

Table 21 - Demographic Yearbook 2000

Table 21 presents deaths and death rates by cause for the latest available year.

Description of variables: Causes of death are all those diseases, morbid conditions or injuries which either resulted in or contributed to death and the circumstances of the accident or violence which produced any such injuries.¹

The underlying cause of death, rather than direct or intermediate antecedent cause, is the one recommended as the main cause for tabulation of mortality statistics. It is defined as (a) the disease or injury which initiated the train of events leading directly to death, or (b) the circumstances of the accident or violence which produced the fatal injury.³⁵

The table shows deaths and death rates classified according to the classification applied in the Global Burden of Disease Study.²¹ Note that data are collected from countries adopt various revisions of International Classification of Diseases.

Statistics on cause of death presented in this table have been limited to countries or areas which meet all of the following three criteria: first, that statistics are classified by the Global Burden of Disease classification, converted either from the ninth or the tenth Revision of the ICD.; secondly, that at least a total of 1 000 deaths (for all causes combined) occurred in a given year; and thirdly, that within this distribution the total number of deaths classified as due to ill-defined causes does not exceed 25 per cent of deaths from all causes. The third criterion is based on the premise that if 25 per cent of the deaths have been coded as due to ill-defined causes, frequencies in the other cause groups in the Classification must be understated to a marked degree. The limit has been placed deliberately high to exclude all poor data. Moreover, it must be admitted that this criterion fails to consider the equally indicative percentages in the residual category, all other diseases which often accounts for an inordinately large proportion of the whole.

Rate computation: Rates are the annual number of deaths in each cause group reported for the year per 100 000 corresponding mid-year population.

For other cause groups, for which the population more nearly approximates the population at risk, are specified below: rates (for Malignant neoplasm of female breast and Malignant neoplasm of cervix uteri) are computed per 100 000 female population 15 years and over; rates (for Hyperplasic of prostate) are computed per 100 000 male population 50 years and over; and rates (for Direct and indirect obstetric causes), and (conditions originating in the perinatal period) are computed per 100 000 total live births in the same year.

As noted above, rates (as well as frequencies) presented in this table have been limited to those countries or areas having a total of at least 1 000 deaths from all causes in a given year and have also been limited to those not having more than 25 per cent of all deaths classified as due to ill-defined causes. In certain cases death rates by cause have not been calculated because the population data needed for the denominator are not available. This may arise in either of two situations. First, no data on population at risk are available. Second, cause-of-death statistics are available for only a limited portion of the country and it is not possible to identify births or population at risk for that limited geographic area. The same situation arises when data on deaths by cause are limited to medically certified deaths and when those medically certified deaths do not comprise a substantial portion of all deaths for the country or area, in which case no rates are calculated. Moreover, rates based on 30 or fewer deaths shown in this table are identified by the symbol (♦).

Reliability of data: Data from civil registers of deaths which are reported as incomplete (less than 90 per cent completeness) or of unknown completeness are considered unreliable and are set in italics rather than in roman type. Rates calculated using these data are also set in italics. Table 18 and the technical notes for that table provide more detailed information on the completeness of death registration. For more information about the quality of vital statistics data in general, and the information available on the basis of the completeness estimates in particular, see section 4.2 of the Technical Notes.

In general, the quality code for deaths shown in table 18 is used to determine whether data on deaths in other tables appear in roman or italic type. However, some data on deaths by cause are shown in italics in this table when it is known that the quality, in terms of completeness, differs greatly from the completeness of the registration of the total number of deaths. In cases when the quality code in table 18 does not correspond with the type-face used in this table, relevant information regarding the completeness of cause-of-death statistics is given in a footnote.

Limitations: Statistics on deaths by cause are subject to the same qualifications as have been set forth for vital statistics in general and death statistics in particular as discussed in section 4 of the Technical Notes.

