



SNOMED CT | ICD-10-CA

# Coder Education to Support the Use of SNOMED CT to ICD-10-CA Maps

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Canadian Institute  
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# Introduction

The Canadian Institute for Health Information (CIHI) has created semi-automated maps from the Canadian edition of SNOMED CT® to ICD-10-CA (*International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada*) to facilitate semi-automated coding solutions and support secondary use of health system data. The maps are provided for facilities that implement electronic health record (EHR) systems which incorporate SNOMED CT to enable derivation and retrieval of ICD-10-CA data from clinical terms to satisfy data submissions to CIHI. These semi-automated maps present the coder with ICD-10-CA target codes based upon the SNOMED clinical term selected by the clinician. The coder's role is to use their skills and knowledge of the most recent versions of the ICD-10-CA classification and the *Canadian Coding Standards for ICD-10-CA and CCI* to ensure that cases are classified accurately by processing the maps and by reviewing and validating the codes for submission to CIHI.

## Purpose

The purpose of this manual is to provide coders with

- A brief introduction to SNOMED CT;
- A brief overview of how the SNOMED CT to ICD-10-CA maps were created; and
- Instructions for processing, reviewing and validating ICD-10-CA codes for entry into a coding abstract.

For definitions of the terminology used in this manual, see the [Glossary of terms](#).

## What is SNOMED CT?

The Systematized Nomenclature of Medicine — Clinical Terms (SNOMED CT) is a globally accepted language for health terms. SNOMED CT is used at the point of care in electronic health/medical records to capture clinical diagnoses, findings and interventions. It has the ability to grow, change and adapt to meet the needs of clinicians and data users. SNOMED CT has over 350,000 concepts and more than 1.2 million synonyms including diagnostic and intervention clinical terminology.<sup>1</sup>

SNOMED CT is distributed by SNOMED International to member countries, and Canada Health Infoway is the National Release Centre (NRC) for the SNOMED CT Canadian Edition. SNOMED CT is updated twice yearly.

# ICD-10-CA compared with SNOMED CT

ICD-10-CA	SNOMED CT
Classification of diseases	Clinical terminology
Statistical reporting	Clinical decision-making
“Other” specified categories	Specific concepts covering all clinical aspects
15,000+ codes	350,000+ concepts with synonyms
Updated every 3 years	Updated twice a year (international and Canadian editions)
Maintained and released by CIHI	Canadian edition maintained and released by Canada Health Infoway

The *International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada* (ICD-10-CA) is a classification developed by the World Health Organization (WHO) (ICD-10) and enhanced by CIHI (ICD-10-CA) to meet Canadian morbidity data needs. It is meant to be used for aggregation of data for statistical reporting. The codes within ICD-10-CA represent diagnostic findings and special circumstances related to health care. ICD-10-CA codes are usually collected and abstracted by coding specialists following discharge of the patient.

SNOMED CT is a clinical terminology with specific concepts covering all clinical aspects, including diagnosis, procedures and events. SNOMED CT works very well in clinical decision-making, including development of clinical pathways for patient treatment. The concepts within SNOMED CT are usually collected by clinicians (e.g., physicians) at the point of care during and/or following the patient’s stay. SNOMED CT is more granular than ICD-10-CA and does not include non-specific or unspecified concepts and does not follow any coding rules or guidelines for selection of a clinical term.

## The maps

### Creation of the maps

SNOMED International created maps from SNOMED CT to ICD-10 (WHO base classification) to support epidemiological, statistical and administrative reporting needs as well as semi-automated coding.

CIHI has leveraged the SNOMED CT to ICD-10 maps to create rule-based semi-automated maps from SNOMED CT **Canadian Edition** to ICD-10-CA (our Canadian modification of the base ICD-10). Since the original maps are SNOMED CT to ICD-10, CIHI’s mapping specialists were required to review and validate each map to ensure the accurate assignment of an ICD-10-CA code, in accordance with the *Canadian Coding Standards* and to meet national data collection requirements to support CIHI’s health indicator reporting. In order to do this work efficiently, CIHI procured a workflow mapping tool where the base SNOMED CT to ICD-10 maps are presented to the mapping specialists to validate and assign an accurate ICD-10-CA code.

Rule-based semi-automated maps mean that only some SNOMED CT concepts are mapped directly to one or more ICD-10-CA target codes (a lexical match). Some maps employ map advices, which are human readable text that provide instruction to the clinical coder to ensure accurate and consistent code assignment for submission to CIHI. Map advices are used when the SNOMED CT concept does not provide enough detail for the SNOMED CT mapping specialist to select the complete set of relevant ICD-10-CA codes. (See [Map advices](#).)

## How the maps work in an EHR

When a clinician captures clinical information using SNOMED CT concepts, these concepts are mapped (in the EHR system, behind the scenes) to one or more ICD-10-CA target codes. This provides an opportunity for reuse of data that is captured by a clinician at the point of care for faster reporting, lessening the coder burden and improving submission times. Vendor implementation guidelines are available and have been provided to your vendor. These guidelines describe how to implement the maps and outline expectations for how they should behave in an EHR system.

