

ICD-11:

New features, tooling environment, APIs, testing & implementation arrangements and linkages with SNOMED CT

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**World Health
Organization**

Why ICD-11?



- **Up-to-date scientific knowledge – statistical continuity**
- **Serving multiple use case** (mortality & morbidity statistics, health care cost, primary care, quality and safety, progress towards SDGs, clinical documentation, research)
- **Improve usability**
 - More clinical detail – code combinations
 - Easy access & less expensive training
- Improved **index**
- Improved incorporation in **electronic environments** – not just a print product
- **Linkages** to other relevant classifications/ terminologies (ICD-O, ICPC, ICECI, ICF, SNOMED-CT, ATC, eML etc.)
- Improve **comparability of translations**

Problems of ICD-10 – examples Solved in ICD-11

- Antimicrobial resistance - essentially **missing in ICD-10**
- HIV subdivisions - **outdated** detail in ICD-10
- Skin cancer - melanoma types missing – basalioma **missing in ICD-10**
- Valve diseases - **outdated** structure, need by valve, less rheumatic
- Chapters 1-18 versus Chapter 19 - **clarify** when use 19 and when not for postprocedural
- **Regrouping** necessary - Allergies and autoimmune diseases
- External causes - **Loosing detail** in non-accidents; traffic accidents

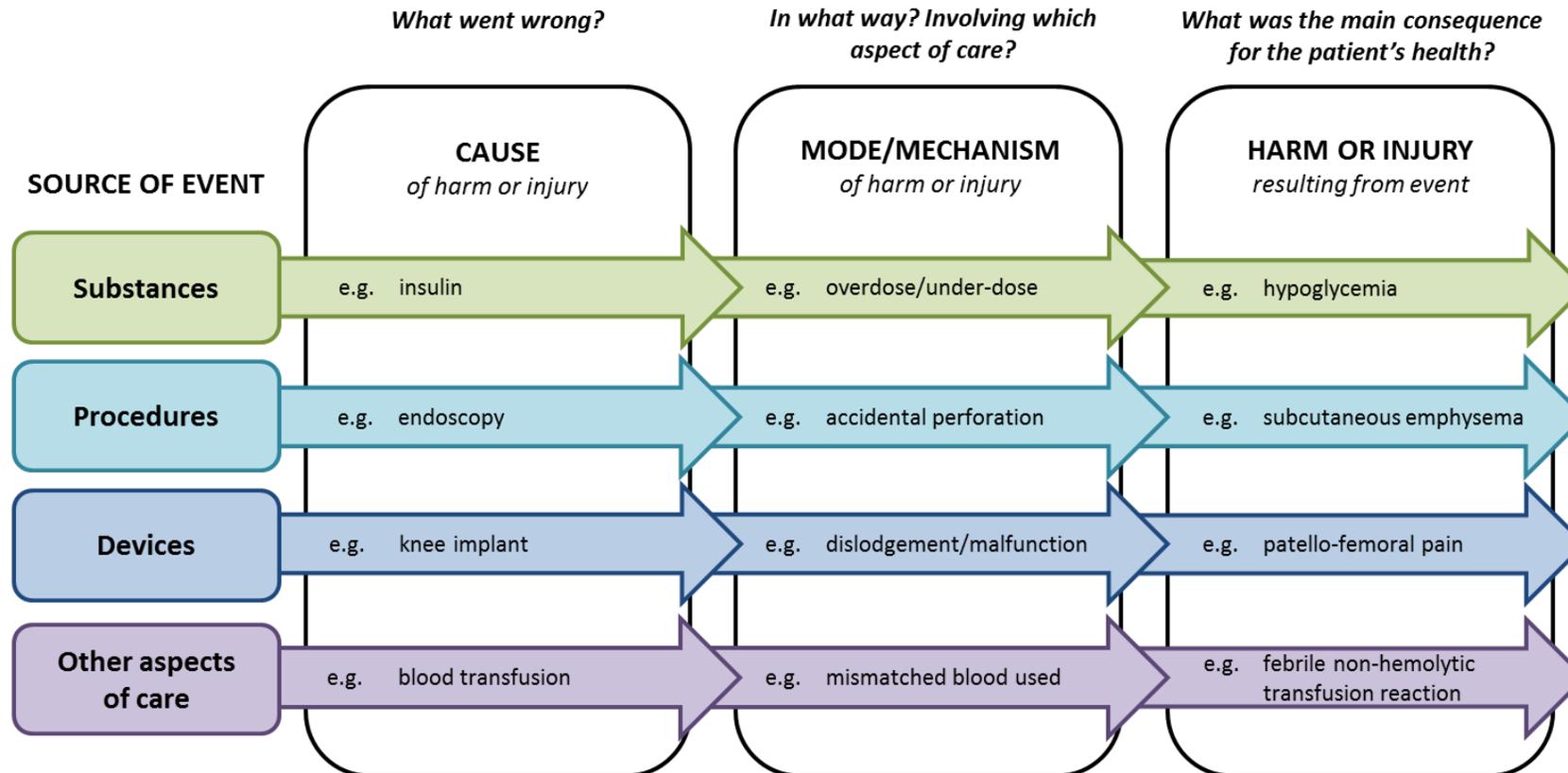
ICD-11 Chapters

- 01 – Infectious diseases
- 02 – Neoplasms
- 03 – Diseases of the blood or blood-forming organs
- 04 – Disorders of the immune system
- 05 – Endocrine, nutritional and metabolic diseases
- 06 – Mental, behavioural or neurodevelopmental disorders
- 07 – Sleep-wake disorders
- 08 – Diseases of the nervous system
- 09 – Diseases of the visual system
- 10 – Diseases of the ear or mastoid process
- 11 – Diseases of the circulatory system
- 12 – Diseases of the respiratory system
- 13 – Diseases of the digestive system
- 14 – Diseases of the skin

ICD-11 Chapters Cont.

