

ICD-11 *alpha*

CONTENT MODEL REFERENCE GUIDE

11th Revision

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Reference Guide on the Content Model of the ICD 11α

Introduction

This Reference Guide is intended to define and explain the Content Model used in the ICD-11 alpha draft in practical terms. It aims to guide users to understand its purposes and the parameters by which data is correctly entered into the model.

The Reference Guide also informs users about the *technical specifications* of each parameter which the designers of the iCAT (the computer platform that is used to fill in the content model: international **C**ollaborative **A**uthoring **T**ool) took into account in building the software.

Accordingly, information on each parameter is given in two sections:

- (1) Explanations, and
- (2) Technical specifications

The purpose of this Reference Guide is to ensure that the Content Model and its different parameters are properly understood.

This document will be periodically updated in response to user needs and evolution of the content model.

What is the “Content Model”?

The Content Model is a structured framework that contains the definition and other attributes of “a classification unit” in ICD. It is standardized in terms of its components and allows for the electronic storage of data.

A “**model**” is a technical term that refers to a systematic representation of knowledge that underpins any system or structure. Hence, the content model is an organized description of an ICD unit with its different parameters.

In the past, ICD did not explicitly define its “classification units” – in other words diseases were classified without defining first “what is a disease?” (There have been efforts to provide some definitions, inclusions, exclusions, and some coding rules in the instructions and in the index. Some chapters, such as mental health, oncology, or other groups of diseases have been elaborated with diagnostic criteria. All these efforts may be seen as implicit modelling.) In the ICD 11 revision process, deliberate action is being taken to define the ICD categories in a systematic way and represent the classification knowledge to allow processing within computer systems.

To achieve this aim, different ICD categories have been defined by user groups as to what they are. For example, first a **disease** was defined as follows:

A disease is a set of dysfunction(s) in any of the body systems defined by:

1. *Symptomatology: manifestations: known pattern of signs, symptoms and related findings*
2. *Aetiology: an underlying explanatory mechanism*
3. *Course and outcome: a distinct pattern of development over time*
4. *Treatment response: a known pattern of response to interventions*
5. *Linkage to genetic factors: e.g., genotypes, patterns of gene expression*
6. *Linkage to interacting environmental factors*

Then the key components of this definition have been operationally defined as different parameters which, as a whole, formed the Content Model.

Explanations on the Content Model:

A classification unit in ICD is called an “ICD entity”. In other words, any distinct classification rubric is called an Entity. (The term “Entity” is used interchangeably – in the same meaning -- with the term “ICD Concept”.

An ICD entity may be:

- A category
- A block
- A chapter

A category (which is the most common reference to an ICD class) may be a disease, disorder or syndrome; sign, symptom or other health problem such as injuries, or a combination of the above. In addition, ICD has also been used to classify “external causes” or “other reasons for encounter” which are different kinds of entities than the diseases. In other words, “Category” refers to the individual classes represented in the ICD-10 printed version.

The Content Model, therefore, allows the various classification categories to be represented more clearly so that users can identify the classification units in a scientific fashion.

The purpose of the content model is to present the knowledge that lies under the definition of a ICD entity. Each ICD entity can be seen from different dimensions. The content model represents each one of these dimensions as a “parameter”. For example, there are currently 13 defined main parameters in the content model to describe a category in ICD.

TABLE 1: The Content Model main parameters

1. ICD Entity Title
2. Classification Properties
3. Textual Definitions
4. Terms
5. Body System/Structure Description
6. Temporal Properties
7. Severity of Subtype Properties
8. Manifestation Properties
9. Causal Properties
10. Functioning Properties
11. Specific Condition Properties
12. Treatment Properties
13. Diagnostic Criteria

For each category, various parameters are given different values. For example:

Category: *Myocardial Infarction*

Parameters:

Body system

Body part

Signs/symptoms

Investigation Findings

Value:

Cardiovascular system

Heart

Crushing chest pain, etc.

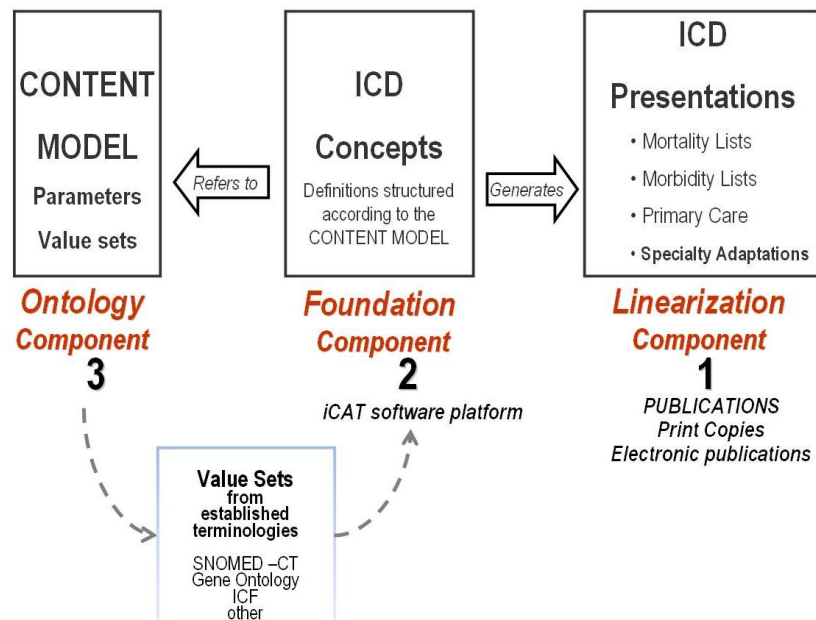
ST elevation in ECG

It is not necessary to describe all categories with all parameters. Only parameters that are relevant to the description of the category should be used. In certain instances such as External Causes, only a number of the parameters are valid for the description of these entities.

The full range of different values for a given parameter is predefined using standard terminologies and ontologies. The predefined values constitute a “value set”.

Technical Specifications for the Content Model:

The function and purpose of the Content Model can be better understood technically within the context of the THREE COMPONENT MODEL of the ICD11. The ICD is modelled in three practical components as shown in the following diagram:



1. **The content model represents “a shell” in which the classification information can be gathered using the predefined value sets in a standard and systematic way.** (This “shell” is empty – however, it is shaped in a defined structure with 13 parameters, and what can go into each parameter is also defined). The value sets in the content model are selected from existing terminologies or ontologies (e.g. SNOMED-CT, ICF terms or others. This will also enable work on linking ICD categories to established standard terminologies and avoid redundant work.) The content model represents the **ONTOLOGY COMPONENT** for the ICD.
2. **The content model, including filled in relevant value sets, forms the FOUNDATION COMPONENT.** The foundation component stores the full range of knowledge of all classification units in the ICD (including the relevant portions of Content Model filled in with corresponding value sets from established terminologies).
3. Using the information in the Content Model, the classification categories could be presented in different lists. For example the list that corresponds to the classical “tabular lists” is used to code causes of death or other purposes for morbidity or primary care. This is the classical print versions of ICD and this component is called the **LINEARIZATION component**.

ICD -11 Alpha Content Model

1. ICD Entity Title

is the “ label ” of an entity.