## Mapping versus coding

Mapping and coding are not the same.

First, with mapping, you can only map the concept as it appears. There is no supplementary documentation, no additional circumstances or conditions known, often making it difficult to select an accurate ICD-10-CA target code. With coding, the documentation is there to use, allowing the coder to peruse the source documentation for the information they need to select a more specific code in ICD-10-CA.

Second, there are certain circumstances or conditions that the clinician may not collect using a SNOMED CT concept in the EHR. That is, the clinician selects what they feel is important to capture, but the *Canadian Coding Standards* may provide direction for additional codes to be added depending on the circumstance. One example of this is obstetrical coding. There are several coding standards that relate to data collected in the chart that must be converted to ICD-10-CA codes such as precipitate labour (mandatory to assign an ICD-10-CA code when labour is less than 3 hours) or long labour (mandatory to assign an ICD-10-CA code for circumstances as described in the standard). For reasons such as this, not all coding standard direction can be incorporated into the maps.

Third, there are rules in the *Canadian Coding Standards* that provide direction for code sequencing and diagnosis typing that cannot be identified during mapping. These rules must be employed by the coder before submission to CIHI.

## Mapping process and coder’s role

The ICD-10-CA target codes were selected using the ICD-10-CA index and tabular listings. In many cases, the ICD-10-CA target code is automated (no action for the coder); however, in some circumstances a non-specific code or general code may be selected due to the lack of detail in the SNOMED CT concept, requiring the coder to validate the target code against the clinical documentation.

Mapping isn’t always exact. There may be a one-to-one match (lexical match of SNOMED CT concept to a single ICD-10-CA code), which is the ideal circumstance, but there may also be a one-to-many (SNOMED CT concept maps to *more than one* ICD-10-CA target code).

In addition, multiple SNOMED CT concepts can map to a single ICD-10-CA code (many-to-one) due to the granularity of SNOMED CT. Here’s an example:

SNOMED CT ID	SNOMED CT description	ICD-10-CA target code	ICD-10-CA code description
72041000119103	Osteomyelitis due to type 1 diabetes mellitus (disorder)	E10.60	Type 1 diabetes mellitus with musculoskeletal and connective tissue complication
		M86.99	Osteomyelitis, unspecified, unspecified site

**In this example, 1 SNOMED CT concept is mapped to 2 ICD-10-CA codes to fully capture the SNOMED CT concept in the map.**

SNOMED CT ID	SNOMED CT description	ICD-10-CA target code	ICD-10-CA code description
2134003	Diffuse pain (finding)	R52.9	Pain, unspecified
8708008	Sharp pain (finding)		

**This example demonstrates that more than one SNOMED CT concept can map to the same ICD-10-CA code.**

The role of the clinical coder is to review the ICD-10-CA target codes that are associated with the selected SNOMED CT concepts and process the map advices, as applicable, to ensure accurate and consistent code assignment by using the source documentation and the *Canadian Coding Standards*. It is the **context** that could fundamentally change the meaning of the concept and subsequently the codes that will be assigned. The burden of this is alleviated by the fact that the clinician has already selected the appropriate concepts, and as such there is less of a need to reach out to clinicians to clarify.

**Note:** The coder is responsible to validate all ICD-10-CA codes before entering into the coding abstract, regardless of whether there is a map advice associated with an ICD-10-CA target code.

During the review of ICD-10-CA target codes and map advices, the coder must consider the following:

- Is there a map advice that provides an action for the coder?
- Is there context available in the chart that would modify the codes selected?
- Are there mandatory conditions in the *Canadian Coding Standards* that must be looked for and assigned an ICD-10-CA code for which a SNOMED CT concept was not selected?
- Are there coding standard directions that may alter the code selection?
- Are there other conditions to consider for which a SNOMED CT concept was not selected?

## Physician documentation practices using SNOMED CT — impacts on coding

When a physician is using SNOMED CT to capture diagnoses at the point of care, selection of the SNOMED CT concepts they use depends on their searching and preferences for documenting. The clinician may select a single SNOMED CT concept describing the condition in full (pre-coordination) or they may select 2 or more SNOMED CT concepts to describe a single condition.

An example is shown in the table below for a patient with a diagnosis of dementia with delirium. The SNOMED CT concepts, and their ICD-10-CA target codes are shown. Note the difference in target codes depending on how the physician documents the case. The coder must review and validate the codes in total in order to submit accurate code assignment for a case.

Options	SNOMED CT concepts	ICD-10-CA target codes
<b>Option 1:</b> Physician selects a single pre-coordinated SNOMED CT concept for documenting “dementia with delirium”	Delirium co-occurrent with dementia (disorder) — 725898002	F05.1 <i>Delirium superimposed on dementia</i>
<b>Option 2:</b> Physician selects 2 separate SNOMED CT concepts for documenting “dementia with delirium”	Delirium (disorder) — 2776000	F05.9 <i>Delirium, unspecified</i>
	Dementia (disorder) — 52448006	F03 <i>Unspecified dementia</i>

In reviewing the above, the coder must use their knowledge and coding skills to ensure the correct ICD-10-CA target codes are selected for inclusion in the CIHI abstract. In ICD-10-CA, there is a code for “delirium superimposed on dementia”; should the coder be presented with the codes in option 2 above, they would change them to the pre-coordinated concept code (i.e., the correct code is **F05.1** *Delirium superimposed on dementia*).