- 15 – Diseases of the musculoskeletal system or connective tissue
- 16 – Diseases of the genitourinary system
- 17 – Conditions related to sexual health
- 18 – Pregnancy, childbirth or the puerperium
- 19 – Certain conditions originating in the perinatal period
- 20 – Developmental anomalies
- 21 – Symptoms, signs or clinical findings, not elsewhere classified
- 22 – Injury, poisoning or certain other consequences of external causes
- 23 – External causes of morbidity or mortality
- 24 – Factors influencing health status or contact with health services
- 25 – Codes for special purposes
- 26 – Traditional medicine conditions – Module 1
- V – Supplementary section for functioning - CF derived linked with WHODAS 2, MDS.
- X – Extension Codes

ICD-11 Classification System for coding Quality & Safety Events



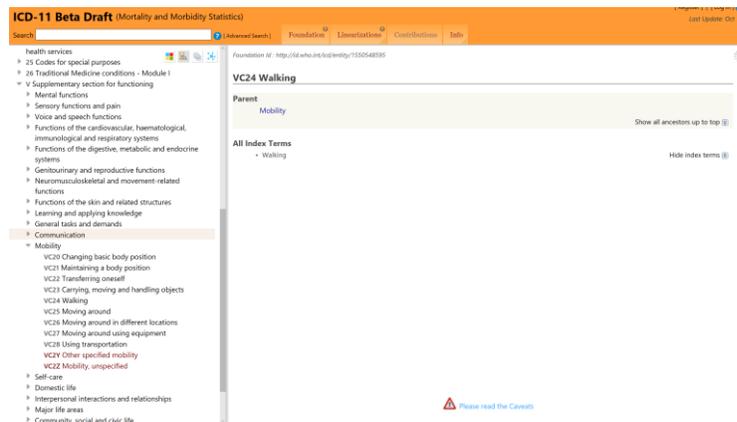
ICD-11 Changes

Chapter 26 Traditional Medicine conditions - Module I

- Diagnostic categories
- Now module 1: Traditional medicine from ancient China now commonly used in China, Japan, Korea and elsewhere around the world
- Other modules can be added
- The Chapter is a mirror of clinical practice and reality. The TM Chapter categories were derived from:
 - **National Clinical Modifications of ICD** (i.e. Korean ICD version, KCD-7 Disease Codes of Korean Medicine);
 - **National TM Classifications** (e.g. Chinese TCM classification GB 95/97, Japanese Kampo Medicine Code Set);
 - **Regional Terminologies** (i.e. WHO International Standard Terminologies on Traditional Medicine in the Western Pacific Region);
 - The Chapter also represents the **most common diagnoses** used by TM practitioners in other Regions (e.g. Europe and US).

ICD-11 Supplementary section for functioning

- Facilitate **generic functioning assessment**
- The entities are **linked with** the WHO Disability Assessment Schedule 2.0 (**WHO DAS 2.0**) and WHO Model Disability Survey (**MDS**). This will allow to compute general and domain specific summary scores.
- The list will includes **47 entities** is focusing on ICF functioning domains which have high explanatory power (ICF Annex 9). The list could be considered a linearization of ICF. These would be optional codes to be used via post-coordination
- **supplementary functioning codes**



The problem of exploding cycling codes in ICD-10



- The history of cycling codes
 - **1972 ICD-9: 8 codes**
 - **1999 ICD-10: 587 codes**
- Example of a confounded code
 - V12.24 Pedal cyclist injured in collision with two- or three-wheeled motor vehicle, unspecified pedal cyclist, non-traffic accident, while resting, sleeping, eating or engaging in other vital activities

Defusing the exploding bicycle: 500 codes in pieces

- **10 things to hit...**
 - Pedestrian / cycle / motorbike / car / HGV / train / unpowered vehicle / a tree / other
- **5 roles for the injured...**
 - Driving / passenger / cyclist / getting in / other
- **5 activities when injured...**
 - resting / at work / sporting / at leisure / other
- **2 contexts...**
 - In traffic / not in traffic

ICD-11 Extension codes

Type 1

- Severity
- Temporality (course of the condition)
- Temporality (Time in life)
- Aetiology
- Anatomic detail Topology Anatomic location
- Histopathology
- Biological Indicators
- Consciousness
- External Causes detail
- Injury Specific detail
- Substances

Type 2

- Main Condition
 - Reason for encounter
 - Reason for admission
 - Main Resource Condition
- Present on Admission
 - Developed after admission
 - Uncertain timing relative to admission
- Provisional diagnosis
- Diagnosis confirmed by...
 - Lab
 - Serology
 - Histology
 - Genetics
 - Imaging –
 - Unspecified means
- Differential Diagnosis

Differences to ICD-10- Coding scheme

- The **chapter numbering**:
 - Arabic numbers (not roman numerals)
- The **coding scheme for categories**:
 - Minimum 4 characters
 - 2 levels of subcategories
- **Coding scheme**
 - A letter is always in the 2nd position to differentiate from ICD-10 codes
 - No l,l (L,i); 0,O (Zero, o)
- **First character of code always relates to the chapter**. Numbers 1-9 are used for the first nine chapters and letters are used for chapters 10 to 26
- **Residual** categories use **Y for other**, **Z** for unspecified

