most of the major endemic diseases of the tropics are amenable to control by mass treatment measures), the survey teams are diverted to case-finding and treatment in the area in which they have been working.

Surveys of this kind, followed by treatment campaigns, have a particular value in the development of rural public health services in underdeveloped territories, in that the personnel of the survey teams, when the campaign is completed, can be utilized to develop rural health units, and lay the foundations of a nation-wide health service.

4. PREPARATIONS FOR THE EIGHTH REVISION OF THE INTERNATIONAL STATISTICAL CLASSIFICATION OF DISEASES, INJURIES AND CAUSES OF DEATH

The Committee reviewed the preparatory work for the Eighth Revision of the International Classification of Diseases, the action taken or planned for the discussion and formulation of revision proposals by WHO expert groups specifically established for this purpose, and the timetable of such meetings which will precede the revision in 1965.

Preparatory work for the Eighth Revision of the International Classification of Diseases has been going on at several levels: at the national level, on the initiative of the agencies compiling vital and health statistics; in bipartite or tripartite meetings of the interested countries to exchange experiences and align national studies; through regional efforts co-ordinating the activities within the region; and in the WHO Secretariat, in collaboration with the WHO Centres for Classification of Diseases, and with expert committees meeting on various clinical subjects involving the International Classification of Diseases (ICD).

Particular emphasis has been placed on the active part developing countries should play by indicating in what respect the ICD has failed to serve their needs and in what way it should be modified. Some WHO Regional Offices have made special efforts to enlist the co-operation of the countries in their region. The Seminar in the South East Asia Region on the Classification of Morbidity and Mortality, in 1958, devoted part of its programme to discussion of conditions in the region for which there were no adequate provisions in the ICD, and suggested ways and means of improving it. An advisory committee has been established by the Regional Office for the Americas to consider classification problems in the countries of the region and to formulate, in close co-operation with the Latin American Centre for Classification of Diseases, proposals for revising the classification so as to adjust it to the statistical needs of the countries. Attention is being particularly given to infectious diseases, diarrhoeal diseases and nutritional diseases.

The Committee noted the progress made in respect of the three sections of the classification especially in need of a comprehensive review—namely, the classification of cardiovascular diseases, of causes of foetal death and of early neonatal mortality and morbidity, and of mental disorders. Several countries have been carrying out thorough investigations on the adequacy of the present classification of cardiovascular diseases. Detailed studies have also been undertaken in respect of recording and classifying causes of foetal death and the possibilities of establishing an integrated classification relating to causes of both foetal death and neonatal mortality. In addition, replies to the WHO questionnaire on the compilation of statistics of foetal death will provide information on experience in the various countries with the classification and with the application of the WHO definitions of “live birth” and of “foetal death”. Some progress has already been made in respect of the classification of mental disorders. A comparative review¹ has been made on classifications of mental disorders existing in various countries, and on the difficulty of establishing a universally acceptable international classification of mental disorders in view of the lack of agreement on diagnostic concepts.

The Committee recalled the recommendations in its Sixth Report² concerning the revision. In view of the complexity of the clinical and statistical problems involved in the classification of cardiovascular diseases, mental diseases, and perinatal conditions, it recommended joint meetings between clinicians and health statisticians to consider the revision of the classification in the light of current clinical concepts and statistical requirements, the findings at these meetings to be submitted to the WHO Sub-Committee for the Eighth Revision.

¹ Stengel, E. (1959) *Bull. Wld Hlth Org.*, 21, 601

² *Wld Hlth Org. Techn. Rep. Ser.*, 1959, 164

The Committee, taking into account the scope of the revision and the need for a series of international discussions, supported the following schedule of meetings leading to the revision.

