

Quality assessment of linked Canadian clinical administrative hospital and vital statistics death data

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Introduction

Three Canadian clinical-administrative hospital databases were linked to the Canadian Vital Statistics Death Database (CVSD) to provide information about patients who died following discharge from hospital as well as supplementary information about patients that died in-hospital. Quality was assessed using a guided approach and through feedback from initial users.

Objectives and Approach

The linked datasets were created to develop and validate health care indicators and performance measures and perform outcome analyses. It is therefore imperative to evaluate the data's fitness for use. Quality was assessed by calculating coverage of deaths for all linked contributors, creating a profile of the linked dataset and analyzing issues that were identified by users. These analyses were guided by an existing Data Source Assessment Tool, which provides a set of criteria that allow for assessment across five dimensions of quality, thus allowing for appropriate determination of a given set of data's fitness for use.

Results

Deterministic linkage of the datasets resulted in linkage rates that ranged from 66.9% to 90.9% depending on the dataset or data year. Linkage rates also varied by Canadian jurisdictions and patient cohort. Variables had good data availability with rates of 95% or higher. Initial users identified a significant number of duplicate records that were flagged to and corrected by the data supplier. 1.4% of acute hospital deaths had discrepancies in the death date captured in the two linked sources; the vast majority had a difference of only one day. A user group and issue tracking process were created to share information about the linked data and guarantee that issues are triaged to the appropriate party and allow for timely follow up with the data supplier.

Conclusion/Implications

Documentation provided by the data supplier was vital to understanding the linkage methodology and its impact on linkage rates. A guided data assessment ensured that strengths and limitations were identified and shared to support appropriate use. Feedback to the data supplier is supporting ongoing improvements to the linkage methodology.