Coding combinations for more detail

- One disease => one code

Stem codes only can be used alone

i.e. extension codes are **never** used alone

Fracture of humerus =

NB52.4 Fracture of shaft of humerus

- One disease => multiple codes (cluster)

Stem code + stem code(s)

Mitral valve stenosis with right ventricular failure =

BB60.Z / BC83

(BB60.Z Mitral valve stenosis, unspecified; BC83 Right ventricular failure)

Stem code + extension code(s)

Fracture of right humerus shaft =

NB52.4 & XK876572005

(NB52.4 Fracture of shaft of humerus; XK876572005 Right)

Stem code + stem code(s) + extension code(s)

Comminuted fracture of right humerus shaft=

NB52.4 & XK876572005 & XJ2006159364

(NB52.4 Fracture of shaft of humerus, XK876572005 Right; XJ2006159364 Comminuted fracture)

ICD-11 Content model

1. ICD Concept Title
2. Hierarchy, Type and Use
 - a) Parents
 - b) Type
 - c) Use
3. Textual Definition(s)
 - a) Description (short)
 - b) Definition (long)
4. Terms
 - a) Index Terms
 1. Synonyms
 2. Inclusion Terms
 - b) Exclusion Terms

5. Clinical Description

1. Body System(s)
2. Body Part(s)[*Anatomical Site(s)*]
3. Manifestation Properties
 1. Signs & Symptoms
 2. Findings
4. Causal Properties
5. Etiology Type
 1. Infection (agents)
 2. Injury (mechanisms)
6. Risk Factors
7. Genomic Characteristics
8. Temporal Properties
9. Severity Properties
10. Functional Properties
11. Specific Condition Properties
12. Treatment Properties
13. Diagnostic Criteria

Foundation Component & Tabular Lists of ICD–11



The **Foundation Component**

- is a multidimensional **collection of all ICD entities**.
- Entities can be **diseases, disorders, injuries, external causes, signs and symptoms**. Some entities may be very broad e.g. ‘injury of the arm’, others are more detailed, e.g. ‘laceration of the skin of the thumb’.
- has the necessary **information** to use the entities to **build a tabular list** (a mono hierarchy in the style of a traditional statistical classification). E.g. includes information on where and how a certain entity is represented in a tabular list, whether it becomes a grouping, a category with a stem code, or whether it is mentioned as an inclusion term in a particular category.

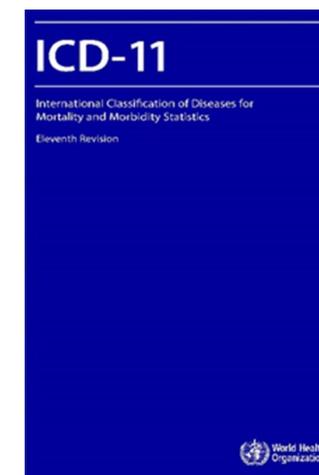
The ICD-11 Tabular lists



- Tabular lists are **subsets** of the foundation component, that are:
 - **Fit for a particular purpose:** reporting mortality, morbidity, or other uses
 - In a tabular list, **entities** of the foundation **become categories** that are **Jointly Exhaustive** and **Mutually Exclusive** of each other
 - Each category is given a **single parent**
 - Residual categories: **Other (*.8) Unspecified (*.9)** generated for each linearization

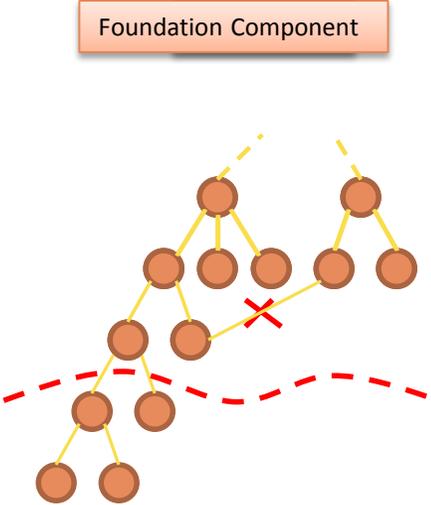
Examples of ICD-11 **Tabular lists**

- ICD-11 Mortality and Morbidity Statistics (ICD-11 MMS)
- ICD-11 Primary Care
- Specialty tabulations
 - Dermatology
 - Oncology
 - Mental Health
 - Traditional Medicine
 - ...
- National tabulations (CM, AM, CA, GM...)