The reliability of the data, an indication of which is described above, is an important factor in considering the limitations. In addition, some deaths are tabulated by date of registration and not by date of occurrence; these have been indicated by a (+). Whenever the lag between the date of occurrence and date of registration is prolonged and, therefore, a large proportion of the death registrations are delayed, death statistics for any given year may be seriously affected.

In considering cause-of-death statistics it is important to take account of the differences among countries or areas in the quality, availability, and efficiency of medical services, certification procedures, and coding practices. In most countries or areas, when a death is registered and reported for statistical purposes, the cause of death is required to be stated. This statement of cause may have several sources: (1) If the death has been followed by an autopsy, presumably the "true" cause will have been discovered; (2) If an autopsy is not performed but the decedent was treated prior to death by a

medical attendant, the reported cause of death will reflect the opinion of that physician based on observation of the patient while he was alive; (3) If, on the other hand, the decedent has died without medical attendance, his body may be examined (without autopsy) by a physician who, aided by the questioning of persons who saw the patient before death, may come to a decision as to the probable cause of death; (4) Still another possibility is that a physician or other medically trained person may question witnesses without seeing the decedent and arrive at a diagnosis; (5) Finally, there is the case where witnesses give the cause of death without benefit of medical advice or questioning. These five possible sources of information on cause of death constitute in general five degrees of decreasing accuracy in reporting.

Serious difficulties of comparability may stem also from differences in the form of death certificate being used, an increasing tendency to enter more than one cause of death on the certificate and diversity in the principles by which the primary or underlying cause is selected for statistical use when more than one is entered.ⁱⁱ

Differences in terminology used to identify the same disease also result in lack of comparability in statistics. These differences may arise in the same language in various parts of one country or area, but they are particularly troublesome between different languages.

They arise even in connection with the medically certified deaths, but they are infinitely more varied and obscure in causes of death reported by lay persons. This problem of terminology and its solution are receiving attention by the World Health Organization.

Coding problems, and problems in interpretation of rules, arise constantly in using the various revisions of the International Statistical Classification of Diseases, Injuries and Causes of Death. Lack of uniformity between countries or areas in these interpretations and in adapting rules to national needs results in lack of comparability that can be observed in the statistics. It is particularly evident in causes that are coded differently according to the age of the decedent, such as pneumonia, diarrhoeal diseases and others. Changing interpretations and new rules can also introduce disparities into the time series for one country or area. Hence, large increases or decreases in deaths reported from specified diseases should be examined carefully for possible explanations in terms of coding practice, before they are accepted as changes in mortality.

Further limitations of statistics by cause of death result from the periodic revision of the International Classification of Diseases. In addition to the qualifications explained in footnotes, particular care must be taken in using distributions with relatively large numbers of deaths attributed to ill-defined causes or the all-other-causes group. Large frequencies in the two categories may indicate that cause of death among whole segments of the population has been undiagnosed, and the distribution of known causes in such cases is likely to be quite unrepresentative of the situation as a whole.

The possibility of error being introduced by the exclusion of deaths of infants who were born alive but died before the registration of the birth or within the first 24 hours of life should not be overlooked. These infant deaths are incorrectly classified as late foetal deaths. In several countries or areas, tabulation procedures have been devised to separate these pseudo-late-foetal deaths from true late foetal deaths and to incorporate them into the total deaths, but even in these cases there is no way of knowing the cause of death. Such distributions are footnoted.

For a further detailed discussion of the development of statistics of causes of death and the problems involved, see chapter II of the Demographic Yearbook 1951.

Coverage: Deaths and death rates by cause are shown for 70 countries or areas.

Earlier data: Deaths and death rates by cause have been shown in previous issues of the Demographic Yearbook. For information on specific years covered, readers should consult the Index.

ⁱ The definition recommended for cause of death is identical *Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death, tenth Revision*, vol. I, World Health Organization, Geneva, 1992, p. 1235.

ⁱⁱ World Health Organization Bulletin, Supp. 4, *World Health Organization*, Geneva, 1952.