
National Health Statistics Reports

Number 89 ■ January 22, 2016

Proposed Framework for Presenting Injury Data Using the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD–10–CM) Diagnosis Codes

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Abstract

Frameworks based on the International Classification of Diseases (ICD) provide injury researchers and epidemiologists with standard approaches for presenting and analyzing injury-related mortality and morbidity data. Injury diagnosis frameworks, such as the Barell Matrix for the ICD Ninth Revision, Clinical Modification (ICD–9–CM) and the Injury Mortality Diagnosis Matrix for the ICD Tenth Revision (ICD–10), categorize ICD codes into major body region (e.g., head, chest, abdomen, or extremity) by nature-of-injury (e.g., fracture, laceration, organ injury, or vascular injury) categories. In the United States, morbidity coding transitioned from ICD–9–CM to ICD–10–CM on October 1, 2015. In preparation for the use of ICD–10–CM-coded morbidity data for injury surveillance and data analysis, the National Center for Health Statistics and the National Center for Injury Prevention and Control propose an ICD–10–CM Injury Diagnosis Matrix to provide a standard approach for categorizing injuries by body region and nature of injury. This report provides a brief description of the differences between ICD–9–CM and ICD–10–CM injury diagnosis codes, introduces the proposed framework and the methods used to create it, and provides a list of additional considerations for review and comment by researchers and subject-matter experts in injury data and surveillance.

Keywords: injury diagnosis • classification • traumatic brain injury

Introduction

Since the early 1990s, the Centers for Disease Control and Prevention's (CDC's) National Center for Health Statistics (NCHS) and National Center for Injury Prevention and Control (NCIPC) have collaborated with colleagues from the International Collaborative Effort (ICE) on Injury Statistics and the American Public

Health Association Injury Control and Emergency Health Services section to improve the analysis and usefulness of fatal and nonfatal injury data in the United States and internationally. One aspect of this collaboration is the development of frameworks or matrices based on standard groupings of International Classification of Diseases (ICD) codes for presenting fatal and nonfatal injury data by external causes of

injury (mechanism and intent of injury) and by injury diagnosis (body region and nature of injury) (1). Since 1999, the 10th revision of ICD (ICD–10) has been used in the United States for coding death certificate data and, since 1979, the Clinical Modification of the 9th revision of ICD (ICD–9–CM) has been used to code morbidity data (2). Matrices have been developed for injury mortality data based on ICD–9 and ICD–10 codes and for injury morbidity data based on ICD–9–CM codes (1,3,4). These matrices are used extensively for state, national, and international studies of injury by external cause and by diagnosis. For example, reporting categories from the matrices are used in CDC WISQARS (5), CDC WONDER (6), CDC Injury Indicators Reports (7), and in the work of ICE on Injury Statistics (8).

The Department of Health and Human Services has required that the Clinical Modification of the 10th revision of ICD (ICD–10–CM) replace ICD–9–CM in the United States for coding of morbidity data beginning October 1, 2015. From that date forward, all hospitals and health care providers covered by the Health Insurance Portability and Accountability Act (HIPAA) must use ICD–10–CM when reporting medical



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diagnosis information (9). ICD–10–CM, developed by NCHS for use in morbidity coding in the United States, has been publicly available for more than a decade (10). The coding structure of ICD–10–CM is foundationally based on ICD–10 published by the World Health Organization, however, the classification scheme has been greatly expanded to capture the diagnostic detail needed in morbidity data. ICD–10–CM contains nearly five times the number of codes found in ICD–9–CM (approximately 68,000 codes in ICD–10–CM compared with 14,000 codes in ICD–9–CM). Because ICD–10–CM provides much greater detail about diagnoses and conditions, this classification system will potentially provide greater utility than either ICD–9–CM or ICD–10 in capturing detailed information for billing, documentation of clinical care, and public health surveillance and practice.

The transition to ICD–10–CM coded data creates a need for a standardized matrix for presenting injury morbidity data by body region and nature of injury based on ICD–10–CM codes. This report describes the work of injury coding

and surveillance experts from NCHS and NCIPC to develop such a proposed matrix. The purpose of the matrix is to provide: 1) a standard framework of ICD–10–CM code groupings by body region and nature of injury for presentation and analysis of injury morbidity data; and 2) reasonable comparability with both the ICD–9–CM and ICD–10 injury diagnosis matrices. Once tested and finalized, the ICD–10–CM injury diagnosis matrix will facilitate a standardized approach to reporting surveillance trends and patterns in nonfatal injury in the United States and internationally.

This report briefly describes the differences between ICD–9–CM and ICD–10–CM classification systems for injury diagnosis codes, the methods used to construct the proposed ICD–10–CM injury diagnosis matrix, and considerations that will require additional review and testing when ICD–10–CM coded data become available. The focus of this report is on the diagnosis codes and the development of a framework for reporting injury morbidity data by body region and nature of injury. A

companion document released in April 2014 describes ICD–10–CM external cause codes and a proposed framework for reporting ICD–10–CM coded data by mechanism and intent of injury (11).

Nature of Injury Codes: Differences Between ICD–9–CM and ICD–10–CM

ICD–10–CM contains nearly five times the number of codes found in ICD–9–CM. Most of the expansion in the overall number of codes occurred in the injury chapters, with an increase in the injury diagnosis codes from approximately 2,600 codes in ICD–9–CM to 43,000 codes in ICD–10–CM, and an increase in the external cause codes from approximately 1,300 codes in ICD–9–CM to 7,500 codes in ICD–10–CM (12).

Injury diagnosis codes in ICD–10–CM differ from those in ICD–9–CM in a number of ways. A brief description of some of these differences is provided below and summarized in [Table A](#).

Table A. Summary of differences between ICD–9–CM and ICD–10–CM for injury diagnoses

ICD–9–CM	ICD–10–CM
2,600 codes	43,000 codes
Injury codes found in Chapter 17	Injury codes found in Chapter 19
Code range 800–999	S and T codes
Three to five characters	Three to seven characters; “X” placeholder
Primary axis is nature of injury	Primary axis is body region
No character to indicate laterality	Characters indicate left, right, bilateral, or unspecified laterality
Limited information on type of fracture	Detailed information on type of fracture
Laceration codes do not include information on presence of a foreign body	Laceration codes include information on presence of a foreign body
Limited information on superficial injuries	Detailed information on superficial injuries
Codes for poisoning and adverse effects of drugs	Codes for poisoning, adverse effects and underdosing of drugs
Coding of poisoning requires both a diagnosis code and an external cause code	Coding of poisoning uses a diagnosis code (T code) only; a character in the code specifies intent
Single diagnosis code for asphyxiation	More than 40 diagnosis codes for asphyxiation or strangulation by different mechanisms and intents
Codes for confirmed child or adult abuse only	Codes for both confirmed and suspected child or adult abuse
No designation of initial versus subsequent encounter	Most codes have a seventh character indicating initial versus subsequent encounter
Limited late effect codes	Most codes have a seventh character indicating sequelae (late effects) of the injury

NOTES: ICD–9–CM is International Classification of Diseases, Ninth Revision, Clinical Modification. ICD–10–CM is International Classification of Diseases, Tenth Revision, Clinical Modification.

Relevant chapters of ICD

Injury diagnosis codes are found in Chapter 17, “Injury and Poisoning,” in ICD–9–CM. In ICD–10–CM, the codes are found in Chapter 19, “Injury, Poisoning, and Certain Other Consequences of External Causes.”