Definition:

A name that represents the ICD “classification unit” (i.e. entity) which labels the intended entity in a meaningful and unambiguous way.

The “ICD Entity” is equivalent to “ICD Concept” and also refers to any structure below:

- ICD Category and sub-categories
- ICD Chapters
- ICD Blocks

Rationale:

1. To enable the user of ICD to understand the entity quickly in accordance with current scientific knowledge
2. To be used as the “Fully Specified Name” wherever applicable (see 1.1)

The “Title” is the term for any ICD entity, which labels the intended entity in a meaningful, unambiguous way. Also, structure elements of the present ICD-10 can be entities, like categories, blocks or chapters. Any titles, whether edited or newly formulated will follow the grammar rules, as specified in the annex to this document. Sometimes there will be several synonyms that could stay as a title. In that case only one will become the title. The other synonyms will be filled in “synonyms” field (see synonyms).

As a general rule, naming conventions for traditional entities used in previous ICD editions will be respected.

1.1 Fully Specified Name

Definition:

A Fully Specified Name is a term that describes an entity, in clear and understandable way. Its purpose is to uniquely designate an entity and clarify meaning rather than present a commonly used or natural phrase. The Fully Specified Name is a definition and is used in the same way as in SNOMED-CT.

Rationale:

1. To enable users to understand the content of the category with an short meaningful and complete label without ambiguity
2. To foster harmonization between standard terminologies (such as SNOMED-CT) and ICD-11

The Fully Specified Name is handled separately, by others in the iCAT application.

Example:

Myocardial Infarction

2. Classification Properties

where an entity is placed in a particular classification list

Definition:

Taxonomic attributes of a category – which show where an entity is placed in the overall classification linearization in relation to the parents

Rationale:

1. To assist the users to create a particular ordered list of categories or table as a linearization
2. To define the class attributes that will apply to a whole set of children (i.e. subcategories)

2.1. Parents

Definition:

A higher level entity that covers the full range or scope of another entity (e.g. myocardial infarction is a myocardial disorder)

Rationale:

1. To generate the linearizations, and ensure that hierarchical relations will be built accordingly
2. To assist the users with navigational purposes
3. To assist in comparisons with other ontologies/hierarchies: e.g. SNOMED CT

The parent of a category is identified in this part of the content model. More than one parent is possible for any category so as to support multiple inheritances in the ICD multiple hierarchies.

2.1.1. ICD-10 Code (read-only field for unchanged categories)

Definition:

The code used in ICD-10 for the entity, this code will be available only for the entities that existed in ICD-10.

Rationale:

1. To link to existing ICD-10
2. To complete the legacy linearization prototype
3. To assist in identifying the new ICD entries with a new code

2.2 Type

Definition:

Type specifies the nature of the classification unit and clearly identifies the kind of ICD categories within a predefined set: Disease; Disorder/Syndrome; Sign/Symptom; External Cause; Injury; Reason for Encounter or other.

Rationale:

1. To identify the nature of the entity the type of the classification unit
 - Disease
 - Disorder/Syndrome
 - Sign/ Symptom
 - External Cause
 - Injury
 - Reason for Encounter
 - Or any group of the above types
2. To identify precisely the shared characteristics in terms of definitions.

This will have implications for indicating the chapter as well as naming convention.

Explanations:

All the type labels (i.e. disease, disorder, injury, sign/symptoms) refer to a deviation from normality in terms of body functions, body parts or other relevant CM properties. To identify an ICD entity as one of these types, a scientific judgement needs to be formulated defining the boundary between normal and pathological.

Physical limitations are common in those affected; however, presence of disability is not required to justify the disease, disorder or other types.

The type has a restricted number of values that are defined below:

1. Disease:

A disease is a set of dysfunction(s) in any of the body systems defined by:

1. *Symptomatology: manifestations*: known pattern of signs, symptoms and related findings
2. *Aetiology*: an underlying explanatory mechanism
3. *Course and outcome*: a distinct pattern of development over time
4. *Treatment response*: a known pattern of response to interventions
5. *Linkage to genetic factors*: e.g., genotypes, patterns of gene expression
6. *Linkage* to interacting environmental factors

2. Disorder/Syndrome

A Disorder or Syndrome refers to common patterns seen in clinical practice which represent similar manifestations of symptoms. The definition does not deliberately differentiate between disorder and syndrome.

Disorder or Syndrome definition is similar to the disease definition; the main difference is that a disorder/syndrome may be “a final common pathway of multiple aetiologies” or “its aetiology is not known” to be identified as a particular disease.

3. Sign/Symptom

Manifestation of a dysfunction either identifiable by the affected person or the health worker. The Content Model does not deliberately differentiate between signs and symptoms.

4. Injuries

Injuries are physical damage that results when a human body is suddenly or briefly subjected to intolerable levels of energy. It can be a bodily lesion resulting from acute exposure to energy (thermal, chemical, kinetic) in amounts that exceed the threshold of physical tolerance, or it can be an impairment of function resulting from a lack of one or more vital elements (oxygen, warmth), as in drowning, strangulation or freezing

These refer to physical injuries and “mental” injuries are not included here.

5. External Causes

External Causes are environmental events and circumstances that lead to the cause of injuries, such as poisoning.

6. Reason for Encounter and Factors Influencing Health Status:

“Reasons for encounters” describes situations and purposes for which a patient enters the health care system. They may be:

- Known diseases (flu or diabetes)
- Symptoms or complaints (headache or fear of cancer),
- Requests for preventive or diagnostic services (a blood pressure check or an ECG),
- A request for treatment (repeat prescription),
- To receive test results, or
- Administrative purposes (a medical certificate).

2.3. Use and Linearizations

Definition:

“Use” refers to the level of ICD employed for specific health care levels or purposes: (a) Primary Care (b) Clinical (c) Research.

Linearization refers to the listing of the ICD categories in a mutually exclusive and jointly exhaustive way to be used for particular purposes: (a) mortality statistics, (b) morbidity statistics, (c) other etc.

Rationale:

1. To identify what level of granularity of linearization will be applied to inclusion, exclusion and residual codes.

Clinical

- primary care (simple categorizations – fewer number) specialty adaptations (referring to common medical services in secondary or specialty care)

Research

- more detailed equivalent to foundation component
2. To qualify the “use” cases in order to identify the purpose of the linearization: e.g. Mortality 1- main tabular list; 3 alternative views; Morbidity 1 common list; alternatives (e.g. DRG, Admission, Discharge, Event)
- Uses: These refer to three basic versions of ICD11 to be used at different levels of health care and reflect a different level of granularity of the categories. All these versions need to be consistent among each other (i.e. each version should correspond to others in terms of codes and structure). The versions envisaged are:
 - Primary Care
 - Clinical
 - Research
 - Linearizations: These refer to established lists for statistical reporting purposes.
 - Mortality
 - Morbidity
 - Other

For example, the current ICD10 Tabular List (Volume One) corresponds to Morbidity Linearization. Mortality Linearization is embedded in this linearization.

Given the possibility of generating multiple linearizations from the foundation component, in future applications there may be more linearizations.