- 1961 Meetings of three consultant groups composed of clinicians and statisticians to consider revision of the three areas of the classification requiring special study, and to prepare reports on their deliberations.
- 1961 Meeting of the Sub-Committee for the Eighth Revision to give preliminary consideration to the revision of the Classification on the basis of experience accumulation and in the light of observations of various WHO expert groups, both at the headquarters and regional levels, particularly to discuss the reports of the three consultant groups, and to suggest further action. Tentative classifications of the three groups of conditions which may result from these meetings would be circulated for study and trial in appropriate places.
- 1962 As needed, meetings of joint consultant groups to consider results of trials with the draft classifications.
Meeting of Expert Committee on Health Statistics to consider the report of the Sub-Committee.
- 1963 Meeting of the Sub-Committee to formulate draft revision proposals relating to the Classification as a whole on the basis of the accumulated material. These proposals are to be circulated to national administrations for comments and suggestions.
- 1964 Meeting of the Sub-Committee to prepare semi-final proposals on the basis of suggestions received from countries. These are to be circulated to countries for further study.
- 1965 Revision conference to agree on the Eighth Revision.

The Committee discussed developments since 1948 in the position, extent of application and importance of the Classification in the field of public health and medical research. Before 1948, the International Classification concerned a limited number of countries. The development of health services in an ever-increasing number of countries made the Classification a routine tool in public health practice all over the world. In addition, the growing emphasis on morbidity statistics has tremendously enlarged the field of its application. The International Classification, as such or in an expanded form, is more and more being used in establishing an index to hospital case histories, so as to make the diagnostic information contained in them easily accessible for study. It can be seen that it is essential that the Classification be properly adjusted to meet the manifold demands made upon it.

The Expert Committee on Health Statistics,

Considering the expected large scope of the Eighth Revision, the amount of work involved in preparing the Revision before 1965 and issuing the revised volumes in several languages, and the imperative need of national administrations compiling statistics to have at their disposal the revised Classification in 1967 for introduction into the procedures for compiling statistics and for actual application by 1968, the year for which it is expected that the new Revision will come into effect,

RECOMMENDS

that adequate resources be available at all stages of the work in order to fulfil satisfactorily WHO's constitutional responsibility in this respect, and that no delay be incurred in preparing and effecting the Revision.

**5. UN/WHO SEMINAR ON THE
USE OF VITAL AND HEALTH STATISTICS FOR GENETIC
AND RADIATION STUDIES**

The Committee was informed of the international Seminar on the Use of Vital and Health Statistics for Genetic and Radiation Studies which was convened in Geneva from 5 to 9 September 1960 under the sponsorship of the United Nations and the World Health Organization. This Seminar was designed to bring together civil registrars, vital statisticians, health statisticians, human geneticists, and radiation epidemiologists for the purpose of interchanging views on the current adequacy and future potentialities of civil registration procedures, as well as vital and health statistics, as a source of data for studies in genetics and in the effects of radiation on human populations.

The participants in the Seminar considered practical suggestions for overcoming the present limitations in records and statistics and, in this connexion, noted that progress toward meeting needs more fully might often be achieved through rather simple means, without drastically changing established systems. To this end they outlined a variety of measures which, in their opinion, might be found useful in achieving the desired results. The "Consensus of Opinion of the Experts Participating in the Seminar", containing the suggested measures, is given as Annex II to the 1960 *Annual Progress Report of the Scientific Committee on the Effects of Atomic Radiation*¹ unanimously approved by the General Assembly of the United Nations in Resolution 1574 (XV). For convenience, it is printed as Annex 2 to this report (see page 26).

¹ United Nations General Assembly mimeographed document A/4528, 4 October 1960

The present Committee expressed its keen interest in this new area of public-health activity, as well as its recognition of the potential role of health statistics as a source of data for research in this field. It noted with satisfaction the Seminar's pioneering deliberations and recommended that countries take cognizance of the suggestions set forth in the Consensus with a view to exploring the possibilities at their disposal for implementing such of the measures as might be found appropriate and feasible. Particular emphasis was placed by the Committee on the desirability of co-operation between human geneticists and radiation epidemiologists on the one hand, and authorities concerned with the civil registration of vital events and the collection of vital and health statistics on the other, and the hope was expressed that such contacts might be maintained and expanded so as to take full advantage of this aid to the development of mutually advantageous programmes.

6. PARTICIPATION OF REGIONAL STATISTICAL ADVISERS

In its fifth report the Committee suggested that its work would be improved if the WHO Regional Advisers on Statistics attended its meetings and participated as observers in its work. The present Committee included Regional Advisers from the African, American, European and South East Asia Regions, who participated in the discussions, and whose varied experience was extremely useful to the Committee. It is also felt that with this type of participation the technical views of the Committee can be communicated in a more effective way to the Regional Offices and to the responsible health directors and health statisticians of the member countries.

