NCHIRT

Restructuring External Causes in ICD-11: Improving the Quality of Codes for Injury Statistics

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Background

- Restructure work group formed end 2009

- Aim - To develop a proposal for how the external cause chapter of the ICD could be restructured in ICD-11 to provide better quality codes for injury statistics

- Lack of revision guidelines around:
  - Code ranges for external cause
  - Code length restrictions
  - Requirements for continuity of codes/categories
  - Relationship between 'use case' versions
  - Practical issues - Timeline/resources/tools etc

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Restructure Process-Part 1

- Needed transparent documentation of decision process to provide solid rationale for suggested changes
- First tasks were to identify and describe:
  - Literature around strengths/weaknesses of ICD external causes
  - Major external cause modifications and alternative classifications used internationally
  - Clinical modifications to ICD-10 where external causes revised
  - Tools for aggregation/grouping of external cause categories
- Outcome-> Background and issues paper distributed to Injury and External Cause TAG in May

Summary of Broad Issues

- Terminology/definitions
- Precedence of coding intent over mechanism
- Rules around assigning intent
- Out-of-chapter external cause-related codes
- Non-injury diagnoses requiring external causes
- Lack of specificity for activity and place codes
- Loss of specificity in ICD-10 from some ICD-9 mechanisms
- Coding quality issues

Summary of Anticipated Use Case Requirements

- Mortality:
  - Need for single underlying cause of death code for core ext cause elements
  - Comparability/mappability of core concepts from ICD-10 to ICD-11
- Morbidity:
  - Less constrained in need for single code, but constrained by resourcing issues
  - Need for capture of community injuries and iatrogenic injuries
- Research:
  - Some level of comparability with mortality and morbidity version desirable
  - Provide broader capture of concepts and greater specificity
- Lower resourced setting:
  - Limited resources for collection
  - Need for short form with simple yet 'ICD compatible' categories
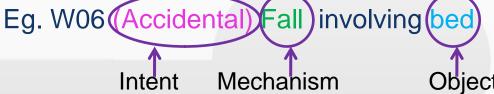
Restructure Process-Part 2

- Feedback on Background/Issues paper asked for more clarity around our broad recommendations

- Separated Issues/Background from draft recommendations and started work on detailing specific recommendations

- Main considerations in developing recommendations:
  - Aim to address broad issues identified
  - Needed to suit four use cases
  - Goal to incorporate more multidimensional approach
  - Need to retain comparability of core concepts for trend analysis
  - Use concepts from existing alternative classifications or clinical modifications where possible
  - Incorporated feedback received on first draft

- Outcome-> Recommendations paper distributed in July

Summary of Restructure Recommendations

1. Change code structure to mechanism-object-intent

Current ICD-10 structure-Intent-Mechanism-Object:
Eg. W06 (Accidental) Fall involving bed

Intent   Mechanism   Object

ICD-11 Proposed structure: Mechanism-Object-Intent
Eg. W12xx0 Fall involving bed (Accidental)

Mechanism   Object   Intent

Summary of Restructure Recommendations

2. Improve uniformity of code structure

Dimension	Character position	Type	Length
Mechanism	1	Alphanumeric	2
Object/Substance	3	Numeric	3
Intent	6	Numeric	1
Activity	Separate code	Alphanumeric	5
Place	Separate code	Alphanumeric	5

Summary of Restructure Recommendations

3. Revise intent dimension

4. Separate code block to capture place of occurrence and revise

5. Revise place of occurrence dimension

6. Separate code block for Activity

7. Revise activity dimension

Summary of Restructure Recommendations (cont.)

8. Integration of complications of care codes for greater specificity of mechanisms/objects

9. Integration of legal/war codes for greater specificity of mechanisms/objects

10. Changes to transport module

11. Improve provision for maltreatment syndromes

12. Introduce additional optional dimensions (eg. Alcohol/drug use, Risk factors, Countermeasures)

Implications for Use Cases

- Similar version of ICD for mortality and morbidity

  Core External Cause Code: Mechanism-Object-Intent

  Additional Required Codes: Place + Activity

- Research use case – multidimensional version (like ICECI)

  Dimensions: Mechanism, Object, Intent, Place, Activity, Alcohol/Drug Use, Risk Factors, Counterparts etc

  + Algorithm to group dimensions into ICD codes

- Lower resourced setting use case – short multidimensional version

  Dimensions: Mechanism, Object, Intent, Place, Activity

Summary of Comparability Issues

- Intent – Intent identified in uniform code position in string, but greater specificity of mechanisms which can be associated with all intents will affect trends by specific categories

- Mechanism – Inherent in ICD-10 code structure once intent removed; broad ICD-10 mechanisms used as starting point for ICD-11

- Object – Limited objects recorded in ICD-10 hence objects have greatest divergence

- Matrix – Largely comparable as similar broad mechanisms x intents

Concluding Remarks

- Work in progress and still opportunity to comment and get involved

- Significantly under-resourced and next phase of work will require significant time investments

- We need expertise in each domain and people to invest time in contributing

- Too important to not get involved – if half-baked proposal put to WHO likely to continue with current external cause chapter for next 20 years!

Restructure Process-Part 3

- Extensive feedback was received, summarised and responses have been sent to most people

- Most significant feedback affecting restructure was proposal to change order from Mechanism-Object-Intent to Mechanism-Intent-Object

- Considered pros and cons of this revision and outlined this in document released in August

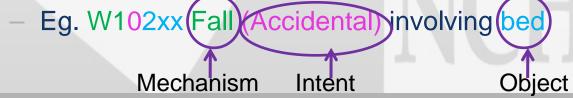# Mechanism-Intent-Object OR Mechanism-Object-Intent?

- Current ICD-10 structure-Intent-Mechanism-Object:
  - Eg. W06 (Accidental) Fall involving bed
    - Intent   Mechanism   Object

- ICD-11 Option 1: Mechanism-Object-Intent
  - Eg. W12xx0 Fall involving bed (Accidental)
    - Mechanism   Object   Intent

- ICD-11 Option 2: Mechanism-Intent-Object
  - Eg. W102xx Fall (Accidental) involving bed
    - Mechanism   Intent   Object

Mechanism-Intent-Object OR Mechanism-Object-Intent?

Mechanism Object Intent order	Mechanism Intent Object order

Restructure Process-Part 4 (current)

- Reviewing and revising mechanism list
- Mapping ICD-10 code ranges to new mechanisms
- Identifying ICD-10 objects associated with each mechanism to ensure capture in ICD-11
- Developing possible object structural hierarchies to represent meaningful object categories (from ICECI and relevant product/object/substance classifications)
- Reviewing completeness of mech-object lists
- Developing Intent, Activity, and Place dimensions