Letters

Counting the dead and what they died of

Editor – The paper published by Mathers et al. in the *Bulletin* addresses the important matter of the quality of mortality data.[1] The quality of data supplied by countries to WHO is evaluated as high, medium, or low. This evaluation is based on two main criteria: completeness of reporting and proportion of deaths assigned to ICD codes that the authors consider ill-defined. We have major concerns about the methods used by Mathers et al.

1. Construction of the quality measure:
- Data quality is considered to be high for countries with >90% completeness of reporting and <10% ill-defined causes. This is an unstable measure. For example, data quality for a country with 91% completeness and 9% ill-defined causes is rated as "high", while one with 100% completeness and 11% ill-defined causes has "medium" quality. In the first case, however, the data loss is 18% (9% lack of completeness and 9% ill-defined causes of death), but in the second case only 11% (ill-defined causes).
- The "medium" quality class is very wide. A country with 100% completeness, 100% coverage and 11% ill-defined causes gets a "medium" rating, as does a country with 90% completeness, 50% coverage and 17% of ill-defined causes.

2. Quality of certification vs quality of coding:
- The proportion of deaths assigned to ill-defined causes is used as a measure of the quality of coding. However, this proportion is more likely to be the result of the quality of certification than that of the coding.

3. Selection of causes counted as ill-defined:
- Some codes that ICD-10 does not consider to be ill-defined are classified as such; for example, sudden infant death syndrome (R95) and malignant neoplasms of independent multiple sites (C97).
- They do not consider typically terminal conditions to be ill-defined, such as septicaemia, pulmonary embolism, venous thrombosis, pneumonia, pulmonary oedema, and urinary tract infection. In a significant number of cases these are not underlying causes but complications of other conditions.
- Generalized and unspecified atherosclerosis (ICD-10 code I70.9) is considered to be ill-defined. This may be fully justified for younger people but hardly for those dying at an advanced age.
- Events of undetermined intent (ICD-10 codes Y10–Y34) are also considered to be ill-defined. However, in countries with a well-functioning medico-forensic system, deaths from such causes are better investigated and certified than most.

4. Comparisons between countries without age adjustment:
- Mathers et al. note that "the selection of a single underlying cause of death is frequently problematic in elderly people, who often have had several chronic diseases that concurrently led to death". Surprisingly, however, they do not adjust for differences in the age–sex distribution of the population when calculating the proportion of deaths attributed to ill-defined causes. In Sweden, 10.3% of deaths are due to ill-defined causes as defined by Mathers et al. However, a significant number of these deaths involve those aged >85 years, and the average of the five-year age-group rates is 8.1%.

Strengthening the quality of vital registration systems and of mortality statistics is an urgent need. We believe, however, that the methods employed in this paper do not yield sufficiently reliable estimates of differences in data quality. Also, the definition of ill-defined causes could, encourage coding procedures that are at variance with ICD rules and guidelines. ■

Competing interests: none declared.

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Capturing health information — a coding perspective

Editor – In discussing the current status of global reporting of mortality data, Mathers et al.[1] examine several indicators of quality and completeness of the coded data; however, they do not deal with the influence that the capacity, knowledge and skills of individual

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