Change in axis

In the development of ICD–10, a substantial change occurred in how the injury codes are structured. In ICD–9 and ICD–9–CM, the primary axis of the injury diagnosis codes is the nature of injury; in contrast, in ICD–10 and ICD–10–CM, the primary axis is the body region. For example, in ICD–9–CM, all codes for fractures are grouped together, with subsets of the codes used to specify different body regions (e.g., head and neck, torso, and extremities). In contrast, in ICD–10–CM, all injuries to the head and neck, for example, are grouped together with subsets of the codes used to specify different types of

injuries (e.g., open wounds, fractures, and internal organ injuries).

Code structure

The injury diagnosis codes in ICD-9-CM are numeric codes in the range of 800-999. The codes include three to five characters with a decimal between the third and fourth characters. In contrast, the ICD-10-CM injury diagnosis codes are alphanumeric and begin with the letters “S” or “T” signifying that the code is found in Chapter 19 of ICD-10. S codes identify different types of injuries related to a single body region and T codes identify injuries to multiple or unspecified body regions as well as poisoning and certain other consequences of external causes. ICD-10-CM injury diagnosis codes have up to seven characters, allowing for greater specificity of information carried in the code. As with ICD-9-CM, for codes with four characters or more, a decimal is placed between the third and fourth character. A new feature of ICD-10-CM codes is the use of one or more “dummy” characters (“X”) either embedded in the code or at the end of the code. The X characters are placeholders that represent additional characters that may be assigned as needed to accommodate new codes for specific diagnoses.

The structure of the ICD-10-CM injury diagnosis codes reflects the change in primary axis from nature of injury to body region. For S codes, the second character indicates the major body region involved, and the third character indicates the broad nature-of-injury categories. Further details on the body region and nature of injury are provided in the fourth through sixth characters of the code. The T codes do not follow this structure but are grouped based on the nature of injury.

Code specificity

In ICD-10-CM, additional characters are used to capture greater specificity about the body region and nature of the injury. For example, if the third character is “0,” indicating “Superficial injury,” the fifth character captures greater detail about the type of superficial injury (e.g., abrasion, blister, contusion, external constriction,

superficial foreign body, or insect bite). If the third character is “1,” indicating “Open wound,” the fifth character is used to identify whether the open wound was a laceration, puncture wound, or bite, and whether a foreign body was present. When applicable, additional characters are used to identify laterality (e.g., left, right, bilateral, or unspecified) and type of fracture (e.g., comminuted, displaced, elevated, fissured, greenstick, linear, or spiral for closed fractures; or compound, infected, or missile for open fractures).

T codes

T codes are used to categorize injuries involving multiple or unspecified body regions; effects of foreign bodies; burns and corrosions; frostbite; poisoning by, adverse effects of, and underdosing of drugs and biological substances; toxic effects of nonmedicinal substances; other and unspecified effects of external causes such as radiation, vibration, effects of lightning, asphyxiation, hypothermia, drowning, and nonfatal submersion; certain early complications of trauma; and complications of surgical and medical care, not elsewhere classified. Compared with ICD-9-CM, the codes for the effects of many of these external causes have been greatly expanded in ICD-10-CM. For example, while a single diagnosis code was used in ICD-9-CM to identify asphyxiation and strangulation (code 994.7), approximately 40 codes are available in ICD-10-CM to describe asphyxiation and strangulation by different mechanisms (e.g., pillow, plastic bag, bed linens, another person in the bed, furniture, hanging, mechanical threat to breathing, being trapped in a car trunk, or being trapped in a refrigerator) and intents (e.g., accidental, intentional self-harm, homicide, or undetermined).

Combination codes that describe both diagnosis and mechanism

Many of the T codes are considered combination codes because they describe both a diagnosis as well as a mechanism and intent of injury. One example is the set of codes for poisoning and toxic effects. In ICD-9-CM, two codes were required to describe each drug poisoning

event—a diagnosis code (960-979 and 980-989) to describe the type of drug or toxic substance involved and an external cause code (E850-E858, E860-E869, E930-E949, E950-E952, E961-E962, and E980-E982) to describe the intent of the poisoning (e.g., accidental, intentional self-harm, homicide, or undetermined) or adverse effect. In ICD-10-CM, the information about both the drug involved and the intent are captured in a single code (T36-T50 for Drugs, medicaments and biological substances, and T51-65 for Toxic effects of substances chiefly nonmedicinal as to source). Other combination codes in ICD-10-CM include T15-19, Effects of foreign body entering through natural orifice; T71, Asphyxiation; T73, Effects of other deprivation; T75.0, Effects of lightning; T75.2, Effects of vibration; and T75.3, Motion sickness. Because they include information on both diagnosis and mechanism, all combination codes will be found in both the proposed ICD-10-CM diagnosis matrix and the proposed ICD-10-CM external cause matrix.

Codes for poisoning and toxic effects

A new consideration in ICD-10-CM is the concept of underdosing. Although both ICD-9-CM and ICD-10-CM include codes to describe poisoning (overdosing) and adverse effects of drugs, ICD-10-CM also includes codes for underdosing of a drug. The codes related to underdosing are used to capture harmful events that happen when an inadequate amount of a drug was taken (e.g., insulin). The underdosing code would only be assigned if some type of problem occurred (e.g., seizures or hyperglycemia). Regarding toxic effects of carbon monoxide (T58 in ICD-10-CM), ICD-10-CM includes more subcategories identifying the source of the carbon monoxide (e.g., motor vehicle exhaust, utility gas, domestic fuels, other, or unspecified sources) than were available in ICD-9-CM.

Type of medical encounter

Most of the injury diagnosis codes include a seventh character (a letter) that specifies whether the injury diagnosis

is related to the initial medical care encounter (A, B, or C), a subsequent encounter (D to R), or a sequela (S) of the injury event.

- The seventh character A, B, or C for initial encounter is used while the patient is receiving active treatment for the condition. Examples of active treatment include surgical treatment, emergency department encounter, and evaluation and continuing treatment by the same or a different physician.
- The seventh character D to R for subsequent encounter is used for encounters after the patient has received active treatment for the condition and is receiving routine care during the healing or recovery phase. Examples of subsequent care include: cast change or removal, removal of external or internal fixation device, medication adjustment, and other aftercare and follow-up visits following treatment of the injury or condition.
- The seventh character S for sequelae is used for complications or conditions that arise as a direct result of an injury, such as scar formation after a burn. The scars are sequelae of the burn. When using the seventh character S, it is necessary to use both the injury code that precipitated the sequela and the code for the sequela itself. The S is added only to the injury code, not the sequela code. The ICD-10-CM sequela designation is equivalent to what was coded as a “late effect” in ICD-9-CM (codes 905–909).

Injury diagnosis codes in ICD-10-CM also differ slightly from those found in ICD-10. In the development of ICD-10-CM, various codes found in ICD-10 were deactivated and therefore are not included in ICD-10-CM. Reasons for deactivation include: 1) the concept was mortality-specific (e.g., S18, Traumatic amputation at neck level); 2) the code was combined with another code elsewhere in the classification (e.g., the external cause of injury code W43, Vibration was deactivated and combined with T75.2); or 3) codes representing multiple injuries (e.g., S02.7, Multiple fractures involving skull and facial

bones) were deactivated to encourage the use of individual codes to describe each injury. Additionally, several new codes (at the level of the first four characters) were added to ICD-10-CM but are not found in ICD-10. Lists of these deactivated and added codes are provided in [Tables I and II](#) in the [Technical Notes](#).

Methods Used to Construct the ICD-10-CM Injury Diagnosis Matrix

The construction of the proposed ICD-10-CM injury diagnosis matrix involved two phases—the creation of the basic framework (rows and columns of the matrix) and placement of the individual ICD-10-CM codes into the cells of the framework.

