

## Transitioning to ICD-10-CM: Resources and tools to facilitate injury morbidity research

Holly Hedegaard, MD, MSPH

Annual Exploration of Injury and Emergency Health Data Issues  
APHA Conference  
November 3, 2015

© 2015 American Public Health Association  
All rights reserved. |

## Presenter Disclosures

Holly Hedegaard, MD, MSPH

The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

No relationships to disclose

## Overview

- On-line resources on ICD-10-CM for injury
- The proposed ICD-10-CM Injury Matrices
  - External cause matrix
  - Injury Diagnosis Matrix
- Proposed ICD-10-CM surveillance case definitions
- Assessment efforts
- ICD-10-CM and injury severity measures

## What is this “transition to ICD-10-CM”?

- Transition from ICD-9-CM to ICD-10-CM to code health information in administrative datasets
- ICD-10-CM is more complex than ICD-9-CM
  - Injury diagnosis codes  
2,600 in ICD-9-CM; 43,000 in ICD-10-CM
  - External cause codes  
1,300 in ICD-9-CM; 7,500 in ICD-10-CM
- Standard case definitions, reporting frameworks, analytic software programs, etc. need to be updated for ICD-10-CM

## On-line Webinars from CDC

[www.cdc.gov/nchs/icd/icd10cm\\_pcs\\_trainings.htm](http://www.cdc.gov/nchs/icd/icd10cm_pcs_trainings.htm)

- ICD-10-CM Transition Overview
- Overview of the ICD-10-CM Codes
- Understanding the General Equivalence Mapping files
- A Proposed External Cause of Injury Framework for Presenting Injury Data
- A Proposed Framework for Presenting ICD-10-CM Injury Diagnosis Data

## ICD-10-CM Online

[www.cdc.gov/nchs/icd/icd10cm.htm#icd2015](http://www.cdc.gov/nchs/icd/icd10cm.htm#icd2015)

1. Scroll down to “FY 2016 release of ICD-10-CM”
2. Select “ICD-10-CM PDF Format”
3. Select “ICD10CM\_FY2015\_Full\_PDF.zip”
4. Select “FY15\_Tabular.PDF”
5. Select Chapter 19 (injury diagnosis codes) or Chapter 20 (external cause codes)

### General Equivalence Mappings (GEMs)

- A code to code reference dictionary for ICD-9-CM and ICD-10-CM
- Offers possible acceptable translation alternatives
- One ICD-9-CM code can be represented by multiple ICD-10-CM codes and vice versa
- Some codes in ICD-10-CM do not have a comparable code in ICD-9-CM

### ICD-10-CM GEMs and MapIT

#### General Equivalence Mappings (GEMs)

[www.cdc.gov/nchs/icd/icd10cm.htm#icd2015](http://www.cdc.gov/nchs/icd/icd10cm.htm#icd2015)

1. Scroll down to "FY 2016 release of ICD-10-CM"
2. Select "General Equivalence Mapping Files"

#### MapIT

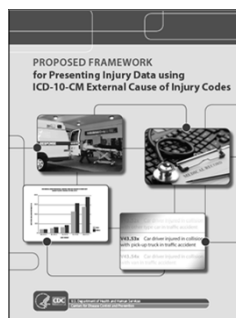
[www.qualityindicators.ahrq.gov/resources/Toolkits.aspx](http://www.qualityindicators.ahrq.gov/resources/Toolkits.aspx)

- Downloadable software tool developed by AHRQ to map ICD-9-CM to ICD-10-CM using the GEMs

### Basic Framework for External Cause Matrices

Mechanism of Injury	Intent of Injury				
	Unintentional	Intentional Self-harm	Assault	Legal Intervention	War Operations
Cut/pierce					
Drowning/submersion					
Fall					
Fire/Flame					
Hot object/substance					
Firearm					
Machinery					
Transportation					
etc. ↓					

ICD External Cause Codes



### Special Thanks to Lee Annest



Annest, J., Hedegaard, H., Chen, L., Warner, M., and Small, E. (2014). Proposed Framework for Presenting Injury Data using ICD-10-CM External Cause of Injury Codes. Atlanta, GA: National Center for Injury Prevention and Control, National Center for Health Statistics, Centers for Disease Control and Prevention.

