THE SIXTH REVISION OF THE INTERNATIONAL LISTS OF DISEASES AND CAUSES OF DEATH

J. T. MARSHALL[1]

WHAT distinguished the Sixth Decennial Revision of the International Lists of Diseases and Causes of Death from its predecessors is the fact that it meant, by combining diseases and causes of death into one list, a revolutionary change. Nevertheless, it met with the unanimous approval of the delegates from all twenty-nine countries represented at the International Conference in Paris, April 26–30, 1948. It is noteworthy that the unanimous acceptance of the new List was accomplished before the first day of the Conference came to an end. This fact in itself should recommend the new International Statistical Classification of Diseases, Injuries, and Causes of Death, as it emerged from the Sixth Revision very strongly, not only to the Governments represented in Paris, but also to those which did not participate.

To all those who have been connected with the work on the List, the result is very gratifying indeed, not only because of the technical achievement, but also because of the spirit of cooperation displayed by all participants and the willingness to give up what we had developed nationally through years of arduous work for what was recognized as the common interest and good.

Two factors were probably instrumental in facilitating agreement on the new combined List. The first is that the need for a morbidity code has long been generally recognized. The second is that a classification of diseases could be worked out that fitted into the general framework of the existing International List of Causes of Death.

A brief review of the events leading to the Sixth Revision will illustrate my point. (Some of the material may be found in the Introduction to Part I of the new List.) An International List of Diseases was adopted as early as 1900 by the First Revision Conference. The subsequent decennial conferences also pro-

[1] Assistant Dominion Statistician, Dominion Bureau of Statistics, Canada.

duced such lists, based on the classification of causes of death. As they presented only limited expansion of this latter list, however, these classifications of diseases failed to receive general acceptance, and the various countries developed their own list or lists for their own requirements. The Fifth International Conference, held in Paris in October 1938, adopted the following resolution:

International Lists of Diseases

> In view of the importance of the compilation of the international lists of diseases corresponding to the international lists of causes of death,
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> The Conference recommends that the Joint Committee appointed by the International Institute of Statistics and the Health Organization of the League of Nations undertake, as in 1929, the preparation of international lists of diseases, in conjunction with experts and representatives of the organizations specially concerned.
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> Pending the compilation of international lists of diseases, the Conference recommends that the various National Lists in use should, as far as possible, be brought into line with the detailed International List of Causes of Death. . . .

The same Conference also recommended that the United States Government continue its studies of the statistical treatment of joint causes of death.

When, complying with this resolution, the United States Committee on Joint Causes of Death, which included British and Canadian representatives, began its work in 1945, it soon recognized that a classification of sickness and injury, as recommended in the above resolution, should be closely linked with the existing International Lists of Causes of Death. The question arose whether there should be two separate lists—one for causes of death, and the other for causes of disease—or whether these two lists should or could be combined into one. If it was decided to have only one list, it was desirable, of course, not to break all continuity with the old International Lists of Causes of Death.

A classification of diseases and injuries designed for the dual classification of causes of illness and death must necessarily differ in content from that of the previous International Lists of Causes of Death. But experience with nationally developed morbidity classifications proved that the general structure of the International Lists of Causes of Death was a useful frame around which a morbidity classification could be evolved. The basic structure of the International Lists, furthermore, has stood the test of well over a half century of use in numerous countries throughout the world.

The very fact that the general arrangement has not been changed substantially in that time suggests that it would be difficult to improve upon it as a working basis for morbidity statistics as well.

This consideration led the International Conference in 1938 to recommend that existing national morbidity lists be brought in line with the International Lists of Causes of Death. The United States Committee on Joint Causes of Death has also been aware of the close relation which exists between a classification for morbidity and one for causes of death. The study of the joint cause problem brought out more clearly the fact that Causes of Death did not refer merely to the terminal causes, but rather to the morbid conditions initiating the train of events ultimately resulting in death. The Committee, therefore, came to the conclusion that, in order to make full use of both morbidity and mortality statistics, the classification of diseases for both purposes should be not only comparable but, if possible, should be combined into a single list.

Furthermore, the number of statistical organizations which are producing medical records involving both sickness and death is growing, and such records are gaining more and more importance as the interest in morbidity statistics increases. Even where only morbidity statistics are compiled, fatal as well as non-fatal cases must be coded. A single list would not only facilitate coding operations, but it would for the first time furnish a common basis for comparison between morbidity and

mortality statistics, which becomes more and more indispensable for an effective evaluation of the health situation.

As the outcome of this thinking, the United States Committee had, by February 1946, prepared a "Proposed Statistical Classification of Diseases, Injuries and Causes of Death," which since has been subjected to various trials and reviews by a number of agencies in various countries, and which formed the basis for the now adopted International Statistical Classification of Diseases, Injuries, and Causes of Death.

Without going any further into the history of events leading to the final adoption of the list, consideration should be given to some of the problems connected with drawing it up, and some of its characteristics.

