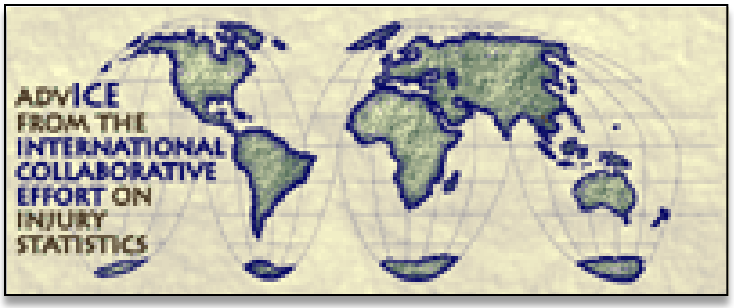
Multiple Cause of Death: An Update on Recommendations for Selecting a Main Injury



Wellington, New Zealand
29 September 2012

Holly Hedegaard, MD, MSPH
Office of Analysis and Epidemiology

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics

SAFER • HEALTHIER • PEOPLE™

Background

- International differences in how countries approach multiple cause of death (MCOD) data
- ICD guidelines to select a single main injury from MCOD data differ by revision
  - ICD-9 Precedence list – most “severe”
  - ICD-10 Select the injury associated with the initiating condition

Process to Modify the ICD-10 Guideline

- In 2005, WHO Mortality Reference Group (MRG) asked the ICE for input on selecting a main injury and creating a priority ranking list
- WHO Mortality Reference Group
  - ~25 members, 11 countries, PAHO, WHO
  - Objective: to improve international comparability of mortality data by establishing standardized application and interpretation of the ICD
  - Decisions are forwarded to the WHO Updating and Revision Committee (URC)

Considerations for Selecting a Main Injury in ICD-10

- Eliminate trivial and superficial injuries from consideration
- If there is an obvious causal sequence, select the injury which led to death
- If there is no obvious causal sequence, select the main injury using priority ranking
- If several injuries are at the same priority ranking, select the first mentioned

Generation of Severity Measures

In 2007, ICE members used Swedish data to develop empirically derived severity rankings

- Diagnosis-specific Survival Probabilities (DSPs)
- Calculated using weighted total mention method, including both inpatient and out-of-hospital deaths
- Created 6 severity groups based on DSP

  1=less severe 6=most severe
- The 6 groups were based on “equal number of injuries in each group”

Report to MRG

- ICE submitted the report with the injury severity rankings to the MRG in October 2007
- Report also included recommendations to:
  - Compare ICE-MRG severity rankings to other methods
  - Have list reviewed by ICD experts and clinicians (trauma surgeons, medical examiners, etc.)
  - Pilot test in several countries on a sample of injuries

Actions of the MRG in 2008

- Developed coding instructions that included the injury priority rankings
- Recruited countries to test: UK, Brazil, Sweden, Norway, US

Post-Pilot Recommendations

- Use the priority list on all cases where more than one injury is reported (even if there is a reported sequence of injuries)
- Revise the priority list so that specified injuries always have a higher priority score than “multiple” injuries of the same site or unspecified injuries

Actions of the MRG in 2009

- Decision to reverse the priority list numbering (1=most severe; 6=less severe) to be consistent with other precedents in the ICD
- Recruited additional countries to test: India, Australia, Japan

Actions of the MRG in 2010

- Deleted poisonings from the priority list
- Continued to refine the priority group for individual codes
  - 3rd degree burns > 2nd degree burns
  - Multiple fx of cervical spine > Fracture of neck, part unspecified
  - Assign the same rank to codes for “multiple injuries” as to codes for “other specified injuries”

Actions of the MRG in 2011

- For codes not included in original ICE list, "borrowed" the injury priority group from other similar conditions
- Assigned superficial injuries to the lowest priority group
- Finalized the priority list in April 2011
- Ratified in October 2011
- Proposed implementation date of 2013

Possible Errors in Categorization?

- Examples of codes assigned to the lowest priority group:
  - S78.0 Traumatic amputation at hip joint
  - T04.0 Crushing injuries involving head with neck
- Examples of codes assigned to the highest priority group:
  - S68.9 Traumatic amputation of wrist and hand, level unspecified
  - T69.0 Immersion hand and foot (trench foot)

Questions for the ICE

- Do we want to review the priority list and instructions?
  - Who
  - By when
- What tool(s) should be used to check the priority list?
  - Country-specific DSPs
  - International DSPs
  - Clinical expertise
  - AIS