### External Cause of Injury Framework

#### Proposed Framework for Presenting Injury Data using ICD-10-CM External Cause of Injury Codes

[www.cdc.gov/injury/wisqars/pdf/ICD-10-CM\\_External\\_Cause\\_Injury\\_Codes-a.pdf](http://www.cdc.gov/injury/wisqars/pdf/ICD-10-CM_External_Cause_Injury_Codes-a.pdf)

#### ICD-10-CM All but Poisoning Matrix

[www.cdc.gov/injury/wisqars/dataandstats.html](http://www.cdc.gov/injury/wisqars/dataandstats.html)

#### ICD-10-CM Poisoning Matrix

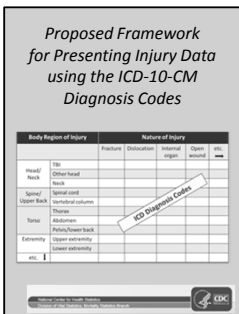
[www.cdc.gov/injury/wisqars/dataandstats.html](http://www.cdc.gov/injury/wisqars/dataandstats.html)

### Basic Framework for Injury Diagnosis Matrices

Body Region		Nature of Injury				
		Fracture	Dislocation	Internal organ	Open wound	etc. →
Head/ Neck	TBI					
	Other head					
	Neck					
Spine/ Upper Back	Spinal cord					
	Vertebral column					
Torso	Thorax					
	Abdomen					
	Pelvis/lower back					
Extremity	Upper extremity					
	Lower extremity					
etc. ↓						

ICD Diagnosis Codes

### Injury Diagnosis Framework



- Will be published as a **National Health Statistics Report** by the CDC/National Center for Health Statistics (NCHS)
- Available on the web by end of year

### Proposed Surveillance Case Definitions

#### Traumatic Brain Injury

- Collaborative effort between NCHS/NCIPC, completed in 2014
- Applied GEMS to current ICD-9-CM case definition
  - 800.0-801.9, 803.0-804.9, 850.0-854.1, 950.1-950.3, 995.55, 959.01
- Input solicited from other federal agencies
- Input from injury research, surveillance and prevention partners

### PROPOSED ICD-10-CM Surveillance Definition for Traumatic Brain Injury

ICD-10-CM code	Description
S02.0, S02.1-	Fracture of skull
S02.8, S02.91	Fracture of other specified skull and facial bones; Unspecified fracture of skull
S04.02, S04.03-, S04.04-	Injury of optic chiasm; injury of optic tract and pathways; injury of visual cortex
S06-	Intracranial injury
S07.1	Crushing injury of skull
T74.4	Shaken infant syndrome

“-” indicates any 4<sup>th</sup>, 5<sup>th</sup> or 6<sup>th</sup> character  
 7<sup>th</sup> character of A or B for S02.0, S02.1-, S02.8 and S02.91  
 7<sup>th</sup> character of A for S04.02, S04.03-, S04.04-, S06-, S07.1 and T74.4

### Consensus Methods for Initial Testing and Validation of the ICD-10-CM Injury Diagnosis and External Cause Frameworks

#### Safe States Injury Surveillance Workgroup 9 (ISW9)

- Participants from CDC, CSTE, SAVIR, State Health Departments
- To assist states in the transition to ICD-10-CM
- To develop analysis methods and data presentation tables for use in testing the ICD-10-CM injury frameworks

For more information, contact the Safe States Alliance at [info@safestates.org](mailto:info@safestates.org)

### CDC Surveillance Quality Improvement (SQI) Year 5 project

- CDC funding to four states (CO, MA, NC, UT)
- Medical record review
- Proposal to dual code injury records in both ICD-9-CM and ICD-10-CM to assess comparability
  - Injury diagnosis
  - External cause
  - Activity

### ICD-10-CM and Injury Severity Measures

- NHTSA Request for Information in 2014 to identify interest/need for software to map ICD-10-CM to AIS05
- Work by Mark Zonfrillo and AAAM to map ICD-10-CM to AIS 3+ Severity Injury
  - Traffic Injury Prevention (2015) 16, S197-S200
- Work by Turner Osler and others to map ICD-10-CM to AIS05

### Summary

- Intensive effort to prepare for the transition to ICD-10-CM for injury morbidity data
- Multiple tools and training materials are available
  - Subject to revision after testing and assessment using ICD-10-CM coded data
- More work is needed
  - Additional surveillance definitions, e.g., SCI
  - Definitions for injury indicators
  - Exploration of codes outside the injury chapters

### For more information:

**Holly Hedegaard, MD, MSPH**

National Center for Health Statistics  
Office of Analysis and Epidemiology  
Injury Statistics Program  
301-458-4460  
hdh6@cdc.gov

© 2015 U.S. Department of Health and Human Services  
All rights reserved. No part of this publication may be reproduced without permission.