As a cause-of-death classification, the new list had to provide for comparability of certain important categories with the corresponding ones of the Fifth Revision of the International List. This did not necessarily mean that strict comparability had to be carried down to the last subdivision. It has to be borne in mind that even the best statistics of morbidity or causes of death inevitably involve a certain amount of subjectivity due not only to the innate amount of individual opinion in every diagnosis, but also due to the difference in the standards of education and outlook of doctors in different parts of the world, and to the changes brought about in medical science over a long period of time. In order to be exact, therefore, we should say that what we are comparing is not, as we would like it to be, the frequency of a particular disease now or, say, twenty years ago, but the frequency of a particular term used in a diagnosis. This has to be considered in analysing the statistics, and to a certain degree applies to all statistical tabulations.

That changes in the international classification will become necessary from time to time has always been recognized, and for that reason the decennial revisions were instituted as early as 1899. Dr. Bertillon laid great emphasis on the desirability of continuity in the list, but he did not insist on its being rigidly preserved. All he wished for was, as he explained at the 1900

Conference, that one might hope the list would last a long time and that it would not be necessary to revise it too drastically in the future. He was right because, as mentioned before, the original framework of the List has been found satisfactory ever since its inception in 1893, in spite of all the advances in medical science and vital statistics.

When, therefore, the drafting of a single morbidity and cause-of-death classification became imperative, the problem arose how to build it over the structure of the old International Lists. In the first place, the principle of classifying diseases by anatomical site, as proposed by William Farr, which had served as the basis for the old International Lists, is being maintained Secondly, the general arrangement is also being maintained with the exception of Chapter V, "Chronic Poisoning and Intoxication," of the Fifth Revision, the inclusions of which have been assigned elsewhere, and which was replaced by a new Section V, "Mental Psychoneurotic and Personality Disorders."

The new classification has only seventeen main sections compared with eighteen of the Fifth Revision, which is due to the old Chapter XVIII—"Ill-Defined Causes of Death"—being combined now with senility in Section XVI.

The old Chapter XVII—"Violent and Accidental Death"—had never been quite satisfactory. The reason for the difficulties here was the variety of aspects which, in connection with injuries, are of interest to the statistician; it may be the nature of the injury from a medical point of view, or it may be the circumstances of the accident, the cause or means of injury. Previous compromises often proved unworkable, usually because the categories were not mutually exclusive. The Sixth Revision attempts a bold solution of this dilemma by establishing a dual classification for this section: the "E-Code," classifying the injuries by the external cause, and the "N-Code," classifying them by the nature of injury. An example of this would be a sailor who slips on the ladder of a ship and breaks his ankle. In the "E" code the accident would be assigned to E852—"Fall on stairs and ladders in water transport" (External cause), while

in the "N" code, according to the nature of injury, it would be assigned to N824—"Fracture of ankle." It is recommended that in future morbid conditions arising from injuries or violence be coded according to both classifications.

The new classification also contains Supplementary Classifications. Experience, especially in hospital statistics has shown a need for some provision for counting admissions of people who are not actually sick, as for instance in the case of births. Counts of prophylactic inoculations and of certain impairments, as blindness or deafness, which are not otherwise classified as morbid conditions, are also desirable. They, likewise, are covered in the Supplementary Classifications. In order to indicate that these classifications are not an integral part of the new International Statistical Classification, a special system of code numbers has been adopted, with the letter "Y" as the first digit.

Without going into any further detail as to the changes brought about by the Sixth Revision, it should be mentioned that, as in all previous Decennial Revisions, a number of categories were transferred from their old positions to new ones which appeared more appropriate in the light of modern medical knowledge.

The system on which the code of the new classification is based, is described as follows in its introduction:

> The proposed classification consists of a list of 610 categories of diseases and morbid conditions, plus 153 categories for classification of the external causes of injury and 189 categories for characterization of injuries according to the nature of the lesion. A decimal system of numbering has been adopted in which the detailed categories of the classification are designated by 3-digit numbers. In many instances, the first two digits of the 3-digit number designate important or summary groups that are significant. The third digit subdivides each group into categories which represent specific disease entities or a classification of the disease or condition according to some significant axis such as anatomical site. Further, the detailed or 3-digit categories have

not been numbered consecutively, but numbers have been omitted in order that the summary character of the first two digits be preserved wherever they are meaningful.

This may be illustrated by the following example: 140 to 148 —"Malignant Neoplasm of Buccal Cavity and Pharynx." Here the first two digits (14) represent the whole group of such neoplasms while the third digit indicates certain specific sites *e.g.*, of the "Lip," or of the "Tongue," etc. In subdividing this group it was found that only nine 3-digit categories were required, that is from 0-8. In order to preserve a meaningful 2-digit grouping for the next ten categories, the number 149 was left out and the next group "Malignant Neoplasm of Digestive Organs and Peritoneum" was assigned the numbers 150 to 159.