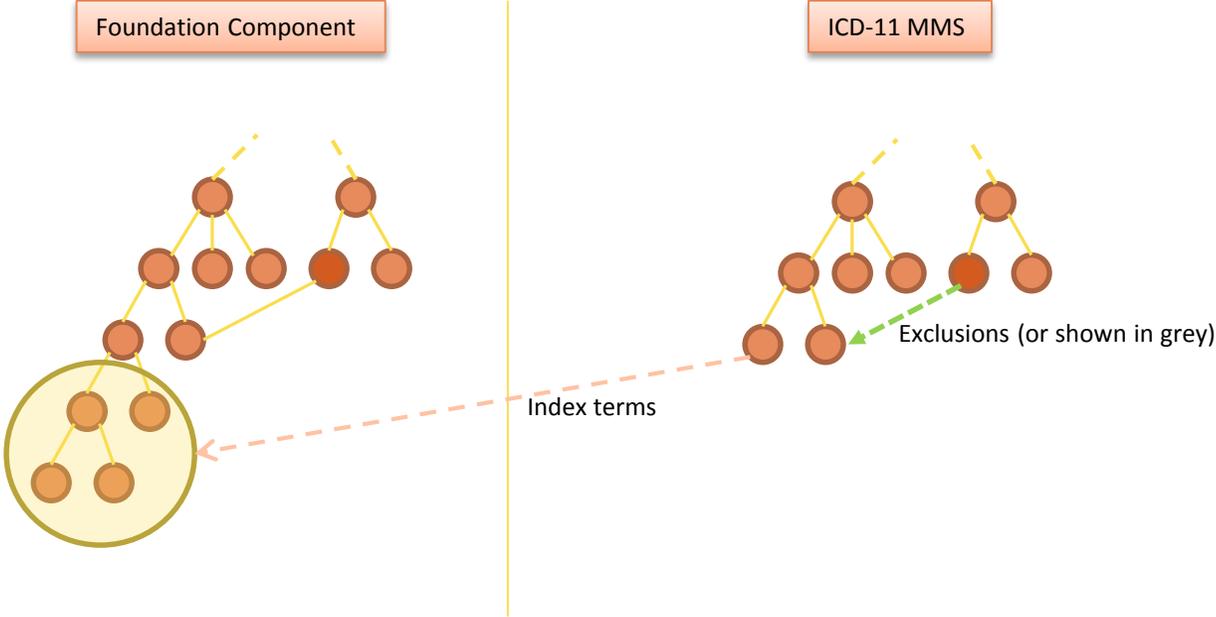


ICD-11

Making Classification from Foundation



Making Classification from Foundation



ICD-11 Index terms

- Synonyms
- Entities and Synonyms below the “shoreline” include
 - categories in the ICD-11 MMS
 - e.g. *Hutchinson-Gilford syndrome* under LD2B Syndromes with premature ageing appearance as a major feature
 - Residual categories
 - e.g. *Capsular age-related cataract* under 9B10.0Y Other specified age-related cataract

Example of a telescopic tabulations

Title	Primary Care MMS.	Ophthalm.
Cataract	code	code
Age-related cataract	code	code
Cortical age-related cataract	other	code
Nuclear age-related cataract	other	code
Cataracta brunescens	other	code
Nuclear sclerosis cataract	other	code
Capsular and Subcapsular age-related cataract	other	code
Capsular age-related cataract	other	code
Anterior subcapsular polar age-related cataract	other	code
Posterior subcapsular polar age-related cataract	other	code
Incipient age-related cataract	other	code
Coronary age-related cataract	other	code
Punctate age-related cataract	other	code
Water clefts	other	code
Advanced or mature age-related cataract	other	code
Mature age-related cataract	other	code
Subtotal advanced or mature age-related cataract	other	code
Advanced or mature age-related cataract, total cataract	other	code
Morgagnian age-related cataract	other	code
Calcified age-related cataract	other	code
Combined forms of age-related cataract	other	code

ICD-11 & SNOMED CT Harmonization

Concept Status: **current**

- Descriptions
 - Lang: en-US
 - F disorder of cardiovascular system (disorder)
 - P disorder of cardiovascular system
 - S disorder of circulatory system
 - S cardiovascular disease
 - S cardiovascular disorder
 - S disorder of the circulatory system
 - S CVS disease - cardiovascular system disease
 - S CVD - cardiovascular disease
 - S cardiovascular system disease
- Definition: Fully Defined as ...
 - is a
 - D cardiovascular finding
 - is a
 - D disorder of body system
 - finding site
 - D structure of cardiovascular system
- Qualifiers
 - severity
 - D severities
 - episodicity
 - D episodicities
 - clinical course
 - D courses
- Codes
 - Original SNOMED Id : D3-00000
 - Read Code (Ctv3Id) : XE0UX



- 1200 ICD-11 concepts added in SNOMED CT from the ICD-11 Mortality and Morbidity Linearization
- Editorial feedback on ICD-11 MMS
- Mapping methodology review

Issues when mapping SNOMED CT to ICD-11 MMS (or other ICD-11 Tabulations/Linearizations)

ICD-11 Coding Tool

heart disease

Related words...

Word list
sort: Relatedness/repetition

Destination Entities
sort: Matching score

Chapter distribution / filter

The results shown are incomplete

Word list items: syndrome, organic, valve, chronic, rheumatic, hypertensive, valvular, endocarditis, aortic, inactive, acute, hypertension, mitral, graft, failure, benign, malignant, congenital, renal, tricuspid, quiescent, congestive, pulmonary, maternal, newborn, affecting, fetus, senile, fever, arteriosclerotic

Destination Entities items: BC4Z Diseases of the myocardium or cardiac chambers, unspecified; cardiac disease NOS; 1A62.1 Cardiovascular late syphilis; Syphilitic heart disease; 5C31.3 Glycogen storage disease; glycogen heart disease; BA4Z Acute ischaemic heart disease, unspecified; BD10.Z Congestive heart failure, unspecified; Congestive heart disease; BA5Z Chronic ischaemic heart disease, unspecified; BB22 Constrictive pericarditis; Pick disease of heart; BC0Z Heart valve diseases, unspecified; LA8Z Structural developmental anomaly of heart and great vessels, unspecified; congenital heart disease; 1C1C.Y Other specified meningococcal disease; meningococcal heart disease; 5A02.Y Other specified thyrotoxicosis; Thyrotoxic heart disease; 5B5A.0Z Beriberi, unspecified; beriberi heart disease; BA01 Hypertensive heart disease; BA80.Z Coronary atherosclerosis, unspecified site; coronary heart disease; MG34.5 Fear of heart disease; 5C81.3Y Other specified organ-limited amyloidosis; amyloid heart disease; BA6Z Ischaemic heart diseases, unspecified