# Map advices

A **map advice** represents human-readable text that is linked to an ICD-10-CA target code and provides information the end user should consider when validating the ICD-10-CA target codes.

The lack of details in a SNOMED CT concept may make it challenging for a mapping specialist to select an appropriate ICD-10-CA code. In addition, there are data collection requirements, in accordance with the *Canadian Coding Standards*, that may be difficult to follow with the lack of detail in a SNOMED CT concept. Mapping advices have been used in the SNOMED CT to ICD-10-CA maps to guide the coder, who has access to all source documentation, to ensure accurate and consistent code assignment. A map advice is presented with the ICD-10-CA target code and provides specific direction and acts as a flag for the coder. The coder must adhere to the map advice direction, when applicable, for accurate and consistent code assignment based upon the clinical documentation details in the chart. Understanding the meaning behind each map advice may lead the coder to assign a different ICD-10-CA code or an additional code depending on clinical source documentation.

Each map advice is presented below with a definition and direction on how to apply it during the coding process. In addition, 1 or more examples are provided to demonstrate the map advice application.

## 1. Possible requirement for additional code to fully describe disease or condition

### What does this mean?

This map advice is assigned to an ICD-10-CA target code when an additional code may be needed to fully describe a disease or condition, as implied in the SNOMED CT concept (e.g., complication, injury). This map advice is also applied to concepts describing syndromes that are not found in the ICD-10-CA alphabetical index.

### How is this map advice applied during the coding process?

The coder must determine whether an additional code is required to fully describe the disease or condition that was selected in the SNOMED CT concept based upon clinical source documentation.

**Example 1:**

A patient is seen in the emergency department (ED) because of a flare up of their juvenile arthritis in Crohn’s disease. The physician selected the following SNOMED CT concept:

SNOMED CT ID	SNOMED CT description	ICD-10-CA target code	ICD-10-CA code description	Map advice
1085911000119103	Complication due to Crohn’s disease (disorder)	K50.9	Crohn’s disease, unspecified	<b>Possible requirement for additional code to fully describe disease or condition</b>

**Rationale:** The ICD-10-CA target code for this concept is K50.9 *Crohn’s disease, unspecified*. The map advice is directing the coder to review the source documentation to determine whether an additional code to identify the complication is required/available. The source documentation identifies that the complication is juvenile arthritis. Following the alphabetical index look up below, an additional code is assigned to capture the juvenile arthritis:

Arthritis, arthritic (acute)(chronic)(subacute)  
 -juvenile  
 --in (due to)  
 ---Crohn’s disease K50† M09.1\*

**Code(s) assigned in the coding abstract:**

K50.9† *Crohn’s disease, unspecified*  
 M09.1\* *Juvenile arthritis in Crohn’s disease [regional enteritis]*

**Example 2:**

A patient is seen in the ED with vitreous hemorrhage. A brain CT angiography showed subarachnoid hemorrhage. The patient was transferred to an acute care hospital with a discharge diagnosis of subarachnoid hemorrhage with Terson’s syndrome. The physician selected the following SNOMED CT concept:

SNOMED CT ID	SNOMED CT description	ICD-10-CA target code	ICD-10-CA code description	Map advice
312946000	Terson’s syndrome	H43.1	Vitreous haemorrhage	<b>Possible requirement for additional code to fully describe disease or condition</b>   Use additional code with fourth and fifth characters .33 to identify any associated diabetes mellitus

**Rationale:** Terson’s syndrome is not indexed in ICD-10-CA. Terson’s syndrome is intraocular hemorrhage that can be subsequent to subarachnoid hemorrhage, intracerebral hemorrhage or a traumatic injury.<sup>2</sup> The ICD-10-CA target code for this concept is H43.1 *Vitreous haemorrhage*. The map advice is directing the coder to review the source documentation to determine whether an additional code to fully describe the disease or condition is required/available. The source documentation identifies a diagnosis of subarachnoid hemorrhage, and I60.9 *Subarachnoid hemorrhage, unspecified* is assigned.

**Code(s) assigned in the coding abstract:**

I60.9 *Subarachnoid haemorrhage, unspecified*

H43.1 *Vitreous haemorrhage*

## 2. Consider use additional code instruction

### What does this mean?

This map advice is assigned to an ICD-10-CA target code when there is a “use additional code” instruction in the ICD-10-CA classification at the target code that needs to be reviewed and applied, if applicable. The “use additional code” instruction may be located at the chapter, block, group, category or code level.

**Note:** This map advice is not applied to all target codes with a “use additional code” instruction. It applies to “use additional code” instructions that affect CIHI’s health indicators and has also been applied in certain special circumstances. Therefore, it is still necessary to verify in ICD-10-CA that all “use additional code” instructions are applied when applicable.

### How is this map advice applied during the coding process?

The coder must review the “use additional code” instruction found in the ICD-10-CA classification (tabular) at the specific target code and assign an additional code, if applicable. See also the coding standard *Use Additional Code/Code Separately Instructions*.