Creation of the basic framework

The basic framework of injury diagnosis matrices consists of rows that categorize the body regions and columns that categorize the nature-of-injury groups. Nature-of-injury categories describe the type of anatomic or physiologic disruption that occurred to the body region, such as a fracture, dislocation, open wound, burns, injuries to internal organs, and poisoning. The two nature-of-injury matrices that

are widely used in the United States are the Barell Matrix for data coded with ICD-9-CM (3) and the Injury Mortality Diagnosis (IMD) Matrix for data coded in ICD-10 (4). While the general structure of the Barell and IMD Matrices are similar, there are several critical differences. These differences are summarized in [Table B](#) and briefly described below.

- The number and types of nature-of-injury categories differ between the Barell (ICD-9-CM) and the IMD (ICD-10) Matrices. For example, the Barell Matrix includes nature-of-injury categories (columns) for Sprains and strains. Because these types of injuries are rarely mentioned on death certificates, this nature-of-injury category is not included in the IMD Matrix. Rather, in the IMD Matrix, the codes for these injuries are included in the broader category of Other specified injury. In contrast to the Barell Matrix, the IMD Matrix has additional categories (columns) for Effects of foreign bodies entering orifice, Other effects of external causes, Poisoning, Toxic effects, Multiple injuries, and Other specified injury. These columns are not included in the Barell Matrix. These differences are partly due to new codes in ICD-10 that did not exist in ICD-9-CM, as well as increased interest and emphasis on certain types of injuries (e.g., poisoning).

Table B. Differences between the Barell Matrix and the Injury Mortality Diagnosis Matrix

Characteristic	Barell Matrix	IMD Matrix
Type of data	ICD-9-CM (morbidity data)	ICD-10 (mortality data)
Nature-of-injury columns ¹	13	16
Unique nature-of-injury columns ¹	Sprains and strains Nerves	Foreign body Other effects Poisoning Toxic effects Multiple injuries Other specified injury
Unique body region rows ¹	Traumatic brain injury Type 1, 2, and 3	...
Frostbite	Included with Systemwide injuries	Included across body regions
Sequelae (late effects) of injuries	Included with Systemwide injuries	Included with their respective diagnoses and across body regions

... Category not applicable.

¹Based on the layout of the Barell Matrix and IMD Matrix as presented in “Injury in the United States: 2007 Chartbook,” available from: <http://www.cdc.gov/nchs/data/misc/injury2007.pdf>.

NOTES: IMD is Injury Mortality Diagnosis. ICD-9-CM is International Classification of Diseases, Ninth Revision, Clinical Modification. ICD-10 is International Classification of Diseases, Tenth Revision.

- The number and type of body regions also differ between the two matrices. The primary difference is with traumatic brain injury (TBI). In the Barell Matrix, there are three subcategories for TBI—Type 1, Type 2, and Type 3—based on whether there was a skull fracture only, an intracranial injury with or without a skull fracture, or loss of consciousness, and if loss of consciousness did occur, the length of time of loss of consciousness. These distinctions were not included in the IMD Matrix, generally because the IMD Matrix is used to report data on deaths, so these distinctions are not relevant.
- Other differences between the Barell and IMD Matrices are somewhat subtle and specific to certain injury diagnoses. For example, the categorization of frostbite injuries differs in the two matrices. In the Barell Matrix, frostbite injuries are included in the Systemwide body region category, while in the IMD Matrix, they are included in the Other effects of external causes nature-of-injury category and distributed across the different body regions.
- Sequelae, or late effects of injuries, are handled differently between the two matrices. In the Barell Matrix, these codes are included in the Systemwide body region category, while in the IMD Matrix, these codes are included in the same body region and nature-of-injury cell as the associated acute injury code.

Because surveillance data are frequently used to monitor trends over time or to compare fatal and nonfatal outcomes for the same injury, the ICD–10–CM injury diagnosis matrix needs to be reasonably comparable to the existing matrices used for standardized reporting of injury data. After reviewing the differences between the Barell (ICD–9–CM) and IMD (ICD–10) Matrices, it was decided to base the structure of the proposed ICD–10–CM injury diagnosis matrix on the structure of the IMD Matrix, adjusting as needed by adding rows or columns for greater comparability with the Barell Matrix.

This approach resulted in the body region rows and the nature-of-injury columns shown in the [Figure](#). There are six major body region categories (Head and neck, Spine and back, Torso, Extremities, Unclassifiable by body region, and Unspecified) that are further subcategorized into up to two additional levels of body regions to provide greater specificity if needed. There are 15 major nature-of-injury categories, 2 of which are further subdivided into subcategories because of the level of specificity available in the codes (Burns and corrosions, divided into separate columns for Burns and for Corrosions; and Other specified injury, divided into separate columns for Sprains and strains, Injury to nerves, Injury to muscles and tendons, and Other injury).

Placement of the individual ICD–10–CM codes into the framework

Several guiding principles were used to place the individual ICD–10–CM nature-of-injury codes into the cells of the matrix. Many of the guiding principles are based on the relationship of the ICD–10–CM code to the ICD–10 code from which it was derived, that is, the first four digits. In this section, “parent” code refers to the first four characters of an ICD–10 or ICD–10–CM code.

- Because the underlying structure of the ICD–10–CM matrix is based on that of the IMD Matrix for ICD–10, in general, a code was first placed in the same cell as the parent code in the IMD Matrix.
- Comparable code location in the Barell (ICD–9–CM) Matrix was also considered. The General Equivalence Mappings (GEMs) developed by NCHS were used to identify the equivalent ICD–9–CM code(s) for each ICD–10–CM code (2). GEMs are a code-to-code reference dictionary that offers possible translation alternatives between different versions of ICD. The body region and nature-of-injury location of the ICD–9–CM GEMs equivalent in the Barell Matrix was then determined. Most codes showed agreement between the IMD (ICD–10) and Barell Matrices in

terms of body region and nature-of-injury categories. However, for some codes, the ICD–9–CM GEMs equivalent was found in a different cell in the Barell Matrix than the ICD–10 parent code in the IMD Matrix. When this occurred, the ICD–10–CM code in the proposed ICD–10–CM matrix was moved from the location of the parent code found in the IMD Matrix to the comparable location of the ICD–9–CM GEMs equivalent code in the Barell Matrix. Thus, for some codes, the location of the ICD–10–CM code in the proposed ICD–10–CM injury diagnosis matrix will differ from that of the parent ICD–10 code in the IMD Matrix.

