

Injury Codes in ICD-10-CM

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Overview

Overview

- History of ICD
- Overview of ICD-10
- Overview of ICD-10-CM
- Structure/Conventions
- Chapter-specific Overview
- General Equivalence Maps (GEMs)

History of the ICD

ICD Revisions

| <i>ICD Revision No.</i> | <i>Year of Conference When Adopted</i> | <i>Year in Use in the U.S.</i> | <i>ICD, Clinical Modification</i> | <i>Year in Use in the U.S.</i> |
|-------------------------|--|------------------------------------|---------------------------------------|-------------------------------------|
| First | 1900 | 1900-1909 | | |
| Second | 1909 | 1910-1920 | | |
| Third | 1920 | 1921-1929 | | |
| Fourth | 1929 | 1930-1938 | | |
| Fifth | 1938 | 1939-1948 | | |
| Sixth | 1948 | 1949-1957 | | |
| Seventh | 1955 | 1958-1967 | | |
| Eighth | 1965 | 1968-1978 | ICDA-8 H-ICDA-1 H-ICDA-2 | 1968-1978 1968-1972 1973-1978 |
| Ninth | 1975 | 1979-1998 | ICD-9-CM | 1979 |
| Tenth | 1989 | 1999- | ICD-10-CM | Oct. 1, 2014 |

International Statistical Classification of Diseases and Health Related Problems, Tenth Revision (ICD-10)

ICD-10 represents the broadest scope of any ICD revision to date. Changes include:

- Alphanumeric codes
- Restructuring certain chapters/categories
- Addition of new features
- Expansion of detail (2,033 categories; 855 more than ICD-9)

International Statistical Classification of Diseases and Health Related Problems, Tenth Revision (ICD-10)

- Chapters where radical changes have occurred were field-tested by WHO:
 - Chapter V, Mental and behavioral disorders
 - Chapter XIX, Injury, poisoning and certain other consequences of external causes
 - Chapter XX, External causes of morbidity and mortality

ICD-10-CM

HIPAA Administrative Simplification: Modifications to Medical Data Code Set Standards

- Published January 16, 2009
 - Adopts ICD-10-CM and ICD10-PCS as replacements for ICD-9-CM
- October 1, 2013 – Compliance date for implementation of ICD-10-CM and ICD-10-PCS
- October 1, 2014 – New compliance date for implementation of ICD-10-CM and ICD-10-PCS (published August 2012)

ICD-10-CM Structure/Conventions

ICD-10-CM Structure

ICD-9-CM (14,025 codes)

- 3 -5 characters
- First character is numeric or alpha (E or V)
- Characters 2-5 are numeric
- Always at least 3 characters if there are 4-7 digits
- Use of decimal after 3 characters

ICD-10-CM (68,069 codes)

- 3 -7 characters
- Character 1 is alpha (all letters except U are used)
- Character 2 is numeric
- Characters 3 -7 are alpha or numeric
- Use of decimal after 3 character if there are 4-7 digits
- Use of dummy placeholder “X”
- Alpha characters are not case-sensitive

Chapter-specific Overview

Chapter 19:

Injury, poisoning and certain other consequences of external causes

Injuries Restructured

ICD-9

| | |
|-----------------|---------|
| Fractures | 800-829 |
| Dislocations | 830-839 |
| Sprains/Strains | 840-848 |

ICD-10

| | |
|--------------------|---------|
| Injuries to head | S00-S09 |
| Injuries to neck | S10-S19 |
| Injuries to thorax | S20-S29 |

Chapter 19:

Injury, poisoning and certain other consequences of external causes

Type of injury at 3rd character

- 0 Superficial injuries
- 1 Open wounds
- 2 Fractures
- 3 Dislocations and sprains
- 4 Injury of nerves
- 5 Injury of blood vessels
- 6 Injury of muscles and tendons
- 9 Other and unspecified

Chapter 19:

