

Background:

Garbage codes (GC) among registered causes of death can bias mortality analysis. In Brazil, more than one million deaths occurred annually in 2006-2017 and around 100,000 deaths per year were originally attributed to GC ill-defined causes of death (IDCD) in the Mortality Information System (SIM - Sistema de Informação sobre Mortalidade). To provide more accurate cause-of-death analysis, routine investigations of IDCD in the health surveillance system have been implemented in the country since 2005. The objective of this study was to analyze specific underlying causes for deaths originally assigned as IDCD in the SIM in 2006-2017.

Methods:

For all IDCD (ICD codes from chapter 18, or R-codes) identified in the SIM, municipal health professionals collected information about the final disease obtained from hospital records, autopsies, forms of family health teams, and home investigation. Proportions of reclassified deaths by cause-specific mortality fractions (CSMF) derived from the reclassified IDCD by age and four calendar periods were analyzed to assess specific causes detected after investigation.

Results:

A high proportion of deaths due to IDCD was investigated in 2006-2017 (32%). From a total of 257,367 IDCD reclassified, chronic diseases (56.6%), injuries (7.2%), and infectious (5.2%) or neonatal, maternal, malnutrition (1.7%) were the underlying causes detected among IDCD. Neonatal-related conditions, interpersonal violence, ischemic heart disease and stroke were the leading causes detected in the age groups 0-9 years, 10-29 years, 30-69 years, 70 years and over, respectively.

Conclusions:

High proportions of IDCD reassigned to more informative causes after review indicate the success of this approach to correct misclassification in the SIM, an initiative that should be maintained. Training physicians on death certification along with better quality of medical care and access to health services would lead to further improvement.

Key messages:

- Investigation of IDCD as part of routine data collection on a large scale as had occurred in Brazil in 2006-2017 is an innovative approach to strengthen population-level mortality statistics.
- In addition to reducing the proportions of IDCD by their reclassification into specific causes, this initiative opens up the prospect of using these results for redistributing remaining cases of IDCD.

Improving the usefulness of mortality data in Brazil: reclassification of ill-defined causes of death

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