- Special attention was given to the codes categorized as TBI. In 2013, a workgroup of epidemiologists and coding experts from NCHS and NCIPC developed a proposed ICD–10–CM surveillance definition for TBI morbidity (see [Technical Notes](#) for further details). The proposed code set is based on the GEMs equivalents of the codes used in the ICD–9–CM surveillance definition for TBI morbidity. The codes in the proposed ICD–10–CM surveillance definition for TBI are shown in [Table C](#). For consistency, the code set developed by the TBI workgroup has been incorporated into the proposed ICD–10–CM injury diagnosis matrix. The code set for the proposed ICD–10–CM surveillance definition for TBI morbidity differs from the code set for the ICD–10 surveillance definition for TBI mortality in the IMD Matrix. The codes included in the ICD–10 surveillance definition for TBI mortality include a wide range of ICD–10 codes, many of which are less detailed than the ICD–10–CM codes. The IMD Matrix was developed for use with mortality data collected from death certificates in which detailed anatomic information is sometimes limited. While the decision to include a wider range of codes is appropriate for data from death certificates, the more detailed injury diagnosis information found in medical records and the specificity of the ICD–10–CM codes allow for

Figure. Conceptual framework for the proposed ICD-10-CM injury diagnosis matrix

Body region of injury			Fracture	Dislocation	Internal organ injury	Open wound	Amputation	Blood Vessel	Superficial or contusion	Crushing	Burns and corrosions		
			...	...	...	...	...	...	...	...	Burns	Corrosions
Head and neck	Traumatic brain injury	...											
	Other head, face and neck	Face											
		Eye											
		Other head											
		Neck											
Other head and neck													
Spine and back	Spinal cord (SCI)	Cervical SCI											
		Thoracic SCI											
		Lumbar SCI											
		Sacro or coccygeal SCI											
	Vertebral column (VCI)	Cervical VCI											
		Thoracic VCI											
		Lumbar VCI											
		Sacro or coccygeal VCI											
Torso	Chest (Thorax)	...											
	Abdomen	...											
	Pelvis	External genitalia											
		Pelvic organs											
		Lower back and pelvis											
		Pelvic girdle											
		Buttock											
	Other												
Other trunk	...												
Extremities	Upper extremity	Shoulder and upper arm											
		Forearm and elbow											
		Wrist, hand, and fingers											
		Arm, not further specified											
	Lower extremity	Hip											
		Upper leg and thigh											
		Knee											
		Lower leg and ankle											
		Foot and toes											
		Ankle and foot											
		Other, multiple, and unspecified											
	Unclassifiable by body region	Multiple body regions	...										
		System-wide	...										
Unspecified	...	...									

ICD-10-CM nature-of-injury codes

... Category not applicable.
 NOTES: ICD-10-CM is International Classification of Diseases, Tenth Revision, Clinical Modification.
 SOURCE: CDC/NCHS and NCIPC, 2016.

Figure. Conceptual framework for the proposed ICD-10-CM injury diagnosis matrix-Con.

Body region of injury		Effect of foreign body entering orifice	Other effects of external causes	Poisoning	Toxic effects	Other specified injury				Unspecified injury	
		...	...	...	...	Sprains and strains	Injury to nerves	Injury to muscles and tendons	Other injury	...
Head and neck	Traumatic brain injury	...									
	Other head, face and neck	Face									
		Eye									
		Other head									
		Neck									
Other head and neck											
Spine and back	Spinal cord (SCI)	Cervical SCI									
		Thoracic SCI									
		Lumbar SCI									
		Sacro or coccygeal SCI									
	Vertebral column (VCI)	Cervical VCI									
		Thoracic VCI									
		Lumbar VCI									
Sacro or coccygeal VCI											
Torso	Chest (Thorax)	...									
	Abdomen	...									
	Pelvis	External genitalia									
		Pelvic organs									
		Lower back and pelvis									
		Pelvic girdle									
		Buttock									
Other											
Other trunk	...										
Extremities	Upper extremity	Shoulder and upper arm									
		Forearm and elbow									
		Wrist, hand, and fingers									
		Arm, not further specified									
	Lower extremity	Hip									
		Upper leg and thigh									
		Knee									
		Lower leg and ankle									
		Foot and toes									
		Ankle and foot									
Other, multiple, and unspecified											
Unclassifiable by body region	Multiple body regions	...									
	System-wide	...									
Unspecified	...	...							

ICD-10-CM nature-of-injury codes

... Category not applicable.
 NOTES: ICD-10-CM is International Classification of Diseases, Tenth Revision, Clinical Modification.
 SOURCE: CDC/NCHS and NCIPC, 2016.

Table C. 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

NOTES: “–” indicates any fourth, fifth, or sixth character. Seventh character of “A” or “B” for S02.0, S02.1–, S02.8, and S02.91. Seventh character of “A” for S04.02, S04.03–, S04.04–, S06–, S07.1, and T74.4. ICD–10–CM is International Classification of Diseases, Tenth Revision, Clinical Modification.

Table D. ICD–10 codes included in the TBI mortality surveillance definition that are not included in the proposed ICD–10–CM TBI morbidity surveillance definition

ICD–10–CM code	Description
S01–	Open wound of head
S02.3	Fracture of orbital floor
S02.7 ¹	Multiple fractures involving skull and facial bones
S07.0	Crushing injury of face
S07.8	Crushing injury of other parts of head
S07.9	Crushing injury of head, part unspecified
S09.7 ¹	Multiple injuries of head
S09.8	Other specified injuries of head
S09.9–	Unspecified injury of face and head
T90.1, T90.2, T90.4, T90.5, T90.8, and T90.9	Sequelae of injuries of head

¹Code is deactivated in ICD–10–CM.

NOTES: “–” indicates any fourth, fifth, or sixth character. ICD–10 is International Classification of Diseases, Tenth Revision. CM is Clinical Modification. TBI is traumatic brain injury.

a more refined approach to selecting appropriate codes for classifying TBI morbidity. It is important to recognize that there are ICD–10 codes included in the TBI mortality definition and designated as such in the TBI body region of the IMD Matrix that are **not** included in the TBI body region in the proposed ICD–10–CM injury diagnosis matrix. These codes are shown in [Table D](#).

- Given the greater detail provided in the ICD–10–CM code description, some codes previously categorized to less specific categories in the Barell or IMD Matrices, such as Unclassifiable by body region or Other specified injury, can be placed in more specific cells in the proposed ICD–10–CM injury diagnosis matrix.

[Table E](#) shows examples of ICD–10–CM codes that are located in a different cell than that of the parent code in the IMD Matrix.

The Proposed ICD–10–CM Injury Diagnosis Matrix

The basic framework of the proposed ICD–10–CM injury diagnosis matrix is defined by the body regions (rows) and nature-of-injury (columns) categories summarized in the [Figure](#). Using the guiding principles, individual codes were assigned to the appropriate cell of the matrix. The assignment of each ICD–10–CM diagnosis code to a particular body region and nature-of-injury category is presented in the accompanying CSV file (ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Program_Code/oe/). The file includes a listing of each ICD–10–CM injury diagnosis code. For each code, information is provided on the injury diagnosis associated with the code; the assigned body region categories (Level 1, Level 2 and when applicable, Level 3); the assigned nature-of-injury categories (Level 1, and when applicable,

Level 2); and a notation indicating whether the location of the ICD–10–CM code in the proposed ICD–10–CM injury diagnosis matrix differs from that of the ICD–10 parent code in the IMD Matrix.

Additional Considerations

While most issues regarding the inclusion and placement of codes in the ICD–10–CM Injury Diagnosis Matrix have been addressed, some unresolved issues remain. Resolution of these issues will require further testing and analysis using data coded in ICD–10–CM or dually coded in ICD–9–CM and ICD–10–CM. A few of the items for consideration are discussed in the following sections.

Traumatic brain injury

As noted previously, a workgroup comprising injury epidemiologists and coding experts from NCHS and NCIPC created a proposed list of ICD–10–CM codes to include in the ICD–10–CM surveillance definition for TBI morbidity. The TBI workgroup currently does not recommend the inclusion of subcategories of TBI (i.e., the subcategories of Type 1, 2, and 3 TBI found in the Barell [ICD–9–CM] Matrix). However, these decisions were made without the benefit of seeing how ICD–10–CM codes are implemented in actual coded data. This recommendation may change as more information becomes available.

Underdosing of drugs

Another unresolved issue is whether the injury definition should include the extensive number of codes that deal with adverse effects of drugs and conditions resulting from underdosing of drugs. These codes are in the same general family as the poisoning (overdosing) codes, but many epidemiologists and researchers argue that adverse effects and underdosing should not be considered as injuries and, therefore, should not be included in the injury diagnosis matrix. They are not included in either the Barell Matrix or the IMD Matrix. This topic

requires further input before it can be resolved. The codes for adverse effects and underdosing codes are not included in the proposed ICD–10–CM injury diagnosis matrix.