- Particular Specialty Adaptations: These refer to special components of ICD sections that are subsets, which have been inserted to respond to particular specialty needs.
 - Paediatrics
 - Neoplasms
 - Dentistry
 - Dermatology
 - Mental Health
 - Musculoskeletal
 - Neurology
 - ... more to be added

Technical Specifications:

The iCAT tool allows the user to select which “use”; linearizations and specialty adaptations will be associated with the entity.

2.3.1. Linearization Parent

Definition:

Identifies under which parent category the entity will be placed in a given linearization.

Rationale:

To enable the computer generation of the linearizations

To avoid double counting in cases of multiple parents

If the ICD entity has multiple parents, the user should specify an appropriate linearization parent regardless of whether the ICD entity is included in the linearization. The links and the relationships within a whole set of entities (for a particular linearization and its elements) are connected together to build a hierarchy. (See diagram below)

3. Textual Definition(s)

describe “what the entity” is in human readable text
--

Definition:

Give key descriptions and guidance on what the meaning of the entity/category is, in human readable terms.

Rationale:

1. To allow for concise definition for printing
2. To give a detailed definition for online viewing
3. To assist with translation (so that the equivalent concept is chosen rather than a word-by-word translation)

Each ICD entity will be accompanied by a short concise textual definition.

Definitions are at the core of the ICD-11 and inform coders, analysts and translators about the meaning of a category or entity and of its descriptive characteristics. There are two different types of definitions:

3.1. Print Textual Definition

Definition:

A concise definition which gives the user full meaning of the entity

Rationale:

This field is intended to be included in the official print version of the ICD 11 final version, and print space is extremely limited.

The length is set to 100 words or less. Only essential features should be included in the print textual definition. Inclusion and exclusions are separately listed therefore these should not be made a part of the definition.

3.2. Detailed Definition

Definition:

A full definition, **without** length restriction, including detailed information

Rationale:

The detailed definition will inform the formulation of the concise print version and the filling in of the different attributes (4-14) of the content model.

Guidance formulating definitions:

- Always use WHO materials first: existing WHO definitions currently in use should be the preferred definition.
- Certain ICD-10 chapters and some specialty adaptations include textual definitions (e.g. Mental Health, Neoplasms, Neurology etc.).
 - Additional definitions exist in other members of the WHO Family of International Classifications such as the International Nomenclature of Diseases.
 - Other WHO resources, such as WHO website, should be considered.
 - Always indicate the reference to the provided definition.
 - TAGs will improve the definition based on evidence.
- Using existing definitions from other sources:
 - Contributors may refer to any existing set of definitions from other scientifically credible sources by browsing scientific societies and NGO web pages and using medical search engines.
 - It is not compulsory to use these definitions if they are felt to be unsatisfactory.
 - Always indicate the reference to the provided definition e.g. Pub Med ID; ISBN, URL (Web Address)....

Writing a new textual definition, when no textual definition is available:

- Contributors must describe the entity clearly and concisely
- There may be two different styles of approach to define an entity. These may be used in combination.

(1) Describe the underlying physiology of the disease/disorder:

For example:

Myocardial infarction occurs due to an ischemia - lack of oxygen in the heart muscle, which may lead to the death of myocardial tissue. This generally happens due to interruption of the blood supply of the heart when a coronary artery is blocked. Underlying this blockage is generally a collection of lipids and atherosclerotic plaques.

(2) Describe the characteristics such as signs symptoms and the diagnostic criteria:

For example:

Myocardial infarction occurs with sudden chest pain, palpitations and sometimes without symptoms. An electrocardiogram may show pathologic Q waves or ST segment elevation and blood tests for creatine kinase may indicate rapid rise or troponin T levels may fall.

Both approaches are valid and could be used in combination.

Ideally, the textual definition is meant for the user's understanding of an entity (in comparison to the elements expressed in other sections of the Content Model). This means that values expressed in different parameters need to be consistent with the definition (and the Diagnostic Criteria). In the first pass this needs to be done by manual human curation, i.e. the drafting person or group has to look whether the elements in the Content Model is congruent with the definition and the diagnostic criteria. It will be useful to note decisions in the comment boxes to inform people about the rationale showing the reason for preferences in style (e.g. annotate why certain terms were chosen, left out, why certain characteristics were defined as they are).

In cases in which a “classification entity” does not fully match the “clinical entity”, TAG members and managing editors, will have a better capacity of summarizing the information needed to define a classification entity that does not exist as such in books.

Contributors may refer to any existing set of definitions from other scientifically credible sources. Any such reference should be cited by source {e.g. Pub Med ID; ISBN, URL (Web Address etc.)}. It is not compulsory to use the proposed external sources if they are felt to be unsatisfactory.

The descriptions should be consistent with the information entered into the different elements of the content model – such as the body systems, manifestation properties and diagnostic criteria should be appropriately reflected in the definition and the diagnostic criteria .

Pre-existing definitions from international standardized medical thesauri have been pre-filled into iCAT and shown as “External Definition” in some categories. Users should review and consider whether they would like to include any of them in whole or in part into the “Textual definition” field. The sources of such inclusions should always be referenced.

4. Terms

words or phrases with special assigned meaning in ICD context
that guide users on: synonyms, references or for searching in the index

Definition:

Terms are words or phrases with particular assigned standard meanings that reflect the underlying concepts used in the ICD context.

Rationale:

1. Identify Inclusions: what falls within this category
2. Identify Exclusions: what falls outside the boundaries of this category
3. Identify index entries to guide users from common phrases to ICD codes.

The indices, inclusions, and exclusions of an ICD category in a particular linearization will be drawn from the synonyms and base inclusions and exclusions.

The indices, inclusions, and exclusions may differ from linearization to linearization. For example, the codes in the primary care use case are usually less granular than the morbidity codes. Therefore a specific index term (e.g., influenza with pleural effusion, influenza virus identified) may be associated with different codes (e.g., J10.1 or J10) in different linearizations. The exclusions of an ICD category suggest other codes that should be used instead. The appropriate exclusions may also depend on linearizations.

4.1. Base Index Terms

Definition:

Base Index Terms indicate language terms that may correspond with ICD entities and consist of Synonyms and Narrower Terms.

Rationale:

To indicate the index entries which enable coders to search for the correct code (These include the 4.1.1 Synonyms and 4.1.2 children)

The current ICD-10 index consists of multiple parts (diseases, external causes, chemicals, list of tumours). In the ICD-11, these terms may be broadened with coded dictionaries of existing electronic Cause of Death systems.

Base Index Terms consist of Synonyms and Narrower Terms. Synonyms and Narrower Terms are mutually exclusive. Each base index term is either a synonym (referring to the same underlying entity with an alternative name) or a narrower term representing a more specific condition that's not already a subclass of ICD category in question.

4.1.1 Synonyms

Definition:

Alternative names for the same entity
(*e.g. Coronary Infarction is a synonym for Myocardial Infarction*)

Rationale:

1. To indicate similar terms that are commonly used for the same entity
2. To enable coders and translators to specify the term

Common terms and medical jargon may be included. Synonyms are not intended to be used interchangeably with the entity title. New synonyms may be proposed by the users of the iCAT platform during the joint editing process. The entity title will have precedence over synonyms for international reporting.

4.1.2. Narrower Terms (to become “Children” in the future)

Definition:

A narrower term of an ICD category represents a more specific condition than the ICD category and is *not* a synonym of an existing descendant of the ICD category.

