

ICD-10-CA Injury Prevention Indicators

Introduction

This document is intended to provide guidance on how to present and categorize injury data. It uses the ICD-10 codes from the International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10), which is an international standard for reporting clinical diagnoses developed by the World Health Organization. The Canadian edition - ICD-10-CA is an enhanced version of ICD-10 developed by CIHI for morbidity classification in Canada.

The ICD-10-CA codes used to classify cause of injury are taken from Chapter 19 - External Causes of Morbidity and Mortality, V01-Y98 of the ICD-10-CA coding document. (The latest versions of the coding manuals are available from CIHI.) The recommended categories shown below in this document are based largely on the External Cause of Injury Matrix (1), and issues of recognized importance to public health. It is not mandatory that these categories are used; however, a standardized approach will facilitate comparisons among health regions.

Mechanism (or cause) and intent of injury are the two key elements of the matrix. For public health program and policy purposes, injuries are often separated by "intent" into intentional or unintentional groupings. Intentional and unintentional injuries are not formally designated categories within the ICD10 codes. Rather, a person must select a set of codes that most likely corresponds with the intent of interest. Generally, codes V00-X64 and Y85-Y86 are considered codes for unintentional injury. Codes X65-Y09 and Y87.0 and Y87.1 are considered codes for intentional injury (which includes suicide and homicide). Please note there are other 'intent' categories within the External Cause of Injury Matrix. There are two other intent categories; 1) 'undetermined category' which includes codes that have an event of undetermined intent, 2) Legal intervention - which includes codes of legal intervention and operations of war. There is also an extra 'Adverse Effects' section which includes codes for complications of medical procedures and medical care and adverse drug events. These codes are not included in 'injury' codes. Injuries of undetermined intent are Y10-Y34.

Diagnostic Codes versus External Cause Diagnostic Codes

Every clinical administrative data record documenting a visit for health care includes one or more diagnostic category (eg. cardiovascular disease). A person can have more than one diagnosis code for one visit. When this happens, one code is deemed 'the most responsible diagnosis code' or main problem Dx (or MRDx is some data sources).

Diagnoses that are identified as due to external causes (eg. fractured elbow) also have a companion "external cause" ICD-10-CA code. Analyses using these external cause codes are fundamental to all our public health reporting on injury. A person can have more than one external cause diagnosis for one visit. However, unlike the diagnoses codes mentioned above, external cause diagnoses do not have a main problem diagnosis in emergency (or other hospital) data. Thus, the external cause diagnoses are only included in the multi-record per visit data sources such as the Ambulatory Emergency External Cause (Chapter 20) source. Because the source has multiple records per visit, only distinct counts (# Visits (D)) can be used in order tally number of visits. IntelliHEALTH can create crosstab tables and sum across distinct counts for external causes (Note:

because the column total is a distinct count, it may be smaller than the sum of the cells within the column). For more information, please see the Report Inventory and Webinar Materials and Training sections within IntelliHEALTH.

1. Center for Disease Control – External Cause of Injury Matrix:
http://www.cdc.gov/nchs/injury/injury_matrices.htm Matrix File:
http://www.cdc.gov/nchs/data/ice/icd10_transcode.pdf User friendly Matrix file:
<http://www4.state.nj.us/dhss-shad/query/InjuryMatrix.html>

Table 1. All injury

Injury	ICD10-CA Codes
All injury	V01-X59, X60-Y09, Y10-Y34, Y85-Y86, Y870, Y871
Unintentional injuries	V01-X59, Y85-Y86
Intentional injuries	X60-Y09, Y87.0, Y87.1
Injuries of undetermined intent	Y10-Y34
Sequelae of external causes of morbidity and mortality	Y85-Y89

Table 2. Unintentional injuries

Injury	ICD10-CA Codes
All Unintentional Injuries	V01-X59, Y85-Y86
Cut/pierce	W25-W29, W45, W46
Burns	X00-X19
Exposure to smoke fire/flames	X00-X09
Hot objects/substances	X10-X19
Drowning/Submersion	W65-W74, V90, V92