Sequelae codes

Another pending issue is determining where the sequelae codes should be placed in the proposed ICD–10–CM injury diagnosis matrix—with the nature and body region of the parent code, in a separate nature-of-injury column entirely, or not included in the matrix at all. In ICD–9–CM, the number of sequelae (i.e., late effect) codes was limited; sequelae codes were included in the Systemwide body region in the Barell Matrix. In contrast, in ICD–10–CM, almost every injury diagnosis code includes a character that describes whether this diagnosis is associated with an initial encounter, a subsequent encounter, or a sequela of an injury. This expansion in the number of sequelae codes in ICD–10–CM raises new issues regarding how or whether the codes should be included in the injury diagnosis matrix. In the proposed matrix, only codes related to an initial encounter

(i.e., seventh character of A, B, or C) are included. The codes for sequelae (i.e., those with a seventh character of S) are not currently included in the proposed matrix.

Combination codes

As previously described, several T codes describe both nature of injury as well as mechanism of injury (e.g., the T codes for poisoning and asphyxiation). These types of T codes are currently included in both the proposed ICD–10–CM external cause matrix and the ICD–10–CM injury diagnosis matrix. The impact of including the same code in two different injury matrices needs to be considered.

International comparisons

It has not yet been determined whether the proposed ICD–10–CM injury diagnosis matrix will be used for international comparisons. Most countries have either developed their own clinical modification of ICD–10 (e.g., ICD–10–AM in Australia) or use ICD–10 for coding both mortality and morbidity data. The proposed ICD–10–

CM injury diagnosis matrix has not yet been tested for usefulness in making international comparisons.

Conclusions

The proposed ICD–10–CM injury diagnosis matrix will help the injury research and practice community prepare for the transition to ICD–10–CM coded morbidity data. Once ICD–10–CM coded data are available, the proposed ICD–10–CM injury diagnosis matrix will be tested to identify any necessary changes. Then a revised version will be released as a compressed summary table showing the body region by nature-of-injury categories with their respective ICD–10–CM code sets, similar to the current ICD–9–CM injury diagnosis matrix (Barell Matrix).

In the meantime, NCHS and NCIPC welcome comments or suggestions from the injury community, particularly on the issues listed in the “Additional Considerations” section. Comments can be submitted to nchsiny@cdc.gov.

Table E. Examples of codes where placement in the proposed ICD-10-CM matrix differs from placement in the IMD (ICD-10) Matrix

Code	Description	IMD Matrix			Proposed ICD-10-CM matrix			Reason for change in placement
		Body region	Nature of injury	Body region	Nature of injury	Body region	Nature of injury	
S01-	Open wound of head	Head and neck—TBI	Open wound	Head and neck—Other head, face, and neck	Open wound	Open wound	This code is not included in the proposed ICD-10-CM surveillance definition for TBI morbidity	
S02.3	Fracture of orbital floor	Head and neck—TBI	Fracture	Head and neck—Other head, face, and neck	Fracture	Fracture	This code is not included in the proposed ICD-10-CM surveillance definition for TBI morbidity	
S02.92	Unspecified fracture of facial bones	Head and neck—TBI	Fracture	Head and neck—Other head, face, and neck	Fracture	Fracture	This code is not included in the proposed ICD-10-CM surveillance definition for TBI morbidity	
S04.01-	Injury of optic nerve	Head and neck—TBI	Other specified injury	Head and neck—Other head, face, and neck	Other specified injury	Nerves	This code is not included in the proposed ICD-10-CM surveillance definition for TBI morbidity	
S07.0	Crushing injury of face	Head and neck—TBI	Crushing	Head and neck—Other head, face, and neck	Crushing	Crushing	This code is not included in the proposed ICD-10-CM surveillance definition for TBI morbidity	
S07.8	Crushing injury of other parts of head	Head and neck—TBI	Crushing	Head and neck—Other head, face, and neck	Crushing	Crushing	This code is not included in the proposed ICD-10-CM surveillance definition for TBI morbidity	
S07.9	Crushing injury of head, part unspecified	Head and neck—TBI	Crushing	Head and neck—Other head, face, and neck	Crushing	Crushing	This code is not included in the proposed ICD-10-CM surveillance definition for TBI morbidity	
S09.8	Other specified injuries of head	Head and neck—TBI	Other specified injury	Head and neck—Other head, face, and neck	Other specified injury	Other specified injury	This code is not included in the proposed ICD-10-CM surveillance definition for TBI morbidity	
S09.90- S09.93	Unspecified injury of head, ear, nose, face	Head and neck—TBI	Unspecified injury	Head and neck—Other head, face, and neck	Unspecified injury	Unspecified injury	This code is not included in the proposed ICD-10-CM surveillance definition for TBI morbidity	
S12.9	Fracture of neck, unspecified	Head and neck—Neck	Fracture	Spine and back—Vertebral column injury	Fracture	Fracture	For consistency with the GEMs equivalent code 805.00 in the Barel (ICD-9-CM) Matrix	
S14.2	Injury of nerve root of cervical spine	Spine and upper back—Vertebral column injury	Internal organ injury	Spine and back—Vertebral column injury	Nerve	Nerve	For consistency with the GEMs equivalent code 953.0 in the Barel (ICD-9-CM) Matrix	
S14.3	Injury of brachial plexus	Head and neck—Neck	Other specified injury	Extremities	Injury to nerves	Injury to nerves	For consistency with the GEMs equivalent code 953.4 in the Barel (ICD-9-CM) Matrix	
S15.1-	Injury to the vertebral artery	Spine and upper back—Vertebral column	Blood vessel	Head and neck—Neck	Blood vessel	Blood vessel	For consistency with the GEMs equivalent code 900.89 in the Barel (ICD-9-CM) Matrix	
T28.411	Burn of right ear drum	Unspecified	Burns	Head and neck	Burns and corrosions—Burns	Burns and corrosions—Burns	Additional detail in the ICD-10-CM code allows for greater specificity in placement	
S33.39	Dislocation of other parts of lumbar spine and pelvis	Torso—Pelvis and lower back	Dislocation	Spine and back—Vertebral column injury	Dislocation	Dislocation	For consistency with the GEMs equivalent code 839.49 and 839.69 in the Barel (ICD-9-CM) Matrix	
S26.91	Contusion of heart, unspecified with or without hemopericardium	Torso—Thorax	Unspecified injury	Torso—Chest (thorax)	Internal organ	Internal organ	For consistency with the GEMs equivalent code 861.01 in the Barel (ICD-9-CM) Matrix	
T28.9-	Corrosions of other and unspecified internal organs	Unclassifiable by body region—Multiple body regions	Burns	Head and neck	Burns and corrosions—Corrosions	Burns and corrosions—Corrosions	Additional detail in the ICD-10-CM code allows for greater specificity in placement	
T74.4	Shaken infant syndrome	Unclassifiable by body region—Systemwide	Other effects of external causes	Head and neck—TBI	Other effects of external causes	Other effects of external causes	This code is included in the proposed ICD-10-CM surveillance definition for TBI morbidity	

NOTES: “-” indicates any fourth, fifth, or sixth character. For a full listing of the codes, see http://ftp.cdc.gov/pub/Health_Statistics/NCHS/Program_Code/oaex. ICD-10-CM is International Classification of Diseases, Tenth Revision, Clinical Modification. GEMs is General Equivalence Mappings. TBI is traumatic brain injury, ICD-9-CM is International Classification of Diseases, Ninth Revision, Clinical Modification. GEMs is General Equivalence Mappings.