Rationale:

To indicate which terms are different from synonyms (in the future they will be termed “children”).

In the next phase of development, we would like to have the narrower terms moved into subclasses and organized accordingly. However, in the transition phase narrower terms will be allowed.

Index entries of a category in a linearization, will be all the base index terms (synonyms and narrower terms) of this category and of all its children that do not become an element (category, chapter block) of the linearization.

4.2 Base Inclusion Terms

Definition:

A selected subset of terms that depict the content of the entity

Rationale:

To understand conceptual space of the entity through a subset of terms which provide convenient examples

Base Inclusion terms come from either:

1. Synonyms or narrower terms
2. The Terms in sub-entities (might be titles, fully specified name or base index term or a descendant class)

In case “b” they are rendered in the linearization only if the subclass itself is not included in the linearization.

Inclusion terms appear in the tabular list of the traditional print version.

4.3 Exclusion (Terms) (sometimes also addressed as “Base Exclusion”)

Definition:

A cross reference in ICD; these are terms which, although the title might suggest that they have been classified here, they are in fact classified elsewhere.

Rationale:

To understand the boundaries of the conceptual space of the entity for single coding through convenient examples of other entities

- Exclusion 1: Elsewhere classified and frequently confused
- Exclusion 2: Entities that may be categorized either to one or another category (mainly mental health)
- Exclusion 3: Not included here

Exclusions follow the requirements of a mono-hierarchy of mutually exclusive siblings. Most exclusions are conditions that are thought to be children of a given condition. However, because they occur elsewhere in the classification, they must be excluded from appearing as though they are children in these cases. Other exclusions are codes representing possible co-existing conditions that should be distinguished from the condition.

Note: Exclusions have to be consistent across different linearizations and always refer to other ICD entities. Therefore the software interface for editing will enforce picking another category when adding new exclusions.

5. Body System /Body Structure Description

identifies which site and function of the body an entity relates to

Definition:

This attribute defines the physiological system or the anatomical structure that is relevant to a particular disease.

Rationale:

This assists in grouping cases according to body systems or body parts as they are frequent ways of presenting summary statistics. Also, browsing is facilitated by this feature showing relevant categories next to each other, as necessary.

5.1. Body System(s)

Definition:

An organizing principle that relates to common physiological systems that have been used to reflect the chapters of the ICD

Rationale:

To identify the physiological grouping of the entities

(e.g. Which physiological system does this entity belong to?)

The ICD has historically used body systems as an organizing principle. Traditional divisions of body systems may be seen as arbitrary as many body parts can be a part of multiple body systems (for example, tonsil infections are currently classified to the upper respiratory tract, although the tonsils are part of the immunological system). Nevertheless, such characteristics serve to facilitate the creation of meaningful subsets for coding and analysis. Therefore, it is necessary to assign most entities to one or more body systems.

The relevant value set is provided by WHO in the Annex to this document and drawn from the ICD.

5.2. Body Part(s) - [Anatomical Site(s)]

Definition:

The most specific level of the topographic location or the anatomical structure where the health-related problem can be found relevant to the condition.

Rationale:

To identify the anatomic grouping of the entities

(e.g. Which anatomic grouping set does this entity belong to?)

The anatomical structure has been the starting point for assigning an ICD code. However, no standard anatomical site terminology or ontology has been used explicitly in creation of the ICD. The ICD-11 Content Model requires the allocation of an anatomical site.

The value-set for the anatomical site is the axis body-structure of SNOMED CT. Users can add a new site at any time, and if they do not find the site in SNOMED CT, then the source and evidence have to be added.

5.3 Morphology

Definition:

Morphology refers to macroscopic or microscopic features of a body structure involved ICD, particularly histopathologic features for Neoplasms.

Rationale:

To identify the cellular type or morphological appearance of the entity (*usually used for tumours, skin lesions, etc*)

For the input, select the appropriate value in the relevant field.

The value set is chosen from the morphology axis from SNOMED. Following the commitment that the morphology axis of SNOMED also be identical to ICD-O, consistency between ICD-O and ICD is ensured.

6. Temporal Properties

typical course and age that is related to a disease

Definition:

The classifying of subtypes which includes onset characteristics and the duration or course of a disease/health condition

Rationale:

To assist in formally representing the knowledge about the temporal relations of an entity

Diseases may behave differently depending on the age of diagnosis. Other diseases will be diagnosed typically at a certain age. Geriatric or pediatric linearizations, set building, and data edits would use this information.

The terminology used for this parameter has been quite heterogeneous and non-standard. Definitions of acute, sub-acute, chronic or other qualifiers have varied across disease groups. ICD-11 attempts to formally represent the knowledge about the temporal relations of an entity. It is required to express such terms in absolute time units and patterns of the clinical course, if possible.

6.1 Age of Occurrence & Occurrence Frequency

(Formerly: Age of Occurrence, Occurrence Frequency and Age of Onset)

Definition:

Age of Occurrence:

- The age or period of life at which a disease or the initial symptoms or manifestations of a disease appear in an individual

Occurrence Frequency:

- The rate at which something occurs over a particular period of time or in a given sample

Rationale:

To identify the Paediatric, Adult or Geriatric Specialty Adaptation

Age of Occurrence and Occurrence Frequency may be given to be precise as below:

		By Definition	Generally
Antenatal – (<i>in utero</i>)	{-40 –0 weeks}	<input type="checkbox"/>	<input type="checkbox"/>
Birth (Perinatal)	{0}	<input type="checkbox"/>	<input type="checkbox"/>
Newborn neonatal	{1-28 days}	<input type="checkbox"/>	<input type="checkbox"/>
Infancy	{29-365 days}	<input type="checkbox"/>	<input type="checkbox"/>
Child under 5	{1 -5 yo}	<input type="checkbox"/>	<input type="checkbox"/>
Child above 5	{6 -12 yo}	<input type="checkbox"/>	<input type="checkbox"/>
Adolescence	{13-18 yo}	<input type="checkbox"/>	<input type="checkbox"/>
Young Adult	{19-24 yo}	<input type="checkbox"/>	<input type="checkbox"/>
Adult	{25-64 yo}	<input type="checkbox"/>	<input type="checkbox"/>
Geriatric	{>65 yo}	<input type="checkbox"/>	<input type="checkbox"/>

6.2 Development Course / Stage

Definition:

A point in time, a period, or step in the course of the disease or another entity

Rationale:

To bring operational definitions to temporal qualifiers (e.g. acute, sub-acute, chronic; immediate-onset, late-onset etc) – which is particularly required when a entity title or FSN uses a temporal qualifier.

The terms *acute*, *sub-acute* and *chronic* are frequently used in the context of diseases. They may refer to the onset only, or to the overall course of the diseases, or to both. Relevant timeframes of either depend upon the individual disease and need to be specified.

When users choose to use chronic, acute or any temporal terms in a title they will be prompted to specify the temporal properties in time units.