Injury, poisoning and certain other consequences of external causes

| | |
|-----|---|
| S00 | Superficial injury of head |
| S10 | Superficial injury of neck |
| S20 | Superficial injury of thorax |
| S30 | Superficial injury of abdomen, lower back, and pelvis |
| S01 | Open wound of head |
| S11 | Open wound of neck |
| S21 | Open wound of thorax |
| S31 | Open wound of abdomen, lower back, and pelvis |
| S02 | Fracture of skull and facial bones |
| S12 | Fracture of neck |
| S22 | Fracture of rib(s), sternum and thoracic spine |
| S32 | Fracture of lumbar spine and pelvis |

Injury codes in ICD-9-CM/ICD-10

Open wounds

- laceration w/foreign body
- laceration w/o foreign body
- puncture wound w/foreign body
- puncture wound w/o foreign body
- bite

Superficial wounds

- abrasion
- blister
- contusion
- external constriction
- superficial foreign body
- insect bite

ICD-10-CM

Expanded Injury Codes

Detail for open wounds added at 5th digit

S41.01 Laceration of shoulder without foreign body

S41.02 Laceration of shoulder with foreign body

S41.03 Puncture wound of shoulder without foreign body

ICD-10-CM

Expanded Injury Codes

S00.411 Abrasion of ear, right ear

**S50.351 Superficial foreign body of
right elbow**

**S81.012 Laceration without foreign
body, left knee**

Fracture codes in ICD-9-CM/ICD-10

Fractures, closed

- Comminuted
- Depressed
- Elevated
- Fissured
- Greenstick
- Linear
- Spiral

Fractures, open

- Compound
- Infected
- Missile

ICD-10-CM

Expanded Injury Codes

- S42.31- Greenstick fracture of shaft of humerus**
- S42.32- Transverse fracture of shaft of humerus**
- S42.33- Oblique fracture of shaft of humerus**
- S42.42- Comminuted supracondylar fracture without intercondylar fracture of humerus**

Chapter 19:

7th character – Fractures

- A Initial encounter for closed fracture
- B Initial encounter for open fracture
- D Subsequent encounter for fracture with routine healing
- G Subsequent encounter for fracture with delayed healing
- K Subsequent encounter for fracture with nonunion
- P Subsequent encounter for fracture with malunion
- S Sequela

Chapter 19:

7th character – Open fractures

The open fracture designations are based on the Gustilo open fracture classification

The appropriate 7th character is to be added to each code from category S52

A - initial encounter for closed fracture

B - initial encounter for open fracture type I or II

C - initial encounter for open fracture type IIIA, IIIB, or IIIC

D - subsequent encounter for closed fracture with routine healing

E - subsequent encounter for open fracture type I or II with routine healing

F - subsequent encounter for open fracture type IIIA, IIIB, or IIIC with routine healing

G - subsequent encounter for closed fracture with delayed healing

H - subsequent encounter for open fracture type I or II with delayed healing

J - subsequent encounter for open fracture type IIIA, IIIB, or IIIC with delayed healing

K - subsequent encounter for closed fracture with nonunion

M - subsequent encounter for open fracture type I or II with nonunion

N - subsequent encounter for open fracture type IIIA, IIIB, or IIIC with nonunion

P - subsequent encounter for closed fracture with malunion

Q - subsequent encounter for open fracture type I or II with malunion

R - subsequent encounter for open fracture type IIIA, IIIB, or IIIC with malunion

S - sequela

Chapter 19:

7th character – Type of encounter

Types of encounters: Initial, subsequent, sequela

- Active treatment: surgical treatment, ER encounter, evaluation and treatment by new physician
- Subsequent encounter: routine care, during healing phase (e.g., cast change/removal, removal of external fixation device)
- Sequela: complications or conditions that arise as a direct result of an injury

Poisoning/External Cause ICD-9-CM

Accidental poisoning by thyroid hormones

962.7 (Poisoning) Thyroid and thyroid derivatives
and

E858.0 Accidental poisoning, Hormones and
synthetic substitutes

Poisoning/External Cause

ICD-10-CM Combination Codes

- T38.1X1 Poisoning by thyroid hormones and substitutes, accidental (unintentional)
- T38.1X2 Poisoning by thyroid hormones and substitutes, intentional self-harm
- T38.1X3 Poisoning by thyroid hormones and substitutes, assault
- T38.1X4 Poisoning by thyroid hormones and substitutes, undetermined
- T38.1X5 Adverse effect of thyroid hormones and substitutes