**Example:**

A patient presents to a urology clinic and is diagnosed with hydroureteronephrosis. The physician has also documented that the patient is in chronic renal failure. The physician selected the following SNOMED CT concept:

SNOMED CT ID	SNOMED CT description	ICD-10-CA target code	ICD-10-CA code description	Map advice
40068008	Hydroureteronephrosis (disorder)	N13.3	Other and unspecified hydronephrosis	<b>Consider use additional code instruction</b>

**Rationale:** In this example, N13.3 *Other and unspecified hydronephrosis* has an associated “use additional code” instruction located at the code block N10-N16 to use an additional code to identify any associated chronic kidney disease (N18.-)

**Renal tubulo-interstitial diseases (N10-N16)**

Includes: pyelonephritis

Use additional code to identify associated chronic kidney disease (N18.-)

*Excludes:* pyeloureteritis cystica (N28.84)

Because N18.- *Chronic kidney disease* has been identified as a code that is used in CIHI indicators, the map advice “Consider use additional code instruction” has been applied to N13.3. In this case, chronic kidney failure is confirmed in the source documentation; therefore, it is mandatory to follow the “use additional code” instruction, and N18.9 is assigned.

**Code(s) assigned in the coding abstract:**

N13.3 *Other and unspecified hydronephrosis*

N18.9 *Chronic kidney disease, unspecified*

### 3. Possible requirement for infectious agent when documented

#### What does this mean?

This map advice has been applied to ICD-10-CA target codes that have a “use additional code” instruction to identify the infectious agent where the SNOMED CT concept does not include that detail.

#### How is this map advice applied during the coding process?

The coder must review the source documentation to determine whether the physician has documented the specific infectious agent causing the infection.

**Note:** Per the coding standard *Use Additional Code/Code Separately Instructions*, it is mandatory to capture the infectious agent only for drug-resistant infectious organisms, otherwise it is optional based on facility needs. This is why the map advice indicates “possible requirement.”

**Example:**

A patient presents to the ED with complaints of abdominal pain and painful urination. The results of a urinalysis are reviewed by the physician who documents recurrent UTI due to *E. coli*. The physician selected the following SNOMED CT concept:

SNOMED CT ID	SNOMED CT description	ICD-10-CA target code	ICD-10-CA code description	Map advice
197927001	Recurrent urinary tract infection (disorder)	N39.0	Urinary tract infection, site not specified	<b>Possible requirement for infectious agent when documented</b>

**Rationale:** The map advice is directing the coder to assign a code to identify the specific infectious agent, if documented. The source documentation identifies *E. coli*. A specific code to capture the *E. coli* is assigned, optionally.

**Code(s) assigned in the coding abstract:**

N39.0 *Urinary tract infection, site not specified*

B96.2 *Escherichia coli [E. coli] as the cause of diseases classified to other chapters* (optional)

## 4. Possible requirement for an external cause code

### What does this mean?

The map advice is applied to ICD-10-CA target codes that have a “use additional code” instruction to identify an external cause (excluding S and T codes) and the external cause is not identified in the details of the SNOMED concept.

### How is this map advice applied during the coding process?

This map advice indicates “possible” because the “use additional code” instruction is mandatory only when applicable. The “use additional code” instruction doesn’t apply if the source documentation doesn’t support the assignment of an external cause code. The coder must review the source documentation to identify whether an external cause code is required. Reviewing the tabular listing will identify the specific “use additional code” instruction that is associated with the target code. The examples below use K29 *Gastritis and duodenitis* to demonstrate when the “use additional code” instruction is applicable:

#### K29 Gastritis and duodenitis

Use additional:

- code to identify Helicobacter Pylori (B98.0) if present
- external cause code (Chapter XX) to identify if drug induced.

**Example 1:**

A patient presents to the ED and is diagnosed with erosive gastritis; no cause is documented. The physician selected the following SNOMED concept:

SNOMED CT ID	SNOMED CT description	ICD-10-CA target code	ICD-10-CA code description	Map advice
1086791000119100	Erosive gastritis (disorder)	K29.7	Gastritis, unspecified	<b>Possible requirement for an external cause code</b>

**Rationale:** K29.7 *Gastritis, unspecified* has a “use additional code” instruction to identify the drug (if drug-induced). Upon review of the documentation, there is no documentation to support assignment of an external cause for this condition. No additional code is assigned.

**Code(s) assigned in the coding abstract:**

*K29.7 Gastritis, unspecified*

**Example 2:**

A patient presents to the ED and is diagnosed with erosive gastritis due to a nonsteroidal anti-inflammatory drug. The physician selected the following SNOMED CT concept:

SNOMED CT ID	SNOMED CT description	ICD-10-CA target code	ICD-10-CA code description	Map advice
1086791000119100	Erosive Gastritis (disorder)	K29.7	Gastritis, unspecified	<b>Possible requirement for an external cause code</b>

**Rationale:** K29.7 *Gastritis, unspecified* has a “use additional code” instruction to identify the drug (if drug-induced). Upon review of documentation the erosive gastritis is caused by a nonsteroidal anti-inflammatory drug. An additional code is required to capture the adverse reaction cause by the NSAID.