Chapter distribution / filter items: Circulatory system (32), Infections (7), Endocrine, nutritional, metabolic (4), Developmental anomalies (3), Symptoms, signs, findings... (1), Factors influencing health... (1)

● Heart diseases are found in different chapters:

- Circulatory
- Infectious
- Endocrine
- Developmental
-

Issues when mapping SNOMED CT to ICD-11 MMS (or other ICD-11 Tabulations/Linearizations)

Entity has a code

Shoreline



1C5C.11	http://id.who.int/icd/entity/1959883044
1C5D.13	http://id.who.int/icd/entity/685093552
1C5.1Y	http://id.who.int/icd/entity/1302232870
1C5.1Z	

grouped into a category;
has URI for recording, if desired

<http://id.who.int/icd/entity/1104303944>
<http://id.who.int/icd/entity/588527933>
<http://id.who.int/icd/entity/854762584>
<http://id.who.int/icd/entity/1543765035>
<http://id.who.int/icd/entity/682536148>
<http://id.who.int/icd/entity/307264938>
<http://id.who.int/icd/entity/961032639>
<http://id.who.int/icd/entity/1306878274>
<http://id.who.int/icd/entity/804089791>
<http://id.who.int/icd/entity/1040970454>
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<http://id.who.int/icd/entity/1736084843>
<http://id.who.int/icd/entity/1530937152>
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<http://id.who.int/icd/entity/1501615629>

<http://id.who.int/icd/entity/1935092859>
<http://id.who.int/icd/entity/1026551291>
<http://id.who.int/icd/entity/751399056>
<http://id.who.int/icd/entity/1563156715>
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<http://id.who.int/icd/entity/1127435854>
<http://id.who.int/icd/entity/223956768>
<http://id.who.int/icd/entity/1132542967>
<http://id.who.int/icd/entity/372424530>

- Mapping residual categories and entities that are below the shoreline

Mapping SNOMED-CT with ICD-11

ICD-11 Beta Draft (Foundation)

Search [Advanced Search]

Foundation Linearizations Contributions Info

ICD-11 Beta Draft

- Certain infectious or parasitic diseases
- Neoplasms
- Diseases of the blood or blood-forming organs
- Diseases of the immune system
- Endocrine, nutritional or metabolic diseases
- Mental, behavioural or neurodevelopmental disorders
- Sleep-wake disorders
- Diseases of the nervous system
- Diseases of the visual system
- Diseases of the ear or mastoid process
- Diseases of the circulatory system**
- Diseases of the respiratory system
- Diseases of the digestive system
- Diseases of the skin
- Diseases of the musculoskeletal system or connective tissue
- Diseases of the genitourinary system
- Conditions related to sexual health
- Pregnancy, childbirth or the puerperium
- Certain conditions originating in the perinatal period

Foundation Id : <http://id.who.int/icd/entity/426429380>

Diseases of the circulatory system

Description

This refers to diseases of the organ system that passes nutrients (such as all from cells in the body to help fight diseases, stabilize body temperature and

Synonyms

- circulatory disease NOS

Exclusions

- Certain infectious or parasitic diseases ⇒
- Certain conditions originating in the perinatal period ⇒
- Congenital malformations, deformations and chromosomal abnormality ⇒
- Complications of pregnancy, childbirth and the puerperium ⇒
- Injury, poisoning or certain other consequences of external causes ⇒
- Endocrine, nutritional or metabolic diseases ⇒

Social Participation Impact

- d9. CHAPTER 9 COMMUNITY, SOCIAL AND CIVIC LIFE

Concept Status: current

Descriptions

Lang: en-US

- disorder of cardiovascular system
- disorder of cardiovascular system
- disorder of circulatory system
- cardiovascular disease
- cardiovascular disorder
- disorder of the circulatory system
- CVS disease - cardiovascular system
- CVD - cardiovascular disease
- cardiovascular system disease

Definition: Fully Defined as ...

- is a
 - cardiovascular finding
- is a
 - disorder of body system
- finding site
 - structure of cardiovascular system

Qualifiers

- severity
 - severities
- episodicity
 - episodicities
- clinical course
 - courses

Codes

- Original SNOMED Id : D3-00000
- Read Code (Ctv3Id) : XE0UX

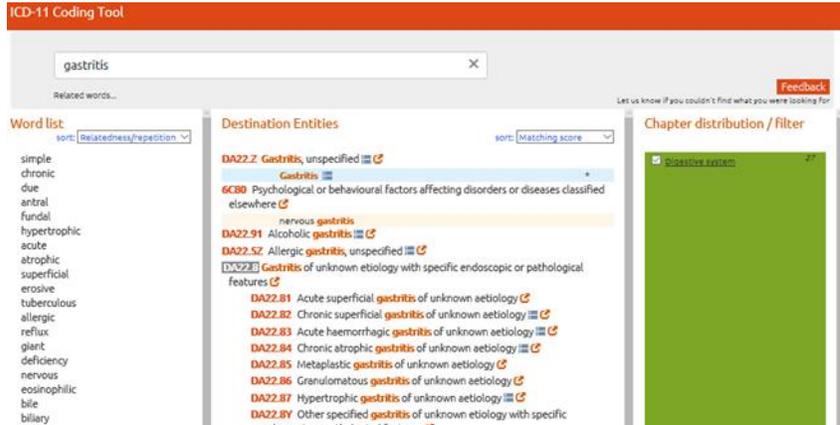
- Map SNOMED CT with ICD-11 Foundation Component. This will allow for:

