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Enhancing description of hospital-conditions with ICD-11 cluster coding: Better codes for monitoring and prevention

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Introduction

Exposure to health care events sometimes has unintended and undesired consequences. Health care and complications arising in the course of care are diverse and complex. Representing them comprehensively in information systems is challenging, and presently beyond the bounds of practicality for routine administrative information systems that include ICD coded data.

Objectives and Approach

The ICD-11 conceptual model for hospital-acquired conditions has 3 components: 1) harm to patient 2) cause or source of harm and 3) mode or mechanism. A key feature of the Quality and Safety (Q&S) code-set in ICD-11 is that a cluster of codes is required to represent an event or injury. Use of the term 'cluster' is novel in ICD-11 and so is the extent and the requirement for post-coordination. The cluster required to code a Q&S case has three codes, one for each of the three components of the model given above.

Results

The first component, 'harm', is represented by an ICD–11 diagnosis code, from any chapter of the classification. Q&S causes or sources of harm fall into 4 types that capture events caused by substances (drugs and medicaments, etc.), procedures, devices, and a mix of other types of causes (e.g. problems associated with transfusions, incorrect diagnosis, etc.). Q&S 'mode or mechanism' refers to the main way in which the 'cause' leads to the 'harm' and are specific to the type of 'cause' (Table 1).

Table 1 - Examples of corresponding Q&S Mode or Mechanism

Cause or Source of Harm	Mode or Mechanism
Substance	Overdose, under-dose, wrong substance.
Procedure	Accidental perforation of an organ during a procedure.
Device	Dislodgement. Malfunction.
Other cause	Mismatched blood. Patient dropped during transfer from OR table.

Conclusion/Implications

This new conceptual model for coding healthcare-related harm, dependent on the clustering of codes, has great potential to improve the clinical detail of adverse event descriptions, and the overall quality of coded health data, for better monitoring and strategies for prevention.