**Code(s) assigned in the coding abstract:**

*K29.7 Gastritis, unspecified*

*Y45.3 Other nonsteroidal anti-inflammatory drugs [NSAID] causing adverse effects in therapeutic use*

## 5. Consider availability of a more specific code

### What does this mean?

This map advice is assigned to ICD-10-CA target codes in the following circumstances:

- Unspecified (.9) codes that require more specificity to support CIHI's health indicators.
- Codes that capture poisonings that are not specified as accidental or intentional in the details of the SNOMED CT concept.
- ICD-10-CA code X59.9 *Exposure to unspecified factor causing other and unspecified injury*. This code is assigned to SNOMED CT concepts described as “due to trauma” without further specification (excluding S and T codes)
- ICD-10-CA code Y57.9 *Drug or medicament, unspecified causing adverse effects in therapeutic use*. This code is assigned to SNOMED CT concepts described as “due to a drug” or “drug-induced” without further specification.
- ICD-10-CA code Y83.9 *Surgical procedure, unspecified as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of the procedure*. Y83.9 is assigned to SNOMED CT concepts described as “post-operative” or “post-surgical” without further specification.
- ICD-10-CA code Y84.9 *Medical procedure, unspecified as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of the procedure*. Y84.9 is assigned to SNOMED CT concepts described as “post-procedural” or “post-intervention” without further specification; and
- ICD-10-CA code W91 *Exposure to unspecified type of radiation*. W91 is assigned to SNOMED CT concepts described as “radiation-induced” without the type of radiation identified. If the concept specifies “ionizing radiation,” W88 *Exposure to ionizing radiation* is assigned.

### Notes

It is the responsibility of the coder to review the source documentation and update all unspecified default target code(s) when a more specific ICD-10-CA code applies.

In some cases, a default code is assigned to capture the details of the case for real-time data analysis; however, a more specific code may be available depending on the source documentation.

### How is this map advice applied during the coding process?

The coder must review the source documentation to determine whether a more specific code can be selected than the ICD-10-CA target code presented.

**Example 1:**

A patient is seen in the ED with an exacerbation of asthma. Final diagnosis: Aspirin-induced asthma. The physician selected the following SNOMED CT concept:

SNOMED CT ID	SNOMED CT description	ICD-10-CA target code	ICD-10-CA code description	Map advice
93432008	Drug-induced asthma (disorder)	J45.90	Asthma, unspecified, without stated status asthmaticus	Not applicable
		Y57.9	Drug or medicament, unspecified	<b>Consider availability of a more specific code</b>

**Rationale:** The target code Y57.9 *Drug or medicament, unspecified* has been mapped to this SNOMED CT concept because within the SNOMED CT description, the specificity of the drug is not available. In this case, the default target code is Y57.9. The coder must review the source documentation to determine whether a more specific code can be assigned than the one in the target code set. In this case, the documentation identifies that the drug-induced asthma is due to aspirin. The coder assigns Y45.1 *Salicylates* instead of Y57.9 *Drug or medicament, unspecified*.

**Code(s) assigned in the coding abstract:**

J45.90 *Asthma, unspecified, without stated status asthmaticus*

Y45.1 *Salicylates*

**Example 2:**

A patient is seen in the ED after attempting suicide by drug overdose of heroin. The patient was found at home unconscious. Narcan is administered. The patient regains consciousness, opens their eyes and becomes responsive. The patient is admitted for close monitoring of their level of consciousness. Final diagnosis: Intentional opioid overdose. The physician selected the following SNOMED CT concept:

SNOMED CT ID	SNOMED CT description	ICD-10-CA target code	ICD-10-CA code description	Map advice
242253008	Overdose of opiate (disorder)	T40.28	Poisoning by other opioids, not elsewhere classified	Not applicable
		X42	Accidental poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified	<b>Consider availability of a more specific code</b>



**Rationale:** This concept does not state whether the poisoning was accidental, intentional self-harm or undetermined intent. Following the directive statement from the coding standard *Adverse Reactions in Therapeutic Use Versus Poisonings*, all poisonings are classified as accidental unless there is clear documentation of intentional self-harm or undetermined intent.

The map advice “Consider availability of a more specific code” is applied to the ICD-10-CA target code, X42, to direct the coder to review the source documentation for more specificity that may be available (e.g., documentation of intentional self-harm or undetermined intent). If additional specificity is available that changes the codes that apply to the case, the coder is required to update the target codes in the abstract.

In this case, the heroin poisoning is confirmed to be **intentional**; therefore, X62 *Intentional self-poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified* is assigned, not X42.