Example:

Average X X X seconds

(This can be chosen as **Mean, Median, Mode;**
Default option – mean)

Minutes

Hours

Days

Weeks

Months

Years

*If desired, add acceptable **duration** parameters as limits:*

Minimum X X X - **Maximum** X X X

Seconds

Minutes

Hours

Days

Weeks

Months

Years

Examples:

Acute Haematogenous Osteomyelitis: Inflammation of bone secondary to haematogenous spread of bacterial infection, i.e. staphylococcus aureus → to be specified up to 2 weeks.

Subacute Osteomyelitis: A haematogenous infection of bone characterized by an insidious course (longer than 2 weeks), and paucity of systemic symptoms other than local tenderness or swelling attributed to host resistance and/or low virulence of infecting organism

Chronic Multifocal Osteomyelitis: Long standing bacterial bone infection characterized by deep, boring bone pain, bone sclerosis and deformity

7. Severity of Subtype Properties

indicate whether an entity is subdivided by different severity levels

Definition:

Severity properties refer to the extent or magnitude of a disease. It particularly indicates the staging or grouping across a gradient from light forms to more severe forms. Severity properties are to be distinct from other clinical significance measures of risk, distress or disability.

Rationale:

1. To specify the severity levels if they are used for classifying the children categories.
2. To differentiate the severity criteria from other clinical significance measures such as the functional impact, distress, burden or risk.

This parameter refers to commonly seen levels of severity in a disease or disorder, for example mild hypertension, moderate hypertension etc...

It does not refer to the gravity (e.g. fatality) of the category itself e.g. as in the case of fulminant hepatitis . This is generally misconceived.

Users have 3 options to enter information:

- Option 1: No severity sub-classing (DEFAULT SETTING)
- Option 2: If the classification entity employs terms **MILD, MODERATE, and SEVERE for the disease name.**
 - MILD (slight, low,...)
 - MODERATE (medium, fair,...)
 - SEVERE (high, extreme,...)

Rationale:

To bring operational definitions to loosely used terms as severity qualifiers

- Option 3: Custom scale – if the category name, employs the severity or staging terms

Rationale:

To capture existing severity scales that are commonly used with the ICD entities/categories (e.g. TNM for Neoplasms).

Related levels of severity will be organized into Severity Scales. The default Severity Scale has three Severity Terms (MILD, MODERATE, and SEVERE). Custom scales will have their own Severity Terms.

*There will be free-text spaces that will allow for the description of the severity scale. (e.g. stage or Phase 1, 2, 3).

These severity patterns may be useful for differential diagnostics, case-mix, reimbursement, and quality assessment. It is required to express severity and/or extent in accepted clinical terms. Description of these terms should identify the underlying logic that defines the severity property clearly, represent defining features as groups and list them.

An important requirement will be to differentiate the severity from it's consequences in Functioning Properties. Usually the impact of the disease/disorder in daily activities of a person may vary depending on the severity of the condition as well as the contextual factors (e.g. environmental and contextual factors). The ICD takes a clear approach that separately identifies severity as a property of the disease/disorder and leaves the description of what a person can or cannot do in that health condition to functioning properties.

Examples:

Myocardial Infarction

Severity may be described by: the size of the infarct

Functioning Properties may range from none to total bedridden state

Tuberculosis

Severity may be described by the extent of the disease, system involvement etc.

Functioning Properties may range from none to total bedridden state

Dementia

Severity may be described by the extent of the disease - e.g. cumulative size of infarcts, tangles, extent of neuron loss

Functioning Properties may range from none to total depending on the cognitive functions – people may experience mild forgetfulness or get lost out of their familiar environment...

8. Manifestation Properties

what signs or symptoms, laboratory or imaging findings are found in a particular ICD entity.

Definition:

Manifestation Properties refer to signs or symptoms, laboratory or imaging findings are found in a particular ICD entity

Rationale:

1. To enable the description of the diseases or disorders as they are the constellation of certain sets of signs and symptoms
2. To assist in linking to SNOMED and other terminologies through codes
3. To express Diagnostic Criteria (*13 below*) digitally, as necessary

In the content model, no distinction is made between signs and symptoms.

“Findings” section from SNOMED-CT will apply as a value set to this field. At present the entire SNOMED can be browsed, but the results will be filtered by the finding axis of SNOMED CT.

8.1 Signs & Symptoms

Definition:

Manifestations of a dysfunction either identifiable by the affected person or the health worker. The Content model does not differentiate between signs and symptoms

Rationale:

1. To enable the functional description of the diseases or disorders as they are the visible constellation of certain sets of signs and symptoms
2. To assist in linking to SNOMED and other terminologies through codes
3. To express Diagnostic Criteria (*13 below*) digitally, as necessary

In the ICD-11, no distinction will be made between signs and symptoms. Findings from SNOMED can apply to this field. At present the whole SNOMED can be browsed, but the results will be filtered by the finding axis of SNOMED CT.

8.2 Investigation Findings

Definition:

Any finding as a result of technical means, as a laboratory test, measurement, imaging (radiography, ultrasonography and other) used to diagnose the patient.

Rationale:

To include laboratory, imaging and other types of established diagnostic interventions

9. Causal Properties

{This does not apply to Chapter 20 External Causes}

Factors which are used to specify the causes of ICD entity
--

Definition:

The factors which specify the causation of an ICD entity (in line with the established scientific principles of causality)

Rationale:

1. To indicate the basic grouping of causal factors: such as vectors and mechanisms underpinning the entity or group

9.1 Aetiology Type

Definition:

The basic type of cause of the health conditions pertaining to an ICD entity

Rationale:

To indicate the basic grouping of causal factors underpinning the entity, as metabolic or external.

The value-set comes from WHO, and is part of the ANNEX to this document {CROSS REF}.

9.2 Causal Properties - Agents:

Definition:

Substances, organisms, vectors and other objects that cause the ICD entities.
For example: Alcohol, Drugs, Medications, Microorganisms,

Rationale:

1. To list the detailed agents: microbiological, physical, chemical, etc.
2. To enable different sorting of the causal agents

{This does not apply to Chapter 20 External Causes}

Currently the Value set for CP-Agents is set to SNOMED-CT.

9.3 Causal Properties – Causal Mechanisms

Definition:

Mechanisms identify the way in which agents cause the disease

Rationale:

To list the mechanism by which an agent causes disorder or disease

(This does not apply to Chapter 20 External Causes)

Currently we are using SNOMED-CT. Suggestions for narrowing are welcome. When selecting the appropriate SNOMED-CT term, take the ones that refer to events, agents and organisms, and not to a disease with the same label. The fully specified term will bear this information in brackets.

9.4 Genomic Linkages (formerly Genomic Characteristics)

Definition:

Genomic Linkages identify necessary candidate genes and snips related to the occurrence of the condition specified by the ICD entity

Rationale:

To list the genes (and genetic mechanisms) in order to see whether a specific class should be assigned to a specified term

1. To seek similarities in grouping similar diseases/disorders

Predisposing or causing genes would be mentioned here. The delimitation to causal mechanisms and risk factors need to be explained. If there is a family history of a disease that constitutes a risk of falling ill, you would enter this to the risk factors. Where the specific gene is known, you add this information to the genomic linkages. Genomic linkage is information that complements “causal mechanism” and “risk factor”.

9.5 Risk Factors

Definition:

An aspect of personal behaviour or lifestyle, environmental exposure, or inborn or inherited characteristic, which, on the basis of epidemiologic evidence, is known to be associated with a health-related condition considered important to prevent.