- more stability
- increased detail
- better comparability

- All ICD-11 Foundation Component elements will be defined by “query expressions” against the Common Ontology

ICD-11 Tools

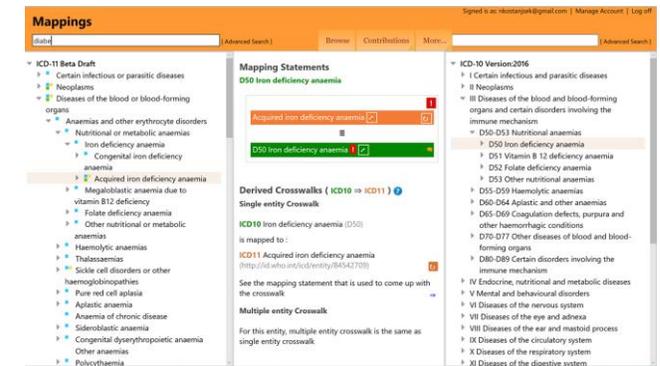
<http://apps.who.int/classifications/icd11/browse/f/en>



- **Coding tool** (multilingual)
 - Index based searching of classification
 - spelling-synonyms no problem
- **ICD-11 browser** (multilingual)
 - See foundation and tabular list (linearization) – grid view - postcoordination
 - Download versions
 - ‘frozen’ versions
 - See differences

- **Proposal and commenting tool**
 - Make suggestions and discuss them
 - Notifications
- **Review tool**
 - Peer review categories and definition

- **Testing tool** (multilingual)
 - Coding of diagnostic terms in ICD-11 and ICD-10
 - Test classification in multiple languages.
- **Translation tool**
 - Translate in your language
- **Mapping tool**
 - See mapping at detailed level – download maps
 - Comment mapping to and from ICD-10



Hosting arrangements for ICD Tools

- Cloud-based
 - more reliable
 - higher performance
- New web-domains
 - URIs:
 - [e.g.http://id.who.int/icd/entity/2016376826](http://id.who.int/icd/entity/2016376826)
 - URLs
 - www.icd.who.int
 - <https://icdaccessmanagement.who.int>
 - www.icf.who.int
 - www.ichi.who.int

User guidance for accurate coding in ICD-11

Example: searching for “breast cancer” in the ICD-11 Spanish Coding tool

ICD-11 Coding Tool

Search: cancer de mama ✕

Related words... Le

Word list
sort: Relatedness/repetition

- hereditario
- al
- temor
- ovario
- síndrome
- y
- primario
- insitu
- femenino
- la
- mujer

Destination Entities
sort: Matching score

- 2D1Z Neoplasias malignas de la mama, sin especificación
- cáncer de mama** *
- 2F05.Z Carcinoma in situ de la mama, sin especificación
- Cáncer insitu de mama
- 2D1Y Otras neoplasias malignas especificadas de la mama
- Cáncer de mama hereditario
- MK80.1 Temor al cáncer de mama femenino

The index term highlighted in blue and marked with a star is pointing to the most accurate code match

ICD-11 – ICD-10 Mapping tool

Signed in as: nkostenjsek@gmail.com | Manage Account | Log off

Mappings

diabe [Advanced Search] Browse Contributions More... [Advanced Search]

▼ ICD-11 Beta Draft

- ▶ Certain infectious or parasitic diseases
- ▶ Neoplasms
- ▼ Diseases of the blood or blood-forming organs
 - ▶ Anaemias and other erythrocyte disorders
 - ▼ Nutritional or metabolic anaemias
 - ▶ Iron deficiency anaemia
 - ▶ Congenital iron deficiency anaemia
 - ▶ Acquired iron deficiency anaemia
 - ▶ Megaloblastic anaemia due to vitamin B12 deficiency
 - ▶ Folate deficiency anaemia
 - ▶ Other nutritional or metabolic anaemias
 - ▶ Haemolytic anaemias
 - ▶ Thalassaemias
 - ▶ Sickle cell disorders or other haemoglobinopathies
 - ▶ Pure red cell aplasia
 - ▶ Aplastic anaemia
 - ▶ Anaemia of chronic disease
 - ▶ Sideroblastic anaemia
 - ▶ Congenital dyserythropoietic anaemia
 - ▶ Other anaemias
 - ▶ Polycythaemia

Mapping Statements

D50 Iron deficiency anaemia

Acquired iron deficiency anaemia ↗ ↻

D50 Iron deficiency anaemia ! ↗ ↻

Derived Crosswalks (ICD10 ⇒ ICD11) ?