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Technical Notes

A proposed surveillance definition for traumatic brain injury using ICD–10–CM codes

Surveillance and coding experts from the Centers for Disease Control and Prevention’s (CDC’s) National Center for Health Statistics (NCHS) and National Center for Injury Prevention and Control (NCIPC) have created a proposed surveillance case definition for traumatic brain injury (TBI) morbidity using codes from the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD–10–CM). This section describes the workgroup’s approach and methods to generate the proposed ICD–10–CM surveillance case definition for TBI.

A few considerations framed the development of the proposed definition. First, the ICD–10–CM definition should be compatible with the ICD–9–CM (International Classification of Diseases, Ninth Revision, Clinical Modification) definition currently in use, so that trends in TBI morbidity can continue to be monitored.

Second, although ICD–10–CM is based on ICD–10, both the structure of the codes and the total number of codes in ICD–10–CM have increased to accommodate the greater specificity of the injury diagnosis information available in morbidity data. An ICD–10 surveillance definition for TBI deaths has been in use since 1999, however, this definition cannot be directly adopted for the morbidity definition. In developing the mortality definition, CDC included a wide range of ICD–10 codes because diagnosis information on death certificates is sometimes limited. For example, a code such as S01, Open wound of head, when assigned to a death is likely appropriate for identifying a TBI-related death. This code is often assigned to deaths resulting from a gunshot wound to the head when no further anatomic details are provided on the death certificate. However, with the enhanced detail available in the ICD–10–CM codes, some of the ICD–10 codes included in the mortality surveillance

definition (such as S01) might not be appropriate for the morbidity definition using ICD–10–CM. While aware of the ICD–10 codes used in the mortality surveillance definition, the workgroup took an independent approach to identify appropriate ICD–10–CM codes for the morbidity definition.

The third consideration was that in ICD–10–CM, most codes related to injury diagnoses are found in Chapter 19, “Injury, Poisoning and Certain Other Consequences of External Causes.” These codes begin with an “S” or “T,” followed by up to six additional characters. Codes found in other chapters of ICD–10–CM (e.g., G44.3, Post-traumatic headache; or R40.24x Glasgow Coma Scale, total score) might also suggest the presence of TBI, however, these codes tend to describe signs and symptoms rather than anatomic injury. For consistency with the existing ICD–9–CM and ICD–10 surveillance definitions, the workgroup chose to limit the initial proposed ICD–10–CM definition of TBI to S and T codes only, recognizing that testing the sensitivity and positive predictive value of other ICD–10–CM codes in detecting TBI will be needed when ICD–10–CM coded data become available.

The codes included in the current ICD–9–CM surveillance definition for TBI morbidity served as the starting point. The workgroup used General Equivalence Maps (GEMs) to identify possible ICD–10–CM codes that were comparable to the codes in the current ICD–9–CM surveillance definition. GEMs were applied to the ICD–9–CM surveillance definition codes. Each ICD–9–CM code mapped to at least one ICD–10–CM code; most mapped to more than one possible ICD–10–CM code.

From the 493 unique ICD–9–CM codes in the current CDC TBI morbidity surveillance definition, 221 unique ICD–10–CM codes were identified. The reduction in the number of codes in ICD–10–CM compared with ICD–9–CM is largely due to a change in how loss of consciousness is captured in ICD–10–CM. In ICD–9–CM, information on loss of consciousness is reflected in a fifth character in the diagnosis code. This character describes eight different categories of loss of consciousness, based on the length of time of the loss of

consciousness and whether or not the patient returned to his or her preexisting level of consciousness. These eight categories result in eight “variations” for each diagnosis code. In ICD–9–CM, the fifth character for loss of consciousness is included in the diagnosis codes for concussion, intracranial injury, and skull fracture. In contrast, in ICD–10–CM, characters describing loss of consciousness are only included with diagnosis codes for concussion and intracranial injury—not skull fracture. This change has dramatically reduced the number of unique TBI-related codes in ICD–10–CM.

The 221 ICD–10–CM codes identified from the GEMs analysis were compared with the codes included in the ICD–10 definition for TBI mortality. Of the 221 unique ICD–10–CM codes from the GEMs analysis, 220 ICD–10 equivalents are included in the current CDC TBI-related mortality definition. The only code for which there was an ICD–10–CM code but no ICD–10 code was T74.4XX, Shaken infant syndrome. This code represents the GEMs equivalent to the ICD–9–CM code 995.55, Shaken infant syndrome, which is included in the current ICD–9–CM TBI morbidity definition.

The comparison of the GEMs-derived ICD–10–CM codes with the ICD–10 codes in the current TBI mortality definition also identified possible ICD–10–CM codes that should **not** be included in the morbidity definition. In general, these exclusions resulted from a less specific ICD–10 code or category (e.g., S07, Crushing injury of head) being included in the mortality definition, with the more specific ICD–10–CM code (e.g., S07.0, Crushing injury of face) not being appropriate for inclusion in the TBI morbidity definition.

In addition to the method described above, workgroup members from NCHS and NCIPC independently reviewed ICD–10–CM codes to identify other possible codes to include in the surveillance definition. This process did not result in any additional codes being added to the proposed code set derived from the GEMs analysis.

For the reader's reference, lists of ICD-10 codes that were deactivated in ICD-10-CM, and new codes that were added to ICD-10-CM are listed in [Tables I](#) and [II](#), respectively.

Table I. ICD-10 injury diagnosis codes that are deactivated in ICD-10-CM

Code	Description
S00.7	Multiple superficial injuries of head
S01.7	Multiple open wounds of head
S02.7	Multiple fractures involving skull and facial bones
S03.3	Dislocation of other and unspecified parts of head
S03.5	Sprain and strain of joints and ligaments of other and unspecified parts of head
S06.7	Intracranial injury with prolonged coma
S08.9	Traumatic amputation of unspecified part of head
S09.7	Multiple injuries of head
S10.7	Multiple superficial injuries of neck
S11.7	Multiple open wounds of neck
S12.7	Multiple fractures of cervical spine
S13.3	Multiple dislocations of neck
S13.6	Sprain and strain of joints and ligaments of other and unspecified parts of neck
S14.6	Injury of other and unspecified nerves of neck
S15.7	Injury of multiple blood vessels at neck level
S18	Traumatic amputation at neck level
S19.7	Multiple injuries of neck
S20.7	Multiple superficial injuries of thorax
S20.8	Superficial injury of other and unspecified parts of thorax
S21.7	Multiple open wounds of thoracic wall
S21.8	Open wound of other parts of thorax
S22.1	Multiple fractures of thoracic spine
S22.8	Fracture of other parts of bony thorax
S23.5	Sprain and strain of other and unspecified parts of thorax
S24.5	Injury of other nerves of thorax
S24.6	Injury of unspecified nerve of thorax
S25.7	Injury of multiple blood vessels of thorax
S26.8	Other injuries of heart
S27.7	Multiple injuries of intrathoracic organs
S29.7	Multiple injuries of thorax
S30.7	Multiple superficial injuries of abdomen, lower back and pelvis
S31.7	Multiple open wounds of abdomen, lower back and pelvis
S32.7	Multiple fractures of lumbar spine and pelvis
S33.7	Sprain and strain of other and unspecified parts of lumbar spine and pelvis
S35.7	Injury of multiple blood vessels at abdomen, lower back and pelvis level
S36.7	Injury of multiple intra-abdominal organs
S37.7	Injury of multiple pelvic organs
S39.6	Injury of intra-abdominal organ(s) with pelvic organ(s)
S39.7	Other multiple injuries of abdomen, lower back and pelvis
S40.7	Multiple superficial injuries of shoulder and upper arm
S41.7	Multiple open wounds of shoulder and upper arm
S41.8	Open wound of other and unspecified parts of shoulder girdle

Table I. ICD–10 injury diagnosis codes that are deactivated in ICD–10–CM —Con.