Rationale:

To list factors that may increase the likelihood of the occurrence of an ICD entity. Their association may be grouped to concur with WHO Comparative Risk Assessment framework.

The three sub-types of risk factors, immediate, proximal and distal will have value sets that are subdivided accordingly. WHO is to provide the value sets that are subdivided into immediate, proximal and distal risk factors.

{at present the Risk Factor Parameter will have a sign that says “Under Construction” that will serve as a place holder}

Immediate
Proximal
Distal

10. Functioning Properties

how a typical case with the ICD entity
may be limited in functioning (e.g. daily life activities)

Definition:

The characteristics of disability associated with the ICD entity (in line with the ICF – International Classification of Functioning Disability and Health)

Rationale:

1. To document functional impact of the ICD entity
2. To relate ICD and ICF for joint use

In the context of an ICD entity functioning properties refer to three main dimensions:

- (i) Functional Impact on the person (from ICF a&p),
- (ii) Contextual factors (ICF e) and
- (iii) Body functions (ICF b) (See 10.1, 10.2 and 10.3 below).

The functional impact must be indicated for all the diseases and a specific search needs to be done for this information to complete the appropriate areas.

Functioning properties may range from none to 100 percent.

The functioning properties to be included are those that are needed to assess that an individual has the disease.

10.1 Impact on Activities and Participation:

Definition:

Health conditions which limit activities and restrict participation in day-to-day life

Rationale:

1. To identify functioning properties associated with the ICD entities
2. To differentiate from severity criteria, when necessary

Impact on Activities and Participation relates to ICF d list containing A & P codes, which for convenience, have been pre-selected in 7+ domains.

There is the additional availability to enter any ICF d list code. Supporting evidence needs to be provided and these elements will be checked for consistency by ICF experts.

In the iCAT 'Impact' field the content model of the ICD-11 should include, those Activities or Participation domains of ICF *potentially and probably* affected by the disease.

The domains below are proposed as a minimum set to capture functional impact on persons that are categorized to the relevant ICD entity – which all share the same rationale:

Rationale:

1. To identify functioning properties associated with the ICD entities
2. To differentiate from severity criteria, when necessary

10.1.1. Understanding

Definition:

Cognitive, mental or psychological processes involved in comprehending, thinking and making interpretations.

10.1.2. Communication

Definition:

Verbal or non-verbal processes including transmission or sharing of information between two or more people.

10.1.3. Mobility

Definition:

An ability to move easily and freely through changing body position or location

10.1.4. Self-care

Definition:

Activities necessary to care for oneself to maintain health and hygiene

10.1.5. Interpersonal Relations

Definition:

Interactions between people (e.g. family members, friends, relatives, strangers) in socially appropriate manners.

10.1.6. Life Activities (Household, School, Work & Economic Life, Life Management)

Definition:

Activities involving everyday actions, tasks and routines in different contexts such as home, school and work place

10.1.7. Social Participation

Definition:

Engagement and involvement in social and political life

10.2. Contextual factors: relating to ICF e list.

Definition:

Environmental and personal factors that influence the level of functioning of the individual

Rationale:

To link Chapter 21 codes to ICF contextual factors, as necessary

The EF dimension of the ICF is being considered for the incorporation following the preparation of the alpha draft of ICD-11. Further, the EF dimension of ICF may be used as a basis for the improvement of the “Z” codes in ICD ('factors affecting health status'). {Will be implemented after May 2011}

ICF provides a definition and classification of environmental factors (EF) and the development of a personal factor (PF) classification is under consideration. Potentially, both components can serve as item pool for selecting the appropriate domains and corresponding value sets. Capturing environmental factors may help people with a health condition and associated functioning problems to modify their environment (reduce barriers & enhance facilitators).

The value set for the contextual factors will be selected from the ICF.

10.3. Body functions: relating to ICF b list

Definition:

Body functions and their impairments are defined and classified in Contextual Factors. They can be directly linked to the signs, symptoms and other clinical features of ICD categories.

Rationale:

To link signs/symptoms and other features with ICF body functions as necessary

There is currently a 'signs and symptoms' rubric in the content model for which SNOMED terms are being used. A scheduled evaluation of the resulting contents of this rubric will involve mapping with ICF BF codes and a consideration of possible change to SNOMED and ICF.

{TO BE IMPLEMENTED after May 2011}

Note: This feature will be implemented once the Clinical Findings in the content model are fully documented in Manifestation Properties Tab V.

The value set for body functions will be selected from the ICF.

11. Specific Condition Properties

relate to information that are important for the uses of ICD such as particular conditions - e.g. pregnancy, newborn, ...

Definition:

Properties that specify particular conditions which are relevant for monitoring public health indicators (but not captured by the other attributes).

Rationale:

1. To capture data for grouping classification categories in response to specific public health indicators. E.g. pregnancy, birth, newborn ... related diseases

11. 1 Biological Sex

Definition:

"Sex" refers to the biological and physiological characteristics that define men and women (*WHO Gender and Women Health*)

Rationale:

1. To identify biological sex categories for validity checking of codes (e.g. women cannot have prostate cancer, men cannot be pregnant etc.)

Biological Sex is necessary for capturing information about diseases that are specific to men or women, rather than gender. For the occurrence of a disease, the bodily presence of relevant body parts and physiology is necessary. This phenotype does not necessarily correspond only to XX and XY, as such, male and female are the preferred labels to the check boxes. Some sex specific diseases can occur in the other sex (see embryological development). For that reason, "condition usually occurs only in" has been added.

The biological sex is defined in several categories of ICD.

The iCAT tool will allow the following to be selected:

- Condition usually occurs only in male
- Condition usually occurs only in female
- Not applicable

Users will specify this information where diseases occur usually in one or the other sex. The default is preset to "not applicable", because the majority of the diseases apply to both sexes.

11.2 Life-Cycle Properties

Definition:

Elements of the definition of an entity that relate to specific segment of life that may be specific to a defined age group.

Rationale:

To identify certain ICD categories related to pregnancy, delivery, abortion etc.

The mentioned entities need to be identifiable as they are defining chapters and parts of chapters of ICD (Chapter 15 and 16). They are used to identify conditions that occur usually only in the specified context.

- Mother
 - Pregnancy (whole)
 - Childbirth
 - Puerperium (birth until 42 days after birth)
- Child
 - Perinatal period commences at 22 completed weeks (154 days) of gestation (the time when birth weight is normally 500 g), and ends seven completed days after birth.
 - Neonatal period commences at birth and ends 28 completed days after birth. Neonatal deaths (deaths among live births during the first 28 completed days of life) may be subdivided into:
 - Early neonatal period commences with the birth and ends with the completed seventh day of life
 - Late neonatal period commences after the seventh day and ends before 28 completed days of life.

