

ICD-10: Its Purpose, Applicability and Appropriate Uses

1. Purpose and Applicability

A classification of diseases can be defined as a system of categories to which morbid entities are assigned according to established criteria. **The purpose of the ICD is to permit the systematic recording, analysis, interpretation and comparison of mortality and morbidity data collected in different countries or areas and at different times.** The ICD is used to translate diagnoses of diseases and other health problems from words into an alphanumeric code which permits easy storage, retrieval and analysis of that data.

In practice, the ICD has become the international standard diagnostic classification for all general epidemiological and many health management purposes. These include the analyses of the general health of population groups and the monitoring of the incidence and prevalence of diseases and other health problems in relation to other variables, such as the characteristics and circumstances of the individuals affected. The ICD is **neither intended nor suitable for indexing of distinct clinical entities.** There are also some constraints on the use of the ICD for studies of financial aspects, such as billing or resource allocation.

The ICD can be used to classify diseases and other health problems recorded on many types of health and vital records. Its original use was to classify causes of mortality as recorded at the registration of death. Later, its scope was extended to include diagnoses in morbidity.

2. General principles of disease classification

As William Farr stated in 1856:

“Classification is a method of generalization. Several classifications may, therefore, be used with advantage; and the physician, the pathologist or the jurist, each from his own point of view, may legitimately classify the diseases and the causes of death in the way that he thinks best adapted to facilitate his inquiries and to yield general results.”

A statistical classification of diseases must be confined to a limited number of mutually exclusive categories able to encompass the whole range of morbid conditions. The categories have to be chosen **to facilitate the statistical study of disease phenomena.** A specific disease entity that is of particular public health importance or that occurs frequently should have its own category. Otherwise, categories will be assigned to groups of separate but related conditions. Every disease or morbid condition must have a well defined place in the list of categories. Consequently, throughout the classification, there will be residual categories for other and miscellaneous conditions that cannot be allocated to the more specific categories. As few conditions as possible should be classified to residual categories.

It is the element of grouping that distinguishes a statistical classification from a nomenclature, which must have a separate title for each known morbid

condition. The concepts of classification and nomenclature are nevertheless closely related because a nomenclature is often arranged systematically.

A statistical classification can allow for different levels of detail if it has a hierarchical structure with subdivisions. A statistical classification of diseases should retain the ability both to identify specific disease entities and to allow statistical presentation of data for broader groups, to enable useful and understandable information to be obtained.

3. The basic structure and principles of classification of the ICD
The ICD is a variable-axis classification. The structure has developed out of that proposed by William Farr in the early days of international discussions on classification structure. His scheme was that, for all practical, epidemiological purposes, statistical data on diseases should be grouped in the following way:

- epidemic diseases
- constitutional or general diseases
- local diseases arranged by site
- developmental diseases
- injuries

This pattern can be identified in the chapter of ICD-10. It has stood the test of time and, though in some ways arbitrary, is still **regarded as a more useful structure for general epidemiological purposes** than any of the alternatives tested.

The first two, and the last two, of the groups listed above comprise ‘special groups’ which bring together conditions that would be inconveniently arranged for epidemiological study were they to be scattered, for instance, in a classification arranged primarily by anatomical site. The remaining group, ‘local diseases arranged by site’ includes the ICD chapters for each of the main body systems.

The distinction between the ‘special groups’ chapters and the ‘body systems’ chapters has practical implications for understanding the structure of the classification, for coding to it and for interpreting statistics based on it. It has to be remembered that, *in general*, conditions are primarily classified to one of the ‘special groups’ chapters. Where there is any doubt as to where a condition should be positioned, the ‘special groups’ chapters should take priority.

ICD-10 comprises three volumes: Volume 1 contains the main classifications; volume 2 provides guidance to users of the ICD; and Volume 3 is the Alphabetical Index to the Classification.

4. How to use the ICD
Knowledge and understanding of the purpose and structure of the ICD are vital for statisticians and analysts of health information as well as for coders. Accurate and consistent use of the ICD depends on the correct application of all three volumes.

Volume 1 of the ICD contains the classification itself. It indicates the categories into which diagnoses are to be allocated, facilitating their sorting and counting for statistical purposes. It also provides those using statistics with a definition of the content of the categories, subcategories and tabulation list items they may find included in the statistical tables.

Although it is theoretically possible for a coder to arrive at the correct code by the use of Volume 1 alone, this would be time-consuming and could lead to error in assignment. An Alphabetical Index as a guide to the classification is contained in Volume 3.

Most routine statistical uses of the ICD involve the selection of a single condition from a (death) certificate or (patient) record where more than one is entered.

5. Morbidity

(Although originally designed for the recording of mortality data), ...in 1948, a number of requests were received... for a classification suitable for morbidity applications. The ICD was, therefore, made suitable for grouping morbidity data, in addition to its traditional uses, and the morbidity aspect has since been progressively expanded through successive revisions. Morbidity data are increasingly being used in the formulation of health policies and programmes, and in their management, monitoring and evaluation, in epidemiology, in identification of risk populations, and in clinical research (including studies of disease occurrence in different socioeconomic groups).

The condition to be used for single-condition morbidity analysis is the main condition treated or investigated during the relevant episode of health care. The main condition is defined as the condition, diagnosed at the end of the episode of health care, primarily responsible for the patient's need for treatment or investigation. **If there is more than one such condition, the one held most responsible for the greatest use of resources should be selected.** If no diagnosis was made, the main symptom, abnormal finding or problem should be selected as the main condition.

In addition to the main condition, the record should, whenever possible, also list separately other conditions or problems dealt with during the episode of health care. Other conditions are defined as those conditions that coexist or develop during the episode of health care and affect the management of the patient. Conditions related to an earlier episode that have no bearing on the current episode should not be recorded.

By limiting analysis to a single condition for each episode, some available information may be lost. It is therefore recommended, where practicable, to carry out multiple-condition coding and analysis to supplement the routine data. This should be done according to local rules, **since no international rules have been established.**

6. Summary of what ICD-10 is:
 - 6.1. A statistical classification designed for international comparisons of mortality & morbidity
 - 6.2. A classification which is based on grouping categories chosen to facilitate the statistical study of disease phenomena
 - 6.3. A statistical tool used to study the epidemiology of populations
 - 6.4. A tool which requires knowledge and understanding of its purpose and structure by statisticians and analysts of health information as well as by coders.
 - 6.5. Not intended for indexing of distinct clinical entities
 - 6.6. Not a nomenclature which must have a separate name for each morbid condition
 - 6.7. A based on rules which include the definition that “the main condition, if there is more than one, is the one held most responsible for the greatest use of resources”.

7. Points to note about what ICD-10 is therefore not:
 - 7.1. A tool to support direct patient care which enables clinicians comprehensively to record all relevant patient health problems in encoded format
 - 7.2. A nomenclature designed to describe all possible morbid conditions
 - 7.3. A nomenclature designed to describe the health status of an individual patient, as it is not, for example:
 - 7.4. A nomenclature capable of attributing levels of certainty to a diagnosis
 - 7.5. A nomenclature capable of attributing levels of severity to a diagnosis
 - 7.6. A nomenclature capable of attributing negativity, i.e. possibly relevant diagnoses which have been excluded by clinicians

8. In short, ICD-10 is not a clinical tool.

It may be used to assign patients to groupings to enable statistical analyses. Although these groupings may of themselves relate to more or less serious conditions, the classification lacks the essential content, structure and granularity accurately to reflect an individual patient’s health status, i.e. how ill they are.

(to be continued; by adding background on countries who have produced ICD-10 Clinical Modifications – which in some cases include measures of severity etc.)