

Advancing data collection of hospital-related harms: Results from hospital discharges dually coded with ICD-10 and ICD-11

Eastwood, C¹, Southern, D¹, Boxill, A¹, Wiebe, N¹, Ghali, W¹, and Quan, H¹

¹University of Calgary

Introduction

Hospital safety performance is difficult to monitor when under-coding of hospital harms is common. The beta version of ICD-11 includes a 3-part model for coding harms to enhance adverse event descriptions. This method includes code clusters to detail each condition/event (e.g. bleed), cause (e.g. anticoagulant drug), and mode (over-dose).

Objectives and Approach

The study objective was to compare the proportion of adverse events captured using different classification systems. A large field trial of inpatient charts, previously coded in ICD-10 were coded with ICD-11. Coding training for the new ICD-11 focused on new codes, code clustering, and extension codes for cause and mode of the harm. Sensitivity, Specificity, NPV and PPV were reported for ICD-10 compared to ICD-11.

Results

Of the 1,009 records reviewed and coded using ICD-11 to date, 128 cases were coded as a harm in ICD-10 using our previously published PSI work. Coders identified 88 cases with the new ICD-11. Sensitivity and specificity were as follows: 31.3% and 94.6%. ICD-11 had NPV and PPV of 45.5% and 90.5 % respectively compared to ICD-10. Detailed clinical comparison of mismatched codes will be completed. Study case examples will demonstrate advanced features of ICD-11, the coding rules being collaboratively developed by our team, CIHI, and WHO representatives, and potential analytic challenges.

Conclusion/Implications

The new ICD-11 found 8% of hospital admission were associated with a harm. Although the sensitivity was modest, specificity is quite high and correctly identifies those cases without a harm. Clinical review of mismatched codes will provide further detailed code comparisons.