12. Treatment Properties

Interventions that are relevant to define a particular ICD entity

Definition:

Properties related of care given to a patient for a particular ICD entity {required when needed to referred in the title or definition}

Rationale:

1. To identify treatment related diagnostic labelling (e.g. Insulin-resistant diabetes)
2. To allow linkage to WHO treatment guidelines, ICHI, ICTM etc. (e.g. Hypertension)
3. To identify use in Primary Care Version to link Diagnostic Modules with Management Modules (e.g. PC version, Map of Medicine)
4. To complete the Reasons for Encounter entities

In this case, content regarding the treatment must be included. Additionally, internationally accepted guidelines and recommendations can be added. In several cases the category of ICD is also specified by a treatment e.g. reason for encounter for a vaccination.

13. Diagnostic Criteria

describe how you express CM parameters as logical rules to identify a particular disease

Definition:

The logically expressed standards by which an ICD entity may be coded.

Rationale:

1. To enable the compilation of the core diagnostic information necessary and sufficient to describe a category
2. To enable the digital representation of the diagnostic algorithms (aka aggregation logic) using SNOMED- CT and other elements as appropriate
3. To describe a reliable diagnostic methodology for cases that is assigned to the relevant entity of ICD.

There may be different sets for different settings. Entries will draw on the content of the other attributes. Various extensions to ICD, in particular specialty adaptations, have expanded on the ICD categories in identifying the diagnostic rules, i.e. the way different elements in the Content Model come together to qualify a diagnosis according to ICD. In addition, various WHO guidelines have identified diagnostic rules (e.g. guidelines, criteria) that relate to reporting of mortality, morbidity or other purposes. It will be useful to integrate and formally express these algorithms in the content model. The formalization will utilize the rubrics of the Content Model and Algorithmic Logic to express how these come together to formally identify an ICD category, drawing on findings, signs and symptoms.

Section B:

Reference Guide for External Causes

Definition:

Things that give rise to a condition coming from a source outside the affected subject

Rationale:

To enable the coding of the External Causes and enable identification distinct components such as:

- EC- Agents (object - substance)
- EC- Mechanism
- EC- Intent
- EC - Place
- EC- Activity
- EC - Substance use

External causes are a dimension different from disease or injury. As such some elements are different from the ones of diseases, whereas some are the same for all entities in the realm of ICD-11

Six main properties are drawn from the main axes of the ICECI and allow only a single entry from a select list. Value sets are given by the leaves of the relevant main axis of the ICECI.

Refining properties per main attribute allows multiple entries from a select list that draws its values from the leaves of the relevant set of sub-axes of ICECI. (For assigned sub-axes and axes see below figure of the content model) Value sets for the “details” come from the relevant set of sub-axes.

The shorter lists of values are presented as drop down lists. The long ones and refining properties will be select lists, sorted by ICECI code or alphabetically (user choice).

Preservation of the ICECI codes in the lists of values will allow matching ICECI structure wherever such reconstruction seems necessary in future steps of the revision of either (ICECI or ICD).

The leaves of all axes of the ICECI have been edited and have now fully specified titles.

Correspondence between axes of ICECI and properties of the content model of ICD- 11:

Correspondence between properties of ICD-11 and the axes of ICECI

ICD-11 property	ICECI axes
Intent	C1
Descriptors for Intent	V1-V7
Mechanism of injury-full version	C2
Details for Mechanism:	T1-T4
Object/substance producing injury	C3
Countermeasures:	S3-S4
Place of occurrence	C4
Details for place of occurrence:	P1-P7
Activity when injured	C5
Details for activity:	O1-O2 and S1-S2
Substance use	C6 and C7

Appendices

Appendix 1: Body Systems Value Set

Haemolymphoid System

- Haematopoietic System
- Immune system

Endocrine System;

Nutritional system;

Metabolic system

Mental System

Nervous System

- Central nervous system
- Motoric system
- Peripheral nervous system
- Autonomic Nervous System
 - Sympathetic Nervous System
 - Parasympathetic Nervous System

Visual system

Auditory system

Vestibular system

Circulatory System (Cardiovascular system)

Respiratory System

Digestive system

Skin System

Musculoskeletal System

- Muscular System
- Skeletal System

Genitourinary System

Urinary System

Male Genital System

Female Genital System

Appendix 2: Temporal Properties Value Set

Age of Occurrence and Occurrence Frequency

		Generally	By Definition
Antenatal – (<i>in utero</i>)	{-40 – 0 weeks}	<input type="checkbox"/>	<input type="checkbox"/>
Birth (Perinatal)	{0}	<input type="checkbox"/>	<input type="checkbox"/>
Newborn neonatal	{1-28 days}	<input type="checkbox"/>	<input type="checkbox"/>
Infancy	{29-365 days}	<input type="checkbox"/>	<input type="checkbox"/>
Child under 5	{1 -4 yo}	<input type="checkbox"/>	<input type="checkbox"/>
Child above 5	{5 -14 yo}	<input type="checkbox"/>	<input type="checkbox"/>
Adolescence	{14-19 yo}	<input type="checkbox"/>	<input type="checkbox"/>
Young Adult	{20-24 yo}	<input type="checkbox"/>	<input type="checkbox"/>
Adult	{25-64 yo}	<input type="checkbox"/>	<input type="checkbox"/>
Geriatric	{>65 yo}	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 3: Functional Properties Value Set and explanations

10.1 Impact on Activities and Participation:

Definition:

Health conditions which limit activities and restrict participation in day-to-day life

Rationale:

4. To identify functioning properties associated with the ICD entities
5. To differentiate from severity criteria, when necessary

Impact on Activities and Participation relates to ICF d list containing A & P codes, which for convenience, have been pre-selected in 7+ domains.

There is the additional availability to enter any ICF d list code. Supporting evidence needs to be provided and these elements will be checked for consistency by ICF experts.

In the iCAT 'Impact' field the content model of the ICD-11 should include, those Activities or Participation domains of ICF *potentially and probably* affected by the disease.

The domains below are proposed as a minimum set to capture functional impact on persons that are categorized to the relevant ICD entity – which all share the same rationale:

Rationale:

6. To identify functioning properties associated with the ICD entities
7. To differentiate from severity criteria, when necessary

10.1.1. Understanding

Definition:

Cognitive, mental or psychological processes involved in comprehending, thinking and making interpretations.

10.1.2. Communication

Definition:

Verbal or non-verbal processes including transmission or sharing of information between two or more people.

10.1.3. Mobility

Definition:

An ability to move easily and freely through changing body position or location

10.1.4. Self-care

Definition:

Activities necessary to care for oneself to maintain health and hygiene

10.1.5. Interpersonal Relations

Definition:

Interactions between people (e.g. family members, friends, relatives, strangers) in socially appropriate manners.

