

Trend in reliability of comorbidity information derived from administrative data between 1999 and 2003 in a Swiss university hospital.

Presenter

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Background

Measuring and improving quality are priorities in the health care setting. Administrative data are important tools because outcome indicators can be derived from and because comorbidity information can be used for risk adjustment. Objective of this study was to estimate the trend in reliability of comorbidity information derived from administrative data compared to chart review between 1999, 2001 and 2003 and to evaluate the association between the Charlson and Elixhauser comorbidity indices and hospital mortality.

Methods

Five hundred randomly-selected medical records for each three study years (N=1407 for the analyses) were abstracted by chart review for comorbidity information related to Charlson and Elixhauser indices at the CHUV (Centre Hospitalier Universitaire Vaudois). Agreement between chart review and corresponding administrative data were calculated with Kappa statistics. Odds ratios (OR) were estimated using logistic regression.

Results

Kappa values between chart review and administrative data ranged from 0.22 to 0.86 in 1999, from 0.28 to 0.92 in 2001 and from 0.30 to 0.80 in 2003 for the Charlson index, and from -0.006 to 0.86 in 1999, from 0.23 to 0.92 in 2001 and from 0.30 to 0.88 in 2003 for the Elixhauser index. In the logistic regression model, OR associated to Charlson index score 1 and 2 were respectively 3.4 (95% CI=0.39-29.6) for chart review and 3.3 (95% CI=1.0-10.4) for administrative data compared to Charlson 0. Further, for Charlson index 3 and 4, OR were 8.9 (95% CI=1.1-75.6) for chart review and 6.9 (95% CI=2.1-23.0) for administrative data. Finally, for Charlson index ≥ 5 , OR were respectively 16.1 (95% CI=2.1-125.8) and 15.6 (95% CI=4.8-50.6).

Conclusions

Between 1999 and 2003 we observed an increased agreement between chart review and administrative data for most of the Charlson and Elixhauser comorbidities. Further, chart review provided stronger associations between hospital mortality and both indices compared to administrative.