

Assessing quality of care for patients with acute myocardial infarction: a comparison between routine administrative data and primary data collected by the Berlin Myocardial Infarction Registry

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Purpose

Quality assurance is typically based on clinical databases (i.e., clinical registries). With the increasing use of routine administrative databases (claims data) for assessing quality of health care, a growing need exists to examine the validity of claims data not primarily collected for quality-assurance purposes. In our study we therefore compared administrative claims data for patients with acute myocardial infarction (AMI) with data collected by the Berlin Myocardial Infarction Registry (BMIR).

Methods

We analysed pseudonymized data of AMI patients of the AOK Berlin (claims data of the largest German healthcare underwriter; n=5856) and of the BMIR (n=5537) for the years 2007-2008. We were able to identify an intersection of 1272 patients in the two data sets according to age, sex, hospital arrival date, and time. The agreement between the documented data from both data sets was measured using the kappa coefficient.

Results

Baseline characteristics differed in the two data sets (n=5856 + 5537): i.e., AOK Berlin patients were on average 6 years older than BMIR patients. Hospital mortality accordingly differed in the two groups.

The intersection data set (n=2 x 1272) showed agreement for many variables (kappa coefficient for diabetes mellitus: 0.81; STEMI: 0.68; primary care by physician escorted rescue system: 0.68; PCI: 0.76; IABP: 0.71; hospital mortality: 0.96). On the other hand, less agreement was found for claims-associated variables (kappa coefficient for smoking: 0.29; hypercholesterolemia: 0.29) and for variables for which the point in time of data collection was important (kappa coefficient for CHF on hospital admission vs. CHF on hospital discharge: 0.32; CAD on admission vs. discharge: 0.01). There was no difference in hospital mortality between the two groups in the intersection data set.

Conclusions

This comparison demonstrates the possibilities and limits of assessing quality of health care by using routine administrative data and comparing it to primary collected clinical data for AMI patients. The present study showed that registry data and routine administrative data can complement each other. Our comparison suggests that replacing clinical registry data by routine data has limits: e.g., process indicators such as door-to-balloon-time are not available in German routine data. Further primary data collection seems necessary.