• Bathtub	W65, W66
• Swimming pool	W67, W68
• Natural water	W69, W70
• Watercraft	V90, V92
Falls	W00-W19
Unintentional Poisoning	X40-X49
Suffocation, including choking	W75-W84
Natural/Environment	W42, W43, W53-W64,W92-W99, X20-X39, X51-X57
Struck by or against	W20-W22, W50-W52
Motor Vehicle Collisions (Traffic and Non-traffic)	V02-V04, V09.0, V09.2, V12-V14 , V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V80.9, V81.0-V81.1, V82.0-V82.1, V82.8, V83-V86, V87 (.0-.8), V88 (.0-.8), V89.0, V89.2
Pedestrian	V01-V09
• Motor-vehicle Traffic only	V02-V04 (.1, .9), V09.2
• Motor-vehicle Non-traffic	V02-V04 (.0), V09 (.0)
• Other, non-motor vehicle	V01, V05, V06, V09 (.1, .3, .9)
Pedal Cycle (Cycling)	V10-V19
• Motor-vehicle Traffic only	V12-V14 (.3-.9), V19 (.4-.6)
• Motor-vehicle Non-traffic	V12-14 (.0-.2), V19 (.2)
• Other, non-motor vehicle	V10-11, V15-V18, V19 (.3, .8, .9)
Public Transportation	V05, V15, V25, V35, V45, V55, V65, V70-79, V81, V82
• Bus occupant	V70-79
• All railway train or railway vehicle transport accidents	V05, V15, V25, V35, V45, V55, V65, V75, V81

Street car occupant	V82
Off-road transport accidents: (Both traffic* and non-traffic**)	V86
Snowmobiles	V86.00, V86.10, V86.30, V86.50, V86.51, V86.60, V86.61, V86.90, V86.91 (includes drivers, passengers and unspecified occupants)
Other all-terrain or off-road vehicle	V86.08, V86.18, V86.2, V86.38, V86.4, V86.58, V86.68, V86.7, V86.98 (includes drivers, passengers and unspecified occupants)

*A traffic “accident” is one that occurs on a public highway/road.

**A non-traffic “accident” occurs in another place other than a highway/road. Although the ICD-10-CA codes use the term “accident”, for the purposes of public health reporting, the term ‘collision’ should be used.

Assumptions made in coding decisions:

1) V02-V04 (.9) (pedestrian collision with motor vehicle) coded as traffic collisions.

2) V39.8, V49.8...V79.8 - all motor vehicle occupant injured in other specified transport accidents are traffic.

Note that there are no decimal places for ICD-10 codes in IntelliHEALTH, i.e., V89.2 is V892.

Table 2. Intentional injuries

Injury	ICD10-CA Codes
All intentional injuries	X60-Y09, Y87.0, Y87.1
Self-harm	X60-X84, Y87.0
Assault	X85-Y09, Y87.1

Table 3. Leading cause of injury in Ontario

Injury	ICD10-CA Codes
Falls	W00-W19

Motor Vehicle Collisions (Traffic and Non-traffic)	V02-V04, V09.0, V09.2, V12-V14 , V19.0-19.2, V19.4-V19.6, V20-79, V80.3-80.5, V80.9, V81.0-81.1, V82.0-82.1, V82.8, V83-V86, V87 (.0-.8), V88 (.0-.8), V89.0, V89.2
Unintentional Poisoning	X40-X49
Self-harm	X60-X84, Y87.0
Assault	X85-Y09, Y87.1
Other unintentional injuries‡	V91, V93-V99, W20-W43, W46-W64, W85-W99, X00-X39, X50-X59, Y85-86

‡ICD10 external cause of injury codes that are of undetermined intent, legal intervention and operations of war, and complications of medical and surgical care represent a large number of injuries due to lack of specificity in coding.

Table 4. Sport and recreational injury

Description	ICD10-CA code
Baseball	W22.05, W51.05
Hit by ball	W21.00
Hit by bat	W21.01
Cycling	V10-V19
Fall involving rollerblade/scooter/ skateboard	W02.02, W02.03, W02.08
Football/rugby	W22.03, W51.03
Hockey	W21.02, W21.03, W22.02, W51.02
Ice skates	W02.00
Playground equipment	W09.00-W09.09

Pool and natural water swimming/diving/drowning	W16, W67-W74
Ski/snowboard	W02.01,W02.04, W22.00, W51.00
Soccer	W22.04, W51.04
Tobogganing	W22.01, W51.01
Recreational* boating	V90-V94, only (0.2-0.8)
ATV/Snowmobile	V86
ATV (all-terrain or off-road vehicle)	V86.08, V86.19, V86.2, V86.4, V86.5 V86.6, V86.7, V86.9, V86.38, V86.58, V86.68, V86.98
Snowmobile only	V86.00, V86.10, V86.30, V86.50, V86.51, V86.60, V86.61, V86.90, V86.91
Other sports related injuries	W02.08, W21.08, W21.09, W22.07, W51.07

Note: Inclusion of recreational boating in a general 'Sports and Recreation' category is optional. It may not be known whether participation was recreational or employment related. These suggested codes assume that all merchant and passenger ships are employment related and activities related to fishing boats, other powered watercraft etc. are recreational in nature.

