Strengthening vital statistics in Brazil: investigation of ill-defined causes of death and implications on mortality statistics

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Abstract

Background The number of ill-defined causes of death (IDCD) has been a significant problem among registered causes of death in Brazil. The IDCD proportion was 14·3% in 2000, with huge regional differences. In 2005, the Brazilian government implemented a project in order to decrease the IDCD in states and municipalities in the poorest regions. This study aims to compare the distribution of causes of death between IDCD investigated and observed data.

Methods For each death certificate with IDCD all attempts were made by health-service professionals to trace existing information about the final disease and cause of death. The sources of information were hospital records, municipality health departments, autopsies, family health teams, and civil registry records. For deaths that occurred at home, verbal autopsy questionnaires were applied. The underlying cause of death was assigned using the documented evidence available.

Findings During 2006–10, 27·6% (132 056 of 478 674) of IDCD were investigated, and 64·2% (84 751 of 132 056) of these deaths were reclassified into a defined group of causes. Deaths from diabetes, neuropsychiatric, and maternal conditions occurred with a higher frequency among ill-defined causes investigated and were under-diagnosed in observed data. Injuries were also under-reported, responsible for 7·7% (6551 of 84 751) of the diagnoses among IDCD in that period. Cancer and respiratory diseases occurred with a higher frequency among registered deaths than among IDCD (16·3% vs 11·1% for cancer and 11·0 vs 7·8% for respiratory diseases) when compared with circulatory or endocrine diseases (30·6% vs 43·1% for circulatory and 6·2% vs 10·2% for endocrine diseases).

Interpretation These results show that the distribution of the cause of deaths after investigation of IDCD was different from those in observed data. Therefore, these differences must be taken into consideration when making redistribution of ill-defined causes based on observed data to avoid bias. The investigation of IDCD is critical to the creation of a reference for applying corrections to the observed data as well as to strategically improve the quality of mortality data.

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Conflicts of interest

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