Code	Description
S42.7	Multiple fractures of clavicle, scapula and humerus
S42.8	Fracture of other parts of shoulder and upper arm
S43.7	Sprain and strain of other and unspecified parts of shoulder girdle
S44.7	Injury of multiple nerves at shoulder and upper arm level
S45.7	Injury of multiple blood vessels at shoulder and upper arm level
S46.7	Injury of multiple muscles and tendons at shoulder and upper arm level
S49.7	Multiple injuries of shoulder and upper arm
S50.7	Multiple superficial injuries of forearm
S51.7	Multiple open wounds of forearm
S51.9	Open wound of forearm, part unspecified
S52.4	Fracture of shafts of both ulna and radius
S52.7	Multiple fractures of forearm
S52.8	Fracture of other parts of forearm
S54.7	Injury of multiple nerves at forearm level
S55.7	Injury of multiple blood vessels at forearm level
S56.7	Injury of multiple muscles and tendons at forearm level
S59.7	Multiple injuries of forearm
S60.7	Multiple superficial injuries of wrist and hand
S61.7	Multiple open wounds of wrist and hand
S61.8	Open wound of other parts of wrist and hand
S61.9	Open wound of wrist and hand part, part unspecified
S62.4	Multiple fractures of metacarpal bones
S62.7	Multiple fractures of fingers
S62.8	Fracture of other and unspecified parts of wrist and hand
S63.7	Sprain and strain of other and unspecified parts of hand
S64.7	Injury of multiple nerves at wrist and hand level
S66.7	Injury of multiple extensor muscles and tendons at wrist and hand level
S67.8	Crushing injury of other and unspecified parts of wrist and hand
S68.2	Traumatic amputation of two or more fingers alone (complete) (partial)
S68.3	Combined traumatic amputation of (part of) finger(s) with other parts of wrist and hand
S70.7	Multiple superficial injuries of hip and thigh
S70.8	Other superficial injuries of hip and thigh
S71.7	Multiple open wounds of hip and thigh
S71.8	Open wound of other and unspecified parts of pelvic girdle
S72.7	Multiple fractures of femur
S74.7	Injury of multiple nerves at hip and thigh level
S75.7	Injury of multiple blood vessels at hip and thigh level
S76.4	Injury of other and unspecified muscles and tendons at thigh level
S76.7	Injury of multiple muscles and tendons at hip and thigh level
S80.7	Multiple superficial injuries of lower leg
S81.7	Multiple open wounds of lower leg
S81.9	Open wound of lower leg, part unspecified
S82.7	Multiple fractures of lower leg
S83.7	Injury to multiple structures of knee

Table I. ICD-10 injury diagnosis codes that are deactivated in ICD-10-CM—Con.

Code	Description
S84.7	Injury of multiple nerves at lower leg level
S85.7	Injury of multiple blood vessels at lower leg level
S86.7	Injury of multiple muscles and tendons at lower leg level
S89.7	Multiple injuries of lower leg
S90.7	Multiple superficial injuries of ankle and foot
S91.7	Multiple open wounds of ankle and foot
S92.7	Multiple fractures of foot
S93.2	Rupture of ligaments at ankle and foot level
S94.7	Injury of multiple nerves at ankle and foot level
S95.7	Injury of multiple blood vessels at ankle and foot level
S96.7	Injury of multiple muscles and tendons at ankle and foot level
S98.4	Traumatic amputation of foot, level unspecified
S99.7	Multiple injuries of ankle and foot
T00.2	Superficial injuries involving multiple regions of upper limb(s)
T00.3	Superficial injuries involving multiple regions of lower limb(s)
T00.8	Superficial injuries involving other combinations of body regions
T00.9	Multiple superficial injuries, unspecified
T01.2	Open wounds involving multiple regions of upper limb(s)
T01.3	Open wounds involving multiple regions of lower limb(s)
T01.9	Multiple open wounds, unspecified
T02.1	Fractures involving thorax with lower back and pelvis
T02.2	Fractures involving multiple regions of one upper limb
T02.3	Fractures involving multiple regions of one lower limb
T02.4	Fractures involving multiple regions of both upper limbs
T02.5	Fractures involving multiple regions of both lower limbs
T02.8	Fractures involving other combinations of body regions
T02.9	Multiple fractures, unspecified
T03.1	Dislocations, sprains and strains involving thorax with lower back and pelvis
T03.2	Dislocations, sprains and strains involving multiple regions of upper limb(s)
T03.3	Dislocations, sprains and strains involving multiple regions of lower limb(s)
T03.8	Dislocations, sprains and strains involving other combinations of body regions
T03.9	Multiple dislocations, sprains and strains, unspecified
T04.1	Crushing injuries involving thorax with abdomen, lower back and pelvis
T04.2	Crushing injuries involving multiple regions of upper limb(s)
T04.3	Crushing injuries involving multiple regions of lower limb(s)
T04.8	Crushing injuries involving other combinations of body regions
T04.9	Multiple crushing injuries, unspecified
T05.0	Traumatic amputation of both hands
T05.2	Traumatic amputation of both arms (any level)
T05.3	Traumatic amputation of both feet
T05.5	Traumatic amputation of both legs (any level)
T05.8	Traumatic amputations involving other combinations of body regions
T05.9	Multiple traumatic amputations, unspecified
T06.2	Injuries of nerves involving multiple body regions

Table I. ICD–10 injury diagnosis codes that are deactivated in ICD–10–CM—Con.

Code	Description
T06.3	Injuries of blood vessels involving multiple body regions
T06.4	Injuries of muscles and tendons involving multiple body regions
T06.5	Injuries of intrathoracic organs with intra-abdominal and pelvic organs
T08	Fracture of spine, level unspecified
T09.0	Superficial injury of trunk, level unspecified
T09.1	Open wound of trunk, level unspecified
T09.2	Dislocation, sprain and strain of unspecified joint and ligament of trunk
T09.3	Injury of spinal cord, level unspecified
T09.4	Injury of unspecified nerve, spinal nerve root and plexus of trunk
T09.5	Injury of unspecified muscle and tendon of trunk
T09.6	Traumatic amputation of trunk, level unspecified
T09.8	Other specified injuries of trunk, level unspecified
T09.9	Unspecified injury of trunk, level unspecified
T10	Fracture of upper limb, level unspecified
T11.0	Superficial injury of upper limb, level unspecified
T11.1	Open wound of upper limb, level unspecified
T11.2	Dislocation, sprain and strain of unspecified joint and ligament of upper limb, level unspecified
T11.3	Injury of unspecified nerve of upper limb, level unspecified
T11.4	Injury of unspecified blood vessel of upper limb, level unspecified
T11.5	Injury of unspecified muscle and tendon of upper limb, level unspecified
T11.6	Traumatic amputation of upper limb, level unspecified
T11.8	Other specified injuries of upper limb, level unspecified
T11.9	Unspecified injury of upper limb, level unspecified
T12	Fracture of lower limb, level unspecified
T13.0	Superficial injury of lower limb, level unspecified
T13.1	Open wound of lower limb, level unspecified
T13.2	Dislocation, sprain and strain of unspecified joint and ligament of lower limb, level unspecified
T13.3	Injury of unspecified nerve of lower limb, level unspecified
T13.4	Injury of unspecified blood vessel of lower limb, level unspecified
T13.5	Injury of unspecified muscle and tendon of lower limb, level unspecified
T13.6	Traumatic amputation of lower limb, level unspecified
T13.8	Other specified injuries of lower limb, level unspecified
T13.9	Unspecified injury of lower limb, level unspecified
T14.0	Superficial injury of unspecified body region
T14.1	Open wound of unspecified body region
T14.2	Fracture of unspecified body region
T14.3	Dislocation, sprain and strain of unspecified body region
T14.4	Injury of nerve(s) of unspecified body region
T14.5	Injury of blood vessel(s) of unspecified body region
T14.6	Injury of muscles and tendons of unspecified body region
T14.7	Crushing injury and traumatic amputation of unspecified body region
T30.1	Burn of first degree, body region unspecified
T30.2	Burn of second degree, body region unspecified
T30.3	Burn of third degree, body region unspecified

Table I. ICD–10 injury diagnosis codes that are deactivated in ICD–10–CM—Con.