The Expert Committee on Health Statistics

RECOMMENDS that

- (1) WHO continue to arrange that the Regional Advisers attend future meetings of the Committee ;
- (2) the agenda and work programme of the Committee be planned so as to utilize even more effectively the broad regional experience which is available in this way.

7. NEED FOR BIBLIOGRAPHY ON HEALTH SURVEY METHODS

The Committee noted the absence of any convenient source of information on the various health surveys that are being conducted in various countries, and particularly felt the need for a bibliography of reports describing the methodology of such surveys in widely varying circumstances throughout the world.

It was felt, however, that such a bibliography might be more efficiently compiled on a regional basis, and it was suggested that the matter should be considered by the Regional Statistical Advisers.

8. HOSPITAL STATISTICS

The Committee noted that the subject of hospital statistics, discussed by its Sub-Committee on Hospital Statistics in 1950, and recognized by the Conference on Morbidity Statistics in the third report of the Committee¹ as being one of the principal fields of morbidity statistics, had not subsequently received the attention of the Committee, though it had been the theme of a conference convened by the WHO European Regional Office in 1958.

In view of the recent extensive developments that have taken place in this field, and the need to review these developments from the international viewpoint, the Committee noted with satisfaction that the proposed budget for WHO for 1962 envisages a meeting of the Expert Committee on Health Statistics to make recommendations on hospital statistics in both their morbidity and administrative aspects. The Committee was of the opinion that at this meeting consideration should be given to such topics as the use of hospital in-patient and out-patient records for morbidity statistics; uniform case-summary form; terms and definitions in hospital morbidity statistics; the International Classification of Disease (its use for hospital statistics, and its extension for use as a diagnostic index); and the training of personnel in hospital records and statistics.

9. NATIONAL COMMITTEES ON VITAL AND HEALTH STATISTICS

The Committee reviewed the activities of National Committees on Vital and Health Statistics and discussed their role in relation to the statistical programme of the World Health Organization. The Committee proposed that a review of the activities of National Committees on Vital and Health Statistics should be undertaken.

The Committee emphasized the desirability of establishing National Committees on Vital and Health Statistics in all countries. It was felt that National Committees should meet regularly, at least once annually, and should inform WHO of their activities.

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

The Committee noted with satisfaction that a regional conference on vital and health statistics for the purpose of increasing co-operation between National Committees on Vital and Health Statistics and of exchanging experience and discussion of fields and methods of work was envisaged in the WHO European Region for 1962, and that regional activities are also being carried on in the WHO Region of the Americas ; a seminar with participation of statisticians from Central America and Panama in 1961 includes the subject of National Committees on its agenda. The Committee expressed its hope that similar meetings might be convened for other regions.

10. ELEVENTH WORLD HEALTH ASSEMBLY RESOLUTION ON THE WHO STATISTICAL PROGRAMME

The Committee recalled the interest expressed in its Sixth Report in the resolution of the Eleventh World Health Assembly (WHA11.41) :

“ The Eleventh World Health Assembly,

Recognizing the importance of the scientific quantitative measurement of the health status of populations to the continued progress of public health programmes throughout the world, and

Noting that, in accordance with resolution WHA10.17, the Director-General has submitted a progress report to the Executive Board which deals especially with the past and present work of WHO in vital and health statistics, and that he is to submit a final report to the Executive Board,

REQUESTS the Director-General :

(1) to continue this study in the field of health and vital statistics, with appropriate expert consultation, with a view to making a final report at an early session of the Executive Board, and

(2) to include in this report recommendations on a forward-looking and balanced WHO programme for the development and strengthening of systematic procedures for the securing of adequate vital and health statistics, such recommendations to include specific proposals

(a) on how WHO can appraise and assist in the development of administrative and technical procedures best adapted to various social and organizational frameworks ;

(b) on how WHO can evaluate and disseminate information on the systems in effect in different countries, and

(c) on how WHO can further the development and adoption of international standards in health statistics.”