10.1.6. Life Activities (Household, School, Work & Economic Life, Life Management)

Definition:

Activities involving everyday actions, tasks and routines in different contexts such as home, school and work place

10.1.7. Social Participation

Definition:

Engagement and involvement in social and political life

Children and Youth

Definition:

Activities, actions and challenges specific to this developmental period "children and youth"

Functional Impact on the Person				
		Front end (visible)	Back end (invisible)	
Understanding				
		Watching	d110	
		Listening	d115	
		Learning	d130-d155	
		Focusing attention	d160	
		Reading	d166	
		Writing	d170	
		Calculating	d172	
		Solving problems	d175	
		Other specified		
Communication				
		Communicating with others	d310 ; d315; d320; d325	
		Speaking	d330	
		Starting a conversation	d3500	
		Sustaining a conversation	d3501	
		Other ...		
Mobility				
		Standing	d4104	
		Bending	d4105	
		Maintaining a body position	d4154	
		Transferring oneself	d420	
		Lifting and carrying objects	d430	
		Fine hand use	d440	
		Hand and arm use	d445	
		Walking short distances	d4500	
		Walking long distances	d4501	
		Vigorous activities	d455; d4303	
		Moving around within home	d4600	
		Moving around	d4602	

		outside the home and other buildings		
		Using transportation	d470	
		Driving	d475	
		Other ...		
		Front end (visible)	Back end (invisible)	
Self-Care				
		Washing oneself	d510	
		Caring for body parts	d520	
		Urination	d5300	
		Defecation	d5301	
		Dressing	d540	
		Eating	d550	
		Drinking	d560	
		Managing one's health (needs, assistance or oversight)	d570	
		Other ...		
Interpersonal Relations				
	Making friends		d7200, d7500	
	Engaging with other people		d740, d750	
	Maintaining family relationships		d760	
	Dealing with strangers		d730	
	Engaging in sexual relationships		d7702	
	Other ...			
Life Activities				
Household				
	Shopping		d620	
	Cooking /preparing meals		d630	
	Doing housework		d640	

	Looking after/helping others		d660	
	Other ...			
School				
	Attending school		d820	
	Learning a job (vocational training, apprenticeship)		d825	
	Going to university		d830	
	Other ...			
Work and economic life				
	Engaging in paid work		d850	
	Seeking employment		d8450	
	Performing job related tasks		d8451	
	Handling money		d860	
	Other ...			
	Front end (visible)		Back end (invisible)	
Life management				
	Undertaking a single task		d210	
	Undertaking multiple tasks		d220	
	Carrying out daily routine		d230	
	Handling stress and psychological demands		d240	
	Other ...			
Social Participation				
		Taking part in social life		d910

		Sports		d9201
		Travel		d920
		Visiting friends		d9205
		Human rights (e.g. self-determination, equal opportunities)		d940
		Political life and citizenship (e.g. voting)		d950
		Other ...		
Children and Youth				
		Learning to read		d140
		Learning to write		d145
		Learning to calculate		d150
		Communicating with others		d310; d315; d320; d325
		Speaking		d335
		Attending school		d8201
		Taking exams		d8202
		Playing with others		d880; d9200

Appendix 4: Basic Aetiology Value Set

Metabolic
Degenerative
Cardiovascular
Autoimmune
Neoplastic
Traumatic
Familial
Infectious
Iatrogenic
Toxic
Environmental
Occupational
Multiple
Unknown

Appendix 5: Grammar Rules for Titles and Synonyms

Singular and Plural

The singular form is preferred for isolated entities, while the plural form is preferred for disease groups.

Alternative spellings

Within WHO-HQ, British rather than American spelling is normally used. The general rule is to follow the spelling listed in the latest edition of *The Concise Oxford dictionary*. There are, a number of exceptions. For more information on WHO house style for spelling of words commonly used in WHO information products, see the “Spelling” entry in this section and the WHO spelling list.

See also

<http://sites.google.com/site/icd11revision/home/documents/WHOHouseStyle.pdf?attredirects=0&d=1>

and

<http://sites.google.com/site/icd11revision/home/documents/WHOHouseStyleSpellingList.pdf?attredirects=0&d=1>

Titles of Categories

The title should fully express the category. It should NOT assume the meaning of the parent. For example:

C03 is “Malignant Neoplasm of gum”

C03.0 Should NOT read as “Upper gum” but should read as “Malignant Neoplasm of upper gum”

Use of Signs, Marks, Accents (Diacritics)

Diacritics (a mark above or below a printed letter that indicates a change in the way it is to be pronounced or stressed—Acute and grave accents, tildes, and cedillas are examples of diacritics) and should be retained in titles. However, ICD entities that contain diacritics should be searchable and recognizable without including them, for users who may not have the keyboard or font functions see:

<http://apps.who.int/classifications/apps/icd/icd10online/>

Use of hyphens (-)

Should we write “muscle eye brain syndrome” or “muscle-eye-brain syndrome”? Please see the WHO house style guide, in the section “Hyphen (-), em rule (—) and en rule (–)”.

<http://sites.google.com/site/icd11revision/home/documents/WHOHouseStyle.pdf?attredirects=0&d=1>

Use of Arabic or Roman numerals in subtypes

Arabic numbers should be used at all times. This will be the option for citing chapters (e.g. Chapter 19 instead of Chapter XIX).

Use of letters in subtypes

Latin letters (type A, type B) should be capitalised. (The usual practice, AFAIK.) For Greek letters (type alpha, type beta), the name of the letter be used, and not its shape.

Use of Name of Noun formed after a person (eponyms)

The naming of diseases after proper nouns or people (e.g. eponyms) are explicitly discouraged, except in historical cases where the eponym is already well-established (Alzheimer, Parkinson, etc.). However, eponyms can be entered into the tool as synonyms. Eponyms are used without the Genitive "'s".

Use of acronyms

An acronym is an abbreviation formed from the first letters of other words and pronounced as a word (e.g. NASA). Acronyms may never be used for titles of categories. They should be added as synonyms to the appropriate spelt out disease entity thus facilitating identification of the relevant cases and categories.

Use of relational adjectives and free compound nouns

Titles should follow preferred medical nomenclature. All combinations can be included in the synonyms. e.g. "hepatic, cardiac, renal failure" vs. "liver, heart, kidney failure"

Final rejection of distinguishing characteristics

Normal English word-order requires determining constituents to come first, but pragmatic considerations may favour an inverted order progressing from general to particular. All combinations can be included in the synonyms. When in doubt, no commas are preferred. E.g. "Proximal spinal muscular atrophy, adult type" vs. "Adult type of spinal muscular atrophy" "Autosomal dominant spinocerebellar ataxia" vs. "Spinocerebellar ataxia, autosomal dominant".

Retired Entities

If for any reason and ICD entity is retired, this will be indicated accordingly and the term will be included in the inclusion terms and indexes as appropriate, allowing uniform assignment of cases that bear the label of the retired entity. Particular names such as proper nouns for diseases or syndromes should be avoided.

EXTRA:

Proposal to be added in the front - without duplication

Just check if anything would really improve the intro

Introduction to the ICD – International Classification of Diseases

The International Classification of Diseases (ICD) is the global standard to report and categorize diseases in order to compile health information related to deaths, illness and injury. ICD content includes diseases and a range of health problems including disorders, syndromes, signs, symptoms, abnormal findings, complaints, social circumstances, and external causes of injury. The ICD is designed to promote international comparability in the collection, processing, classification, and presentation of these statistics. The 11th edition of the ICD is currently in development.

In the past ICD did not explicitly define its “classification categories” – in other words, diseases were classified without defining first, “what a disease was”.

Within the ICD lies a large amount of data. This data contains multiple parameters such as: disease titles, definitions, codes and other characteristics which may be implicit or explicit.

In ICD 11, deliberate action is being made to define the ICD categories in a systematic way. This will allow classification knowledge to be represented and also to allow ICD to be processed electronically.

The Content Model is a framework that operationally defines “a classification unit” using standard parameters in an explicit way.