Table 4.1 Neurotrauma-related injury\$

Neurotrauma-related Injury	ICD10-CA Codes
Post concussion syndrome	F07.2
Fracture of skull	S02.0, S02.1
Fracture of orbital floor	S02.3
Multiple fractures involving skull and facial bones	S02.7

Fracture of other skull and facial bones	S02.8
Fracture of skull and facial bones, part unspecified	S02.9
Intracranial injury	S06
Crushing injury of skull	S07.1
Sequelae of fracture of skull and facial bones	T90.2
Sequelae of intracranial injury	T90.5

\$Can be sport and non-sport related. To be specific to sport injury, crosstab sport and recreational injury codes with neurotrauma codes.

Table 4.2 Spinal cord injury

Spinal Cord Injury	ICD10-CA Codes
Injury of cervical spinal cord	S14.0, S14.1
Injury of lumbar spinal cord	S34.0, S34.1
Injury of cauda equine	S34.3
Injuries of brain and cranial nerves with injuries of nerves and spinal cord at neck level	T06.0, T06.1

Table 4.3 Concussion injury

Concussion	ICD10-CA Codes
Post concussion syndrome	F07.2
Intracranial injury	S06 (all codes)

In addition to the ICD-10-CA codes listed in Table 4, Sports and Recreation data can also be obtained based on the 'Place of Occurrence' code '4'. The place of occurrence code indicator can be found in the diagnosis information tab in IntelliHEALTH.

Table 5. Place of occurrence

Code	Place of Occurrence
0 (U980)	Home
1 (U981)	Residential Institution
2 (U982)	School, other institution and public administrative area
3 (U983)	Sports and Athletics area
4 (U984)	Street and Highway
5 (U985)	Trade and service area
6 (U986)	Industrial and construction area
7 (U987)	Farm
8 (U988)	Other specified places
9 (U989)	Unspecified place

Table 6. Other injuries

Injury	ICD10-CA Codes
Overexertion	X50
Bite by dog or other mammal	W53-W55
Nonvenomous insect bites	W57

Caught or crushed	W23
Foreign body - eye or orifice	W44

DEVELOPMENT TABLE

Cause of Injury by PHO Snapshots	ICD-10-CA Codes by PHO	ICD-10-CA Codes by Peel Public Health	ICD-10-CA Codes by APHEO	RECOMMENDED ICD-10-CA Codes for all ICD-10 Data Sets
All injuries	V01-X59, Y85-Y86, X60-Y09, Y870, Y871, Y10-Y34	V00-Y99 (External causes of morbidity and mortality)		V01-X59, Y85-Y86, X60-Y09, Y870, Y871, Y10-Y34
Unintentional injuries	V01-X59, Y85-Y86		V01-X59, Y85-Y86	V01-X59, Y85-Y86
Intentional injuries	X60-Y09, Y870, Y871		X60-Y09, Y87.0, Y87.1	X60-Y09, Y87.0, Y87.1
Undetermined intent	Y10-Y34			Y10-Y34
All land transport collisions	V01-V89		V01-V89	V01-V89, Y85
Motor vehicle collisions	V02-V04, V090, V092, V12-V14, V190-V192, V194-V196, V20-V79, V803-V805, V809, V810-	V20-V79, V83-V86, Y85.0 (Motor vehicle accident) We report “V02-V04, V09.0, V09.2” separately as “Pedestrian accident with any motor vehicle” We also report “V12-V14, V19.0-V19.2, V19.4-V19.6)	V02-V04, V09.0, V09.2, V12-V14, V19.0-19.2, V19.4-V19.6, V20-79, V80.3-80.5, V80.9, V81.0-81.1, V82.0-82.1, V82.8, V83-V86, V87 (.0-.8), V88 (.0-.8), V89.0, V89.2	V02-V04, V09.0, V09.2, V12-V14, V19.0-19.2, V19.4-V19.6, V20-79, V80.3-80.5, V80.9, V81.0-81.1, V82.0-82.1, V82.8, V83-V86, V87 (.0-.8), V88 (.0-.8), V89.0, V89.2, Y85.0, V199

	V811, V820- V821, V828, V83-V86, V870- V878, V880- V888, V890, V892	separately as “Pedal cycle accident with any motor vehicle)		
Motor vehicle collisions involving pedestrians/pedal cyclists/occupants of selected motor vehicles	V02-V04, V09, V12- V14, V190- V192, V194- V196, V199), V20-V29, V30-V39, V40-69, V870- V878, V880- V888, V890, V892,	We do not report this category in the same way.		V02-V04, V09, V12-V14, V190- V192, V194-V196, V199), V20-V29, V30-V39, V40-69, V870- V878, V880-V888, V890, V892
Motor vehicle collisions involving occupants of cars/vans/pick-up trucks/heavy vehicles	V40-69	We do not report this category in the same way.		V40-69
Public Transportation			V05, V15, V25, V35, V45, V55, V65, V70-79, V81, V82	V05, V15, V25, V35, V45, V55, V65, V70-79, V81, V82 Bus occupants: V70-79