Single entity Crosswalk

ICD10 Iron deficiency anaemia (D50)
is mapped to :

ICD11 Acquired iron deficiency anaemia
(<http://id.who.int/icd/entity/84542709>) ↻

See the mapping statement that is used to come up with the crosswalk →

Multiple entity Crosswalk

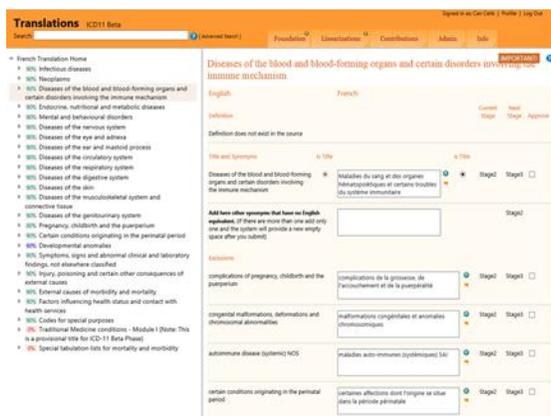
For this entity, multiple entity crosswalk is the same as single entity crosswalk

▼ ICD-10 Version:2016

- ▶ I Certain infectious and parasitic diseases
- ▶ II Neoplasms
- ▼ III Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism
 - ▼ D50-D53 Nutritional anaemias
 - ▶ D50 Iron deficiency anaemia
 - ▶ D51 Vitamin B 12 deficiency anaemia
 - ▶ D52 Folate deficiency anaemia
 - ▶ D53 Other nutritional anaemias
 - ▶ D55-D59 Haemolytic anaemias
 - ▶ D60-D64 Aplastic and other anaemias
 - ▶ D65-D69 Coagulation defects, purpura and other haemorrhagic conditions
 - ▶ D70-D77 Other diseases of blood and blood-forming organs
 - ▶ D80-D89 Certain disorders involving the immune mechanism
- ▶ IV Endocrine, nutritional and metabolic diseases
- ▶ V Mental and behavioural disorders
- ▶ VI Diseases of the nervous system
- ▶ VII Diseases of the eye and adnexa
- ▶ VIII Diseases of the ear and mastoid process
- ▶ IX Diseases of the circulatory system
- ▶ X Diseases of the respiratory system
- ▶ XI Diseases of the digestive system

ICD-11 Translation Platform

Web application for multilingual representations of ICD-11 content



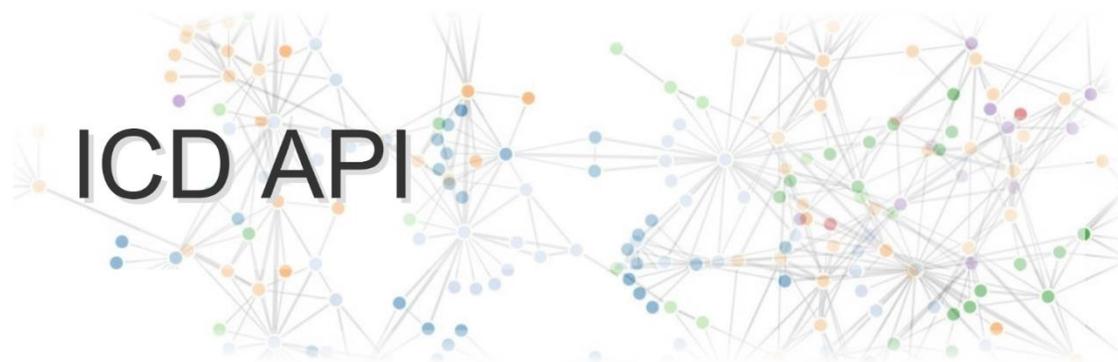
Platform features

- use of existing translations
 - through **translation memory**
 - currently ICD-10 translations in 7 languages are loaded into the memory
- flexible translation workflow
 - **multiple translator roles** and translation stages
 - 3 translator roles with different access rights
 - Higher level translators' work cannot be undone by lower level translators
- multiple translators can **work simultaneously**
- supports **commenting on the translations**
- Handles special requirements of terminology translations (does not force 1 to 1 translation).



ICD API (Application-Programming Interface)

<https://icdaccessmanagement.who.int>



ICD API allows programmatic access to the International Classification of Diseases (ICD). You may use this site to access up to date documentation on using the API as well as managing the keys needed for using the API.

Register for using the API

[Register](#) to get access to the APIs *(if you haven't registered already)*

[View API access key\(s\)](#) *(requires logging in)*

How to Use the APIs

[ICD REST API Documentation](#)

[ICD API Authentication](#)

ICD-11 Web Services



What is it?

- Web services are software components that can be accessed by other software
- They use the same architecture and protocols with the web.
- They allow software systems to access capabilities of other software

Benefits

- easier access and use of ICD with using appropriate software (simplification)
- effective response to ICD information needs from multiple stakeholders (customization)
- consistency of ICD multilingual versions in an electronic environment (automation)
- increase coverage and quality of ICD coding (implementation)
- automation of ICD updates