In its Sixth Report the Committee expressed the hope that this statement by the Director-General would go beyond a mere programme description, and would present a clear-cut exposition of the scope and nature of the Organization's responsibilities in the field of health statistics, and constitute a blueprint of a long-term programme of action which would keep pace with the rapid expansion of public health programmes throughout the world.

The Committee wishes to stress that everywhere public health administrations are in increasing need of an objective and factual foundation on which to plan and evaluate their health programmes. Members of the Committee and their colleagues in other countries are participating in various phases of this rapidly evolving quantitative science. Their technical work would be greatly facilitated if there were a clearer understanding of the objectives and general programme of WHO in promoting the development of the administrative and technical procedures required for an adequate national health statistics programme, in evaluating and disseminating information on the systems in effect in different countries, and in furthering the development and adoption of international standards in health statistics.

With these considerations in mind the Committee recommends that priority be given to the preparation of the statement requested by the Eleventh World Health Assembly.

Annex 1

TECHNICAL FACTORS TO BE CONSIDERED IN THE DESIGN OF AN INTERVIEW SURVEY

In the technical design of an interview survey a great variety of factors must be considered. It has been amply demonstrated that the level and validity of the results are heavily dependent upon such factors as the rules governing the selection of the respondent, the extent and probing character of the questions, the length of the retrospective recall period, the procedures of coding and tabulation, and numerous other elements of the survey design.

The science of health survey design is in too primitive a stage, and the purposes and situations of currently conducted health surveys are too varied, to admit of any possibility of achieving international comparability. Yet the elements of survey design which must be considered in each case are basically the same. Without indicating the importance of each factor or indicating any recommended course of action, the following check list of factors relating to the design of health interview surveys is presented for consideration.

Check-List of Factors bearing on Design of Health-Interview Surveys

- | | |
|--|--|
| 1. <i>Geographic coverage</i> | (b) Chronic conditions |
| (a) Nation-wide or local | (c) Impairments |
| (b) Urban and rural | (d) Injuries |
| 2. <i>Population coverage</i> | (e) Hospitalization |
| (a) Treatment of institutional population | (f) Medical care |
| (b) Treatment of special groups—military, etc. | (g) Person disability |
| (c) Age range covered | (h) Dental care |
| (d) Death data covered | (i) Other |
| 3. <i>Time coverage</i> | 5. <i>Definition of concepts</i> |
| (a) Years covered—temporal trend | (a) Theoretical concept of units of study |
| (b) Seasons covered—seasonal variation | (b) Operational definitions |
| (c) One-time or continuous survey operation | 6. <i>Sample design</i> |
| 4. <i>Subject-matter coverage</i> | (a) Probability sample of universe |
| (a) Acute conditions | (b) Degree of stratification, clustering, etc. |
| | (c) Type of ultimate sample unit |
| | (d) Availability of estimates of sample error |

- | | |
|---|---|
| <p>7. <i>Interview design</i></p> <ul style="list-style-type: none"> (a) Visit unit—household or person (b) Single or repeat visits—cohort method (c) If longitudinal—length of follow-up period (d) Structured or free interview (e) Order and form of questions (f) Nature of probe questions (g) Diary usage (h) Time-recall periods for different topics <p>8. <i>Factors related to respondent</i></p> <ul style="list-style-type: none"> (a) Selection of respondent—use of proxy (b) Response rate (c) Level of respondent knowledge (d) Memory factor—length of recall period (e) Reporting of misinformation or concealment | <p>9. <i>Factors relating to interviewer</i></p> <ul style="list-style-type: none"> (a) Criteria for selection (b) Training and supervisory control (c) Degree of freedom allowed in interview (d) Interviewer work-load factors (e) Errors and bias associated with interviewer <p>10. <i>Processing plan and control</i></p> <ul style="list-style-type: none"> (a) Editing and coding procedures (b) Quality control methods <p>11. <i>Tabulation plan</i></p> <ul style="list-style-type: none"> (a) Morbidity classification (b) Other classifications (c) Tabulation concepts <p>12. <i>Analytical methods</i></p> <ul style="list-style-type: none"> (a) Estimating procedures (b) Type of rates used (c) Denominator figures available (d) Technical notes published (e) Availability of evaluation data |
|---|---|