Poisoning/External Cause

ICD-10-CM Combination Codes

Codes in T36- T50 (Poisoning by, adverse effects of and underdosing of drugs, medicaments and biological substances) includes detail for:

- Substance
- External cause (accidental, intentional, assault, undetermined, adverse effect)
- Use of external cause of injury code is unnecessary

Poisoning/External Cause

ICD-10-CM Combination Codes

T36 Poisoning by, adverse effect of and underdosing of systemic antibiotics

The appropriate 7th character is to be added to each code from category T36

A - initial encounter

D - subsequent encounter

S - sequela

T36.0 Poisoning by, adverse effect of and underdosing of penicillins

T36.0X Poisoning by, adverse effect of and underdosing of penicillins

T36.0X1 Poisoning by penicillins, accidental (unintentional)

T36.0X2 Poisoning by penicillins, intentional self-harm

T36.0X3 Poisoning by penicillins, assault

T36.0X4 Poisoning by penicillins, undetermined

T36.0X5 Adverse effect of penicillins

T36.0X6 Underdosing of penicillins

Poisoning/External Cause

ICD-10-CM Combination Codes

T58 Toxic effect of carbon monoxide

Includes: asphyxiation from carbon monoxide; toxic effect of carbon monoxide from all sources

The appropriate 7th character is to be added to each code from category T58

A - initial encounter

D - subsequent encounter

S - sequela

T58.0 Toxic effect of carbon monoxide from motor vehicle exhaust

Toxic effect of exhaust gas from gas engine

Toxic effect of exhaust gas from motor pump

T58.01, Toxic effect of carbon monoxide from motor vehicle exhaust, accidental (unintentional)

T58.02, Toxic effect of carbon monoxide from motor vehicle exhaust, intentional self-harm

T58.03, Toxic effect of carbon monoxide from motor vehicle exhaust, assault

T58.04, Toxic effect of carbon monoxide from motor vehicle exhaust, undetermined

Chapter 19:

Injury, poisoning and certain other consequences of external causes (continued)

Burns and corrosions

Distinction between burns and corrosions

Burns: thermal (except sunburn)

Corrosions: Due to chemicals

T20 – T25 Burns and corrosions of external body surface, specified by site

T26 – T28 Burns and corrosions confined to eye and internal organs

T31, Burns classified according to extent of body surface involved

T32, Corrosions classified according to extent of body surface involved

T21.3-, Burn of third degree of trunk

T21.7-, Corrosion of third degree of trunk

Chapter 19:

Injury, poisoning and certain other consequences of external causes (continued)

Adult and Child Abuse

Distinction between suspected and confirmed abuse

T74, Adult and child abuse, neglect and other maltreatment, confirmed

T76, Adult and child abuse, neglect and other maltreatment, suspected

T74.3 Psychological abuse, confirmed

T74.31 Adult psychological abuse, confirmed

T74.32 Child psychological abuse, confirmed

T76.3 Psychological abuse, suspected

T76.31 Adult psychological abuse, suspected

T76.32 Child psychological abuse, suspected

Chapter 20:

External causes of morbidity

- Uses letters V, W, X, Y
 - U00 – U49 reserved for reserved for use by WHO for provisional assignment of new diseases with uncertain etiology
 - U50 – U99 for national use in research e.g., when testing an alternative subclassification for a special project
- Some external cause codes deactivated and concepts added to the injury/poisoning codes
- New concepts
 - Blood alcohol level (Y90)

Certain External Cause of Injury Codes Added to the Injury Codes

Examples where external cause concepts added
to the injury codes

Foreign bodies

Late Effects

Poisonings

Suffocation

General Equivalence Maps

GEMs

Why Do We Need GEMs?