				All railway train or railway vehicle transport collisions: V05, V15, V25, V35, V45, V55, V65, V75, V8 Streetcar: V82
Motorcycles				V20-29
Pedestrians	V02-V04, V09	V02-V04, V09.0, V09.2 (Pedestrian accident with any motor vehicle)	V01-V09	Pedestrians: V01-09 Motor vehicle traffic only: V02-V04 (.1, .9), V09.2 Motor vehicle non-traffic: V02-V04 (.0), V09 (.0) Other non-motor vehicle: V01, V05, V06, V09 (.1, .3, .9)
Pedal Cyclists	V12-V14, V190-V192, V194-V196, V199 (uses one extra code compared to Peel)	V12-V14, V19.0-V19.2, V19.4-V19.6 (Pedal cycle accident with any motor vehicle)	V10-V19	Pedal Cyclists: V10-V19 Motor vehicle traffic only: V02-V04 (.1, .9), V09.2 Motor vehicle non-traffic: V02-V04 (.0), V09 (.0)

				Other, non-motor vehicle: V01, V05, V06, V09 (.1, .3, .9)
All-terrain vehicles or snowmobiles	V86	We do not report this category on its own (it's grouped with motor vehicle collisions)	V86 Snowmobile: V86.00, V86.10, V86.30, V86.50, V86.51, V86.60, V86.61, V86.90, V86.91 (includes drivers, passengers and unspecified occupants). ATV: V86.08, V86.18, V86.2, V86.38, V86.4, V86.58, V86.68, V86.7, V86.98 (includes drivers, passengers and unspecified occupants).	Off-road, traffic and non-traffic:: V86 Snowmobile: V86.00, V86.10, V86.30, V86.50, V86.51, V86.60, V86.61, V86.90, V86.91 (includes drivers, passengers and unspecified occupants). ATV: V86.08, V86.18, V86.2, V86.38, V86.4, V86.58, V86.68, V86.7, V86.98 (includes drivers, passengers and unspecified occupants)
Assault	X85-Y09, Y871	X85-X99, Y00-Y09, Y87.1	X85-Y09, Y87.1	X85-Y09, Y87.1
Caught or crushed between objects	W23	We do not report this category in the same way	W23	W23
Cut or pierced by an object	W25-W29, W45-W46	W25-W26, W45-W46, W60, Y28 (cut/pierced by object (including plants)	W25-W29, W45, W46	W25-W29, W45, W46

Struck by or against an object	W20-22, W50-52	We do not report this category in the same way	W20-W22, W50-W52	W20-W22, W50-W52
Bite by dog or other mammal	W54, W55 W53 RAT	We do not report this category in the same way	W54, W55	W53-55
Exposure to smoke or fire or contact with heat or hot substances	X00-X19	X10-X19 (Burns – accidental – hot objects/Substances)	X00-X19	X00-X19
Exposure to smoke or fire	X00-X09	X00-X06, X08-X09 (Burns – accidental exposure to smoke fire/flames)	X00-X09 (smoke/flame)	X00-X09 (smoke/flame)
Contact with heat or hot substances	X10-X19	X10-X19 (Burns – accidental – hot objects/substances)	X10-X19 (hot object/substance)	X10-X19 (hot object/substance)
Falls	W00-W19	W00-W19, Y30 (moved to undetermined intent)(Falls – All) W00-W19 (Falls – accidental)	W00-W19	W00-W19
Intentional self-harm (ages 10+ only)	X60-X84, Y870	X60-X84, Y87.0	X60-X84, Y87.0	X60-X84, Y87.0
Foreign body in eye or orifice	W44	We do not report this category in the same way	W44	W44
Drowning or submersion	W65-W74, V90, V92	W65-W70, W73-W74, V90, V92, Y21 (moved to undetermined intent)	W65-W74 V90, V92 Bathtub: W65, W66 Swimming pool: W67, W68	W65-W74 V90, V92 Bathtub: W65, W66 Swimming pool: W67, W68

			Natural Water: W69, W70 Watercraft: V90, V92	Natural Water: W69, W70 Watercraft: V90, V92
Overexertion	X50	We do not report this category in the same way	X50	X50
Suffocation/choking	W75-W84	W75-W81, W83- W84, Y20 (moved to undetermined intent)	W75-W84	W75-W84
Unintentional poisoning	X40-X49	X40-X49	X40-X49	X40-X49