**Code(s) assigned in the coding abstract:**

T40.1 *Poisoning by heroin*

X62 *Intentional self-poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified*

U98.0 *Place of occurrence, home*

**Example 3:**

An emergency Caesarean section is performed due to late decelerations during active labour. Umbilical cord blood gases show arterial pH of 6.5. The diagnosis is documented as respiratory acidosis. The physician selected the following SNOMED CT concepts:

SNOMED CT ID	SNOMED CT description	ICD-10-CA target code	ICD-10-CA code description	Map advice
95612000	Neonatal respiratory acidosis (disorder)	P96.9	Condition originating in the perinatal period, unspecified	<b>Consider availability of a more specific code</b>
442423001	Single liveborn born in hospital by cesarean section (situation)	Z38.010	Singleton, born in hospital, delivered by caesarean, product of both spontaneous (NOS) ovulation and conception	Not applicable

**Rationale:** The map advice “Consider availability of a more specific code” is applied to the ICD-10-CA target code, P96.9, to direct the coder to review the source documentation for more specificity that may be available.

This map advice has been applied to all SNOMED CT concepts with target codes of P96.9 *Condition originating in the perinatal period, unspecified* and P20.9 *Fetal acidemia, unspecified* when first noted. The coder must refer to the coding standard *Fetal Acidemia*, which states that a diagnosis of fetal acidemia must be substantiated by physician documentation of the pH and/or base deficit values that meet the criteria for fetal acidemia. An arterial blood pH value of less than or equal to 7.00 and/or a base deficit greater than or equal to 12 mmol/L is indicative of fetal acidemia.

The specific documentation for this case states that the arterial blood pH value is less than or equal to 7.00. Following the coding standard *Fetal Acidemia*, the correct code to assign is P20.2 *Fetal acidemia first noted at birth*, which is the more specific code. P96.9 *Condition originating in the perinatal period, unspecified* is not assigned in the coding abstract.

**Code(s) assigned in the coding abstract:**

P20.2 *Fetal acidemia first noted at birth*

Z38.010 *Singleton, delivered by caesarean, product of both spontaneous (NOS) ovulation and conception*

**Example 4:**

A patient presents in labour at 38 weeks, 2 days gestation. The pregnancy was assisted by in vitro fertilization. The patient vaginally delivers a healthy newborn girl without complication. The physician selected the following SNOMED CT concept:

SNOMED CT ID	SNOMED CT description	ICD-10-CA target code	ICD-10-CA code description	Map advice
169826009	Single live birth (finding)	Z37.000	Single live birth, pregnancy resulting from both spontaneous ovulation and conception	Not applicable

**Rationale:** This example shows why coder validation of the target codes against the source documentation is vital, even when there are no map advices directing them to do so. Within SNOMED CT, there are no concepts that identify assisted reproductive technology (ART). Therefore, the default code of Z37.000 is selected when mapping. Even though there is no map advice here, the coder is still required to validate the code selection and modify if required.

The specific documentation for this case states that the pregnancy was assisted by in vitro fertilization. The coder must update the abstract with the correct code, which identifies that this pregnancy resulted from ART.

**Code(s) assigned in the coding abstract:**

Z37.001 *Single live birth, pregnancy resulting from assisted reproductive technology (ART)*

## 6. Requires validation of the obstetrics 5th and/or 6th characters

### What does this mean?

This map advice is assigned to ICD-10-CA obstetrical target codes (excluding O00-O08) when the details in the SNOMED concept do not provide enough information to accurately assign the fifth and/or sixth characters of an OBS code. In those cases, the mapping specialist selects a default code indicating “unspecified trimester” at the fifth character and “unspecified as to the episode of care, or not applicable” at the sixth character.

### How is this map advice applied during the coding process?

It is the coder’s responsibility to review the documentation and select a more specific code to accurately reflect the fifth and/or sixth characters.

**Note:** There is an edit in place for abstracts that have a MP/MRDx with a sixth character of 9. These cases will be identified as an error when submitted and returned for correction. The coder must always review the documentation and identify which sixth character applies to the episode of care for accurate code assignment.

#### Example:

A primigravida patient in her third trimester is seen in the antepartum clinic with concerns of placental insufficiency. The physician documentation indicates that there is a concern for restricted fetal growth. The physician selected the following SNOMED CT concept:

SNOMED CT ID	SNOMED CT description	ICD-10-CA target code	ICD-10-CA code description	Map advice
397949005	Poor fetal growth affecting management (disorder)	O36.599	Maternal care for restricted fetal growth, unspecified trimester, unspecified as to episode of care, or not applicable	<b>Requires validation of the obstetrics 5th and/or 6th characters</b>

**Rationale:** The map advice directs the coder to validate the fifth and/or sixth characters for the ICD-10-CA target code. Upon review of the documentation, it is determined that the patient is in her third trimester and is being seen in the antepartum period of her pregnancy. Therefore, the fifth and sixth digits are updated to 3 in this case.

#### Code(s) assigned in the coding abstract:

O36.533 *Maternal care for restricted fetal growth, third trimester, antepartum condition and complication*

## 7. This map requires a dagger code as well as an asterisk code

### What does this mean?

This map advice is applied to an ICD-10-CA target code that is an asterisk code and the SNOMED concept does not provide details to assign a specific dagger code. This map advice indicates that an additional code is required to satisfy the dagger/asterisk convention in ICD-10-CA.

### How is this map advice applied during the coding process?

The coder must review the source documentation in order to assign a dagger code, mandatory, with the asterisk code.