- One ICD-9-CM code represented by multiple ICD-10 codes or one ICD-10 code represented by multiple ICD-9-CM codes
- There are new concepts in ICD-10-CM that have no predecessor in ICD-9-CM (e.g., under dosing, blood type)
- Use of GEMs very important in identifying differences that would have been highlighted if dual-coding could have been undertaken

How are GEMs Used?

- One entry in a GEM identifies relationships between one code in the source system and its possible equivalents in the target system without consideration of patient medical record information
 - Source is the code one is mapping from
 - Target is the code being mapped to
- Each GEM file contains an entry for every source system code in the file
- A GEM file contains only those target system codes which are plausible translations of the source system code being looked up
 - For example, in the ICD-10-CM to ICD-9-CM GEM, each ICD-10-CM is translated only to the ICD-9-CM code(s) that are plausible translations based on the meaning of the ICD-10-CM code as contained in the code title, instructional notes, and index entries.
- The GEMs can also be used for general reference

GEMs (Continued)

Example from ICD-10-CM

- Diagnosis mapping
 - ICD-10-CM Source system code on the left side
 - ICD-9-CM Target system code in the middle
 - Flags on the right

| | | |
|-----------|-------|-------|
| • T500X1A | 9620 | 10111 |
| • T500X1A | E8580 | 10112 |
| • T500X1D | 9620 | 10111 |
| • T500X1D | E8580 | 10112 |
| • T500X1S | 9090 | 10111 |
| • T500X1S | E9292 | 10112 |
| • T500X2A | 9620 | 10111 |
| • T500X2A | E9504 | 10112 |
| • T500X2D | 9620 | 10111 |
| • T500X2D | E9504 | 10112 |
| • T500X2S | 9090 | 10111 |
| • T500X2S | E959 | 10112 |

How the GEMs Work

Translation depends on source

- Because the translation is based on the meaning of the source system code...
- And these are two different languages of healthcare...
- Then the GEMs may have different content in each direction
 - **Not all** I-9 codes are used in an I-10 GEM
 - **Not all** I-10 codes are used in an I-9 GEM

Four ICD-9-CM codes translate
to four ICD-10-CM codes

4 ICD-9-CM diagnosis codes

71511 Osteoarthritis, localized, primary, shoulder region

To **M19019** Primary osteoarthritis, unspecified shoulder

71512 Osteoarthritis, localized, primary, upper arm

To **M19029** Primary osteoarthritis, unspecified elbow

71513 Osteoarthritis, localized, primary, forearm

To **M19039** Primary osteoarthritis, unspecified wrist

71514 Osteoarthritis, localized, primary, hand

To **M19049** Primary osteoarthritis, unspecified hand

Eight of these ICD-10-CM codes
are not in the ICD-9-CM GEM

12 ICD-10-CM codes

M19011 Primary osteoarthritis, right shoulder

M19012 Primary osteoarthritis, left shoulder

M19019 Primary osteoarthritis, unspecified shoulder

M19021 Primary osteoarthritis, right elbow

M19022 Primary osteoarthritis, left elbow

M19029 Primary osteoarthritis, unspecified elbow

M19031 Primary osteoarthritis, right wrist

M19032 Primary osteoarthritis, left wrist

M19039 Primary osteoarthritis, unspecified wrist

M19041 Primary osteoarthritis, right hand

M19042 Primary osteoarthritis, left hand

M19049 Primary osteoarthritis, unspecified hand

What GEMs Aren't?

- GEMs are not crosswalks
 - The GEMs are more complex than a simple one-to-one crosswalk, but ultimately more useful. They reflect the relative complexity of the code sets clearly so that it can be managed effectively, rather than masking it in an oversimplified way.
 - They are reference mappings, to help the user navigate the complexity of translating meaning from one code set to the other.
- GEMs are not a substitute for learning how to use ICD-10-CM and ICD-10-PCS

ICD-10-CM Resources

ICD-10-CM files (PDF and XML formats)

ICD-10-CM Coding Guidelines

Codes and descriptions

Addenda

General Equivalence Maps with Guide and Technical documents

<http://www.cdc.gov/nchs/icd/icd10cm.htm>

Thank You

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