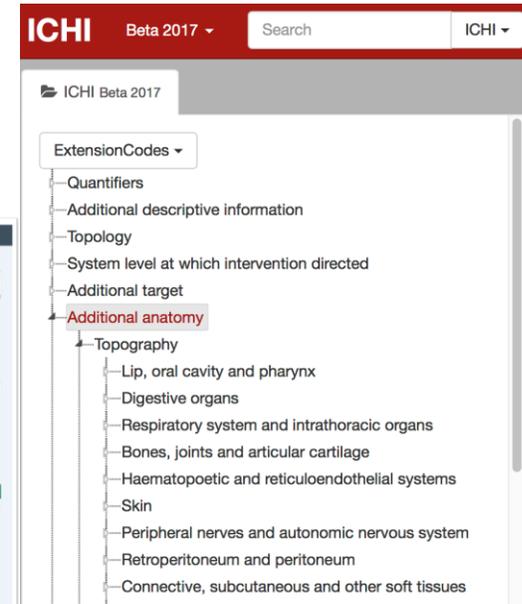
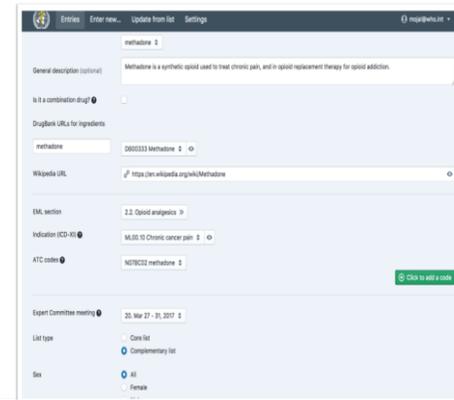
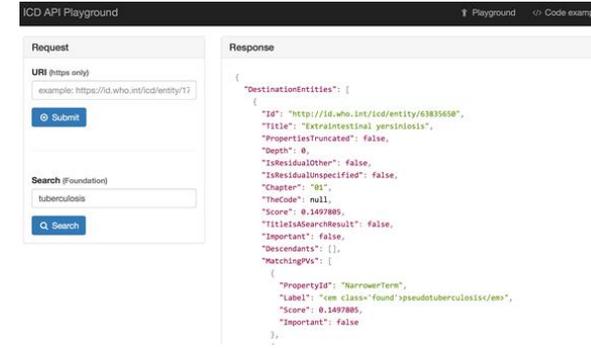
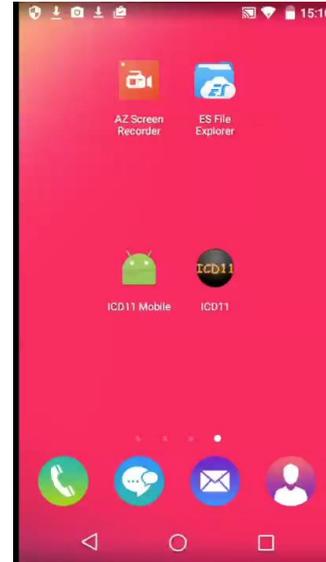
Web service



Web site

Examples of ICD-11 API use (Proof-of-concept)

- ICD-11 on the Go
 - Mobile browser with voice recognition
- ICD API playground
 - dynamic web page to query ICD-11URIs
- ICHI Browser
 - Extension codes: *Additional anatomy* and *Medicaments* directly pulled from ICD-11 MMS through API
- WHO electronic List of Essential Medicines
 - Browsing and searching Essential Medicines by Indication (ICD-11 category)



ICD-11 Field Testing components & scope



- **Generic LINE coding (morbidity) of 298 diagnostic terms** which represent 47 of ICD-11 MMS priority areas.
- **Generic CASE coding (morbidity) of 30 case scenarios** which had the main condition as well as other condition(s) listed.
- **Specialty specific LINE and CASE coding (morbidity)** e.g. Dermatology, Quality and Safety, Traditional Medicine, International Association for the Study of Pain, German Medical Societies etc.
- **Mortality LINE (200 CoD terms) and MULTIPLE CAUSE (58 Death Certificates) coding**

Go back

Case

Study

Study - ICD-11 MMS generic LINE Coding Testing 2017 (Morbidity)
Protocol for generic testing 2017 (morbidity line coding) of ICD-11 MMS

Number
218

Case Summary
Acute renal failure

ICD-11 Codes Assignment Form ⚙ Coding Tool

ICD-11 code(s) you would assign to this diagnosis

1st code field
ICD-11 code
An ICD-11 code is required

2nd code field
ICD-11 code

3rd code field
ICD-11 code

4th code field
ICD-11 code

Did you experience any difficulty in assigning a code(s) to this case?
 Yes No

If Yes, please specify difficulty.

Is the level of specificity of the assigned code(s) appropriate?

Did you experience any ambiguity in making the code(s) assignment?

ICD-10 Codes Assignment Form ⚙ ICD-10 Browser

ICD-10 code(s) you would assign to this diagnosis

1st code field
ICD-10 code
An ICD-10 code is required

2nd code field
ICD-10 code

3rd code field
ICD-10 code

4th code field
ICD-10 code

Did you experience any difficulty in assigning a code(s) to this case?
 Yes No

If Yes, please specify difficulty.

Is the level of specificity of the assigned code(s) appropriate?

Did you experience any ambiguity in making the code(s) assignment?

Next

Field testing with ICD

ICDfit interface for Generic LINE coding (morbidity)

- Each diagnostic term is **coded** by raters in **ICD-11 and ICD-10**.
- Following the code assignment, raters are asked to **report on**:
 - difficulties encountered
 - assess the level of coding granularity
 - problems with ambiguity
- Coding time is taken automatically
- Implementation: **28 countries, 62.873 code assignments** made by **630 raters**

Examples of Dx terms used in testing: Incarcerated ventral hernia, Perforated appendicitis, Transmural necrosis of portion of small bowel, Rheumatoid arthritis with anemia of chronic disease, Posttraumatic osteoarthritis right knee, Methicillin-Resistant Staphylococcus Aureus (MRSA) Septicemia, Severe anaphylaxis to hornet sting, Type 2 diabetes mellitus with diabetic foot, Frontotemporal dementia



FTC

All FTCs

FTS

All FTSs

Chapter

01 Infectious Diseases [15 entities]

Case

Sepsis due to Escherichia coli (E. coli)

Summary

raters	cases	assignments	done	waiting
542	1	548	393	155

No distances data!

ICD-11 list

#	code
358	1B40
14	KA40.4
3	1B70
2	1B48
2	1H2Z
1	1B40 Sepsis due to Escherichia coli