Annex 2

CONSENSUS OF OPINION OF THE EXPERTS PARTICIPATING IN THE UN/WHO SEMINAR ON THE USE OF VITAL AND HEALTH STATISTICS FOR GENETIC AND RADIATION STUDIES ¹

1. The participants in the Seminar on the Use of Vital and Health Statistics for Genetic and Radiation Studies have conducted a general and detailed examination of the current adequacy and future potentialities of civil registration procedures, as well as of vital and health statistics as a source of data in studies of genetics and of the effects of radiation in human populations. They have considered practical suggestions for overcoming present limitations, so as to meet, in particular, the critical needs of human geneticists and radiation epidemiologists.

¹ United Nations General Assembly mimeographed document A/4528, 4 October 1960, Annex II

2. The participants note with satisfaction that co-operation between the official authorities concerned with registration of vital events and with the collection of vital and health statistics, on one side, and the students of human genetics and radiation epidemiology, on the other, has already been initiated in several countries and that closer contacts between them are to be expected in the future.

3. In the conviction that we are entering an era in which knowledge of the genetic endowments of human individuals and populations will lead to new insights into the health and well-being of mankind, it is suggested that contacts between biological scientists and vital and health statisticians be maintained and expanded and that full advantage be taken of this co-operation through frequent and continuing consultations between authorities concerned with the statistics of civil registrations and biologists on matters of common interest.

4. The participants are aware of the fact that a large part of the duties of civil registration authorities is of a legal and administrative nature and that the procedures for the collection of vital statistical information were not, and cannot be, merely designed to meet the needs of human biologists, but they are also acutely aware of the fact that any progress in human biological sciences can have wide repercussions in other disciplines, like demography, whose import for the social and economic welfare of the population is well known.

5. Progress towards meeting the needs of human biologists may take the form of altering existing procedures which should, of course, be assessed in a context of local situations. They can, however, often be achieved through rather simple means, without drastically changing established systems. A variety of measures will be found useful to that effect and some of them can be outlined in very broad terms :

(a) supplementing the information available on routine records by linkage with other records relating to the same individual ;

(b) reconstruction of segments of biological families through record linkage so as to permit longitudinal studies over a number of generations ;

(c) recording of such items of information as are required to identify consanguineous marriages, in order to make possible the assessment of their effects on the survival, health and growth of offspring ;

(d) setting up partial or complete registers of population groups of genetic and medical interest such as twins, people suffering from hereditary diseases, congenital malformations, malignancies ;

(e) introduction into vital and health statistics programmes of additional items of information required for analysis or linkage, as well as special tabulations as may be needed ;

(f) better and more extensive exploitation of data useful to assess fertility patterns and differentials ;

(g) facilitating the estimation of doses delivered to patients during medical X-ray work, for example by keeping in X-ray departments appropriate records of normal practices, types of equipment, etc. ;

(h) improvement of basic quality of data by such means as are appropriate, including removal of ambiguities in terminology and in the structure of the questions, querying imprecise replies, making the certifying physicians and other informants more aware of their responsibilities ;

(i) developing a list of pathological conditions of genetic significance which could usefully supplement the International Classification of Diseases ;

(j) taking such initiative as may be necessary to ease the limitations to the accessibility of the records for research purposes.

6. However simple, many of the developments which can be envisaged will require thoughtful consideration before being adopted. The import of some of the results which can be anticipated will be mainly limited to the country in which they will be obtained and therefore parallel studies are not to be discouraged. There may, however, also be investigations of a general validity and for some of these, in view of their cost, possible duplication should be avoided. It is therefore felt to be useful that the discussions initiated at the Seminar be continued not only within the various countries but also, on a restricted scale, at the international level under the aegis of the sponsoring organizations, so as to advise administrations and research workers of current developments in different countries, and so enable them to co-ordinate such activities, with a view to making the best possible use of available resources.

7. The present state of development of human biology requires flexibility of approach, and the contribution of vital and health statistics to genetic and radiation studies will have to be judged on results which may not emerge immediately. Some of the possible approaches will prove more fruitful than others, but increasing knowledge in these fields is bound to be of the greatest social benefit.