The decimal system represents a departure from the combined number and letter subdivisions that characterized the numbering system used in previous revisions of the International Lists of Causes of Death. The numbering system adopted in the classification results in greater flexibility and utility since (1) it provides a large number of broad groups which represent significant disease entities or disease groups, (2) it permits the introduction of new categories at later revisions without upsetting the basic numbering of other categories, and (3) it provides economy of operation, both clerical and mechanical. The latter is of particular importance in statistical organizations using modern tabulating equipment and handling large volumes of records.

No additional 3-digit categories should be introduced in the classification except when the list is revised by agreement of the countries using the classification. The numbering system has been designed purposely as a closed system; that is, the third digit under each broad group begins with "0" and continues consecutively for the number of categories in that group.

In the Tabular List of Inclusions of the International Statistical Classification of Diseases, Injuries and Causes of Death, many of the 3-digit categories are further sub-divided into more detailed categories, often on a different axis of classification. Although these subcategories do not appear in the list as shown

> in Part I, they are nonetheless important subcategories which will be most useful to nations and organizations wishing to make comprehensive studies of the causes of sickness and disability. The numbers for these subcategories represent decimal subdivisions of the 3-digit code. These subcategories may be considered optional.

For instance, in the group 290–299 "Diseases of the Blood and Blood Forming Organs," 290 covers "Pernicious and other Hyperchromic Anaemias." This 3-digit category is further subdivided into three fourth-digit subdivisions, .0 "Pernicious anaemia," .1 "Subacute combined degeneration of spinal cord," .2 "Other hyperchromic anaemias." Other categories are similarly subdivided.

> Any organization requiring more detailed subdivision that that provided in the classification should use the fourth digit for additional subclasses. If such subdivisions are created, it is recommended that letters instead of numbers be used, especially in publication, to designate the additional groups. In this manner it will be clear that the item is not a part of the classification scheme as presented here. Such fourth digit subdivisions, of course, must include only those conditions that are included in the 3-digit category of which it forms a subdivision.

So much about the classification itself which emerged from the Sixth Revision Conference. As previously, we have now also an Intermediate List of 150 causes for tabulation of Morbidity and Mortality, an Abbreviated List of 50 causes for tabulation of Mortality, and in addition a Special List of 50 causes for tabulation of Morbidity for Social Security Purposes. Rules for joint cause selection, including the form for medical certification, are to replace the old Manual of Joint Causes of Death.

Up to now, the procedure for the revisions of the List was based on international agreement entrusting the Government of France with the calling of the decennial conferences. From now on it will be part of the responsibilities of the World Health Organization. The World Health Organization had entered this

field, when, in January, 1947, the International Committee for the Preparation of the Sixth Revision of International Lists of Diseases and Causes of Death—in brief, the Expert Committee —was appointed by the Interim Commission. It was this Committee which together with the United States Committee completed the work carried out by the latter up to that time.

The International Conference in Paris, April, 1948, recommended to the World Health Organization not only the adoption of the Lists and Regulations for their application, but it made also very remarkable contributions in the general field of health and vital statistics. Dr. Stowman, of the World Health Organization, has outlined in his paper for substance of those recommendations which, significantly, arose out of the machinery set up for the revision of the International Lists. Because their implementation will lend a tremendous impetus to the work of demographic statistics in general and health statistics in particular, Dr. Stowman's remarks will bear a brief summation.

Among the recommendations of the Paris Conference to the World Health Assembly is one for the establishment of an Expert Committee on Health Statistics, to be entrusted with the study of problems in the field of health statistics including the recording of births, diseases, and deaths.

Development of a statistical organization within the World Health Organization is urged, as well as the calling of international technical conferences as the occasion requires, and cooperation with the interested sections and agencies of the World Health Organization.

Governments are called upon to establish national committees for co-ordinating statistical activities within the country and serving as links between national institutions and the Expert Committee on Health Statistics.

Subject to final acceptance by the respective Governments, special studies should be undertaken by national committes and administrations on the following subjects:

1. Cancer Registers and statistics.

2. Methods of presentation of statistics of multiple causes of death.

3. Influence of the confidential character of medical certification on the accuracy of resulting statistics.

4. Methods of linking together health statistics with other types of related statistics.

5. Problems concerning statistics of malaria morbidity.

6. Adaption of the International Statistical Classification of Diseases, Injuries and Causes of Death to the special needs of the Armed Forces.

7. Morbidity and mortality from tropical diseases.

8. Methods for obtaining precise statistics on the frequency and causes of foetal death.

These newly suggested activities in the international field seem a very ambitious program, indeed—a challenge and worthy of all our efforts. If one may take the sucess of the International Conference in Paris, April, 1948, as an omen for the future course of international cooperation in the field of vital and health statistics, one may well look ahead with confidence, and pray that the same spirit may prevail in this and other technical fields of international endeavor.