Code	Description
T30.5	Corrosion of first degree, body region unspecified
T30.6	Corrosion of second degree, body region unspecified
T30.7	Corrosion of third degree, body region unspecified
T35.0	Superficial frostbite involving multiple body regions
T35.1	Frostbite with tissue necrosis involving multiple body regions
T35.2	Unspecified frostbite of head and neck
T35.3	Unspecified frostbite of thorax, abdomen, lower back and pelvis
T35.4	Unspecified frostbite of upper limb
T35.5	Unspecified frostbite of lower limb
T35.6	Unspecified frostbite involving multiple body regions
T35.7	Unspecified frostbite of unspecified site
T74.8	Other maltreatment syndromes
T79.3	Post-traumatic wound infection, Not Elsewhere Classifiable
T74.8	Other maltreatment syndromes
T79.3	Post-traumatic wound infection, Not Elsewhere Classifiable

NOTE: ICD–10–CM is International Classification of Diseases, Tenth Revision, Clinical Modification.

Table II. Codes (at fourth character level) not found in ICD–10 but included in ICD–10–CM

Code	Description
S03.8	Sprain of joints and ligaments of other parts of head
S03.9	Sprain of joints and ligaments of unspecified parts of head
S09.3	Other specified and unspecified injury of middle and inner ear
S12.3	Fracture of fourth cervical vertebra
S12.4	Fracture of fifth cervical vertebra
S12.5	Fracture of sixth cervical vertebra
S12.6	Fracture of seventh cervical vertebra
S13.8	Sprain of joints and ligaments of other parts of neck
S13.9	Sprain of joints and ligaments of unspecified parts of neck
S14.8	Injury of other specified nerves of neck
S14.9	Injury of unspecified nerves of neck
S16.1	Strain of muscle, fascia and tendon at neck level
S16.2	Laceration of muscle, fascia and tendon at neck level
S16.8	Other specified injury of muscle, fascia and tendon at neck level
S16.9	Unspecified injury of muscle, fascia and tendon at neck level
S21.3	Open wound of front wall of thorax with penetration into thoracic cavity
S21.4	Open wound of back wall of thorax with penetration into thoracic cavity
S23.8	Sprain of other specified parts of thorax
S23.9	Sprain of unspecified parts of thorax
S24.8	Injury of other specified nerves of thorax
S24.9	Injury of unspecified nerve of thorax
S26.1	Injury of heart without hemopericardium
S28.2	Traumatic amputation of breast
S30.3	Contusion of anus
S31.6	Open wound of abdominal wall with penetration into peritoneal cavity
S32.9	Fracture of unspecified parts of lumbosacral spine and pelvis
S33.8	Sprain of other parts of lumbar spine and pelvis
S33.9	Sprain of unspecified parts of lumbar spine and pelvis
S34.9	Injury of unspecified nerves at abdomen, lower back and pelvis level
S40.2	Other superficial injuries of shoulder
S43.8	Sprain of other specified parts of shoulder girdle
S43.9	Sprain of unspecified parts of shoulder girdle
S47.1	Crushing injury of right shoulder and upper arm
S47.2	Crushing injury of left shoulder and upper arm
S47.9	Crushing injury of shoulder and upper arm, unspecified arm
S49.0	Physeal fracture of upper end of humerus
S49.1	Physeal fracture of lower end of humerus
S50.3	Other superficial injuries of elbow
S59.0	Physeal fracture of lower end of ulna
S59.1	Physeal fracture of upper end of radius
S59.2	Physeal fracture of lower end of radius
S60.3	Other superficial injuries of thumb
S60.4	Other superficial injuries of other fingers
S60.5	Other superficial injuries of hand

Table II. Codes (at fourth character level) not found in ICD–10 but included in ICD–10–CM —Con.

Code	Description
S61.2	Open wound of other finger without damage to nail
S61.3	Open wound of other finger with damage to nail
S61.4	Open wound of hand
S61.5	Open wound of wrist
S62.9	Unspecified fracture of wrist and hand
S63.8	Sprain of other part of wrist and hand
S63.9	Sprain of unspecified part of wrist and hand
S67.1	Crushing injury of other and unspecified finger(s)
S67.2	Crushing injury of hand
S67.3	Crushing injury of wrist
S67.4	Crushing injury of wrist and hand
S68.5	Traumatic transphalangeal amputation of thumb
S68.6	Traumatic transphalangeal amputation of other and unspecified finger
S68.7	Traumatic transmetacarpal amputation of hand
S70.2	Other superficial injuries of hip
S70.3	Other superficial injuries of thigh
S76.8	Injury of other specified muscles, fascia and tendons at thigh level
S76.9	Injury of unspecified muscles, fascia and tendons at thigh level
S79.0	Physeal fracture of upper end of femur
S79.1	Physeal fracture of lower end of femur
S80.2	Other superficial injuries of knee
S83.8	Sprain of other specified parts of knee
S83.9	Sprain of unspecified site of knee
S89.0	Physeal fracture of upper end of tibia
S89.1	Physeal fracture of lower end of tibia
S89.2	Physeal fracture of upper end of fibula
T19.4	Foreign body in penis
T71.1	Asphyxiation due to mechanical threat to breathing
T71.2	Asphyxiation due to systemic oxygen deficiency due to low oxygen content in ambient air
T71.9	Asphyxiation due to unspecified cause
T74.4	Shaken infant syndrome
T76.0	Neglect or abandonment, suspected
T76.1	Physical abuse, suspected
T76.2	Sexual abuse, suspected
T76.3	Psychological abuse, suspected
T76.9	Unspecified maltreatment, suspected
T79.4	Traumatic compartment syndrome

NOTE: ICD–10–CM is International Classification of Diseases, Tenth Revision, Clinical Modification.

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National Health Statistics Reports ■ Number 89 ■ January 22, 2016

Acknowledgments

This report was a collaboration of the Centers for Disease Control and Prevention's (CDC's) National Center for Health Statistics (NCHS) and National Center for Injury Prevention and Control (NCIPC). The authors thank Donna Pickett, M.P.H. and Lois Fingerhut, M.A. for their valuable review and comments on this background document and the proposed ICD-10-CM injury diagnosis matrix.

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Suggested citation

Hedegaard H, Johnson RL, Warner M, et al. Proposed framework for presenting injury data using the International Classification of Diseases, Tenth Revision, Clinical Modification diagnosis codes. National health statistics reports; no 89. Hyattsville, MD: National Center for Health Statistics. 2016.

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DHHS Publication No. 2016-1250 • CS261787