**Note:** A dagger code can be any non-asterisk code, not only codes identified with the † dagger symbol.

#### Example:

A patient presents to the ED with myocarditis associated with rheumatoid arthritis. The physician selected the following SNOMED CT concept:

SNOMED CT ID	SNOMED CT description	ICD-10-CA target code	ICD-10-CA code description	Map advice
194942007	Acute myocarditis associated with another disorder (disorder)	I41.8	Myocarditis in other diseases classified elsewhere	<b>This map requires a dagger code as well as an asterisk code</b>

**Rationale:** Upon review of the documentation, it is determined that the dagger code for this case is rheumatoid arthritis. Therefore M05.3 *Rheumatoid arthritis with involvement of other organs and systems* is assigned.

#### Code(s) assigned in the coding abstract:

M05.3† *Rheumatoid arthritis with involvement of other organs and systems*

I41.8\* *Myocarditis in other diseases classified elsewhere*

## 8. Use additional code to identify any associated type of sepsis/septic shock

### What does this mean?

This map advice is assigned to an ICD-10-CA target code that has a “use additional code” instruction in the classification to assign a code for sepsis and/or septic shock, if applicable. Codes for sepsis and septic shock impact CIHI’s health indicator data collection.

### How is this map advice applied during the coding process?

The coder must assign an additional code for sepsis and/or septic shock, if applicable, to the case. See also the coding standard *Septicemia/Sepsis*.

#### Example:

A patient presents to the ED and is diagnosed with sepsis caused by streptococcus. The physician has also documented that the patient is in septic shock. The physician selected the following SNOMED CT concept:

SNOMED CT ID	SNOMED CT description	ICD-10-CA target code	ICD-10-CA code description	Map advice
448418006	Sepsis caused by Streptococcus (disorder)	A40.9	Streptococcal sepsis, unspecified	Use additional code to identify any associated type of sepsis/septic shock

**Rationale:** The physician has documented that this patient is also suffering from septic shock and the “use additional code” instruction is mandatory to follow, per the coding standards; therefore, R57.2 *Septic shock* is assigned.

#### Code(s) assigned in the coding abstract:

A40.9 *Streptococcal sepsis, unspecified*

R57.2 *Septic shock*

## 9. Map advices associated with diabetes mellitus

- Use additional code with fourth and fifth characters .28 to identify any associated diabetes mellitus
- Use additional code with fourth and fifth characters .33 to identify any associated diabetes mellitus
- Use additional code with fourth and fifth characters .38 to identify any associated diabetes mellitus
- Use additional code with fourth and fifth characters .51 to identify any associated diabetes mellitus
- Use additional code with fourth and fifth characters .52 to identify any associated diabetes mellitus
- Use additional code with fourth and fifth characters .68 to identify any associated diabetes mellitus

### What do these mean?

These map advices are assigned to ICD-10-CA target codes when there is a “use additional code” instruction in the classification to assign a code for diabetes mellitus, if applicable. The appropriate fourth and fifth characters are identified in the specific map advice. Diabetes mellitus codes are used in CIHI’s health indicators.

Per the coding standard *Diabetes Mellitus*, it is mandatory to assign a code for diabetes mellitus whenever the condition is documented.

### How is this map advice applied during the coding process?

The coder must consider the “use additional code” instruction that is associated with the target code. If there is documentation stating that the patient has diabetes mellitus, it is mandatory to capture this with the appropriate fourth and fifth characters, per the coding standard *Use Additional Code/Code Separately Instructions*.

**Example:**

A patient was admitted to the ED with acute renal failure. The physician has documented that this patient also suffers from type 2 diabetes mellitus. The physician selected the following SNOMED CT concept:

SNOMED CT ID	SNOMED CT description	ICD-10-CA target code	ICD-10-CA code description	Map advice
723189000	Acute renal insufficiency (disorder)	N17.9	Acute renal failure, unspecified	<b>Use additional code with fourth and fifth characters .28 to identify any associated diabetes mellitus</b>

**Rationale:** There is a “use additional code” instruction at N17.9 in ICD-10-CA to assign a code from category E10-E14 with fourth and fifth characters of .28 to classify any associated diabetes mellitus. The physician has documented that this patient has type 2 diabetes mellitus. Therefore, E11.28 is assigned. It is also mandatory to assign a code for diabetes mellitus whenever documented.

**Code(s) assigned in the coding abstract:**

N17.9 *Acute renal failure, unspecified*

E11.28 *Type 2 diabetes mellitus with other specified kidney complication not elsewhere classified*

## Map rules

In addition to mapping advices, specific mapping rules are assigned for specific SNOMED CT concepts where the selection of the ICD-10-CA target code is based upon recorded sex/gender or age. The map rule is a machine-readable string of information that is used in an EHR system. Vendors can use rules to automate maps where their systems are able to check for the specific values (i.e., age/gender) and assign the applicable code automatically.

For example, a diagnosis of acute pelvic peritonitis (SNOMED CT concept 788011001) can be mapped to a specific ICD-10-CA target code only if the recorded sex/gender of the patient is known (for a female, N73.3 *Female acute pelvic peritonitis*; for a male, K65.0 *Acute peritonitis*). There is no default code in the ICD-10-CA alphabetical index.

When a mapping rule is used in the EHR system, the specific ICD-10-CA target code can be automatically assigned based on the patient’s recorded sex/gender, allowing for automated coding functionality.

# Default codes

As mentioned earlier, when a SNOMED CT concept does not provide enough clinical details for the mapping specialist to select a more specific code within a code category, a default code is assigned. Using default codes allows for real-time data collection before it is verified by a coder. While this data may not be as complete as it will be once verified by a coder, it can still be useful.

The assignment of a default code, in some cases, is done in compliance with direction provided in the *Canadian Coding Standards* (e.g., *Fractures — Closed Versus Open, Additional Code for Specificity, Post-Intervention Conditions*). Default codes are also used when a SNOMED CT concept lacks the details to select a more specific code; in these cases, “.9” or “unspecified code” is assigned (e.g., R52.9 *Pain unspecified*, X59.9 *Exposure to unspecified factor causing other and unspecified injury*, Y83.9 *Surgical procedure, unspecified*). These default codes may need to be updated by the coder when coding, depending on specific clinical documentation.

Adding default codes supports real-time data reporting. In some cases, when the target code affects CIHI’s health indicators, the map advice “Consider availability of a more specific code” has been applied. This map advice directs coders to validate the target codes against the source documentation and determine whether a more specific code is available. However, it is the responsibility of the coder to validate **all** codes within the abstract against the source documentation, not just when directed to do so by a map advice.

# Z codes

There are no SNOMED CT concepts that map to certain Z codes in ICD-10-CA. This is because in many cases the term falls under the procedural hierarchy and not the diagnosis hierarchy. The coder must follow the *Canadian Coding Standards* and determine when a Z code is assigned for the case.



**Example:**

A male patient is admitted for a cystoscopy for follow-up of bladder cancer that was previously treated by radiation therapy. There is no recurrence of the malignancy. The physician selected the following concept:

SNOMED CT ID	SNOMED CT description	ICD-10-CA target code	ICD-10-CA code description	Map advice
399326009	Malignant tumor of urinary bladder (disorder)	C67.9	Malignant neoplasm of bladder, unspecified	Not applicable

**Rationale:** The physician selected a SNOMED CT concept identifying bladder cancer. Per the coding standard *Admission for Follow-Up Examination*, the correct ICD-10-CA target code is Z08.1 *Follow-up examination after radiotherapy for malignant neoplasm*.

**Code(s) assigned in the coding abstract:**

Z08.1 *Follow-up examination after radiotherapy for malignant neoplasm*

## Resources

- [SNOMED CT Starter Guide](#)
- [SNOMED CT E-Learning Platform](#)
- [SNOMED International website](#)
- [SNOMED CT browser](#)

## Inquiries and reporting issues

Queries or issues related to the classification maps or this manual should be submitted to CIHI via email at [classifications@cihi.ca](mailto:classifications@cihi.ca).

# Appendix: Glossary of terms

**Map advice:** Map advices are human-readable textual advice that are assigned to an ICD-10-CA target code to provide direction to end-users (e.g., coders) to ensure accurate code assignment.

**Mapping:** The process of converting data from one code system, classification, or terminology to another code system, classification, or terminology.<sup>3</sup>

**Map rule:** Map rules evaluate context (data recorded about the patient in the electronic health record) to automatically assign a target ICD-10-CA code based upon gender or age, when required for accurate code assignment.

**Maps:** Maps are associations between particular codes, concepts, or terms in one code system and codes, concepts or terms in another code system that have the same (or similar) meanings.<sup>4</sup>

**SNOMED CT:** Systematised Nomenclature MEDicine Clinical Terms. SNOMED CT is a high-quality, comprehensive, international, logic-based reference terminology that is used to present clinically relevant information.<sup>5</sup>

**SNOMED CT concept:** SNOMED CT concepts represent clinical thoughts, ranging from [abscess] to [zygote]. Every concept has a unique numeric concept identifier. Within each hierarchy, concepts are organized from the general to the more detailed. This allows detailed clinical data to be recorded and later accessed or aggregated at a more general level.<sup>4</sup>

**Pre-coordinated concepts (pre-coordination):** A single SNOMED CT concept that contains 2 or more clinical terms (e.g., conditions, events). For example, the SNOMED CT concept 28331000119107 **Retinal edema** due to **type 1 diabetes mellitus** (disorder).<sup>3</sup>

**Post-coordinated concepts (post-coordination):** 2 or more SNOMED CT concepts that together contain 2 or more related clinical terms (e.g., conditions, events). For example, the SNOMED CT concept SCTID: 6141006 **Retinal edema** (disorder) with SNOMED CT concept SCTID: 46635009 **Diabetes mellitus type 1** (disorder).<sup>3</sup>

**Target codes:** The ICD-10-CA code to which a SNOMED CT concept is mapped. A SNOMED CT concept may be mapped to one or more ICD-10-CA target codes to fully capture the concept. The ICD-10-CA target codes are presented to the clinical coder for review and validation and submission in the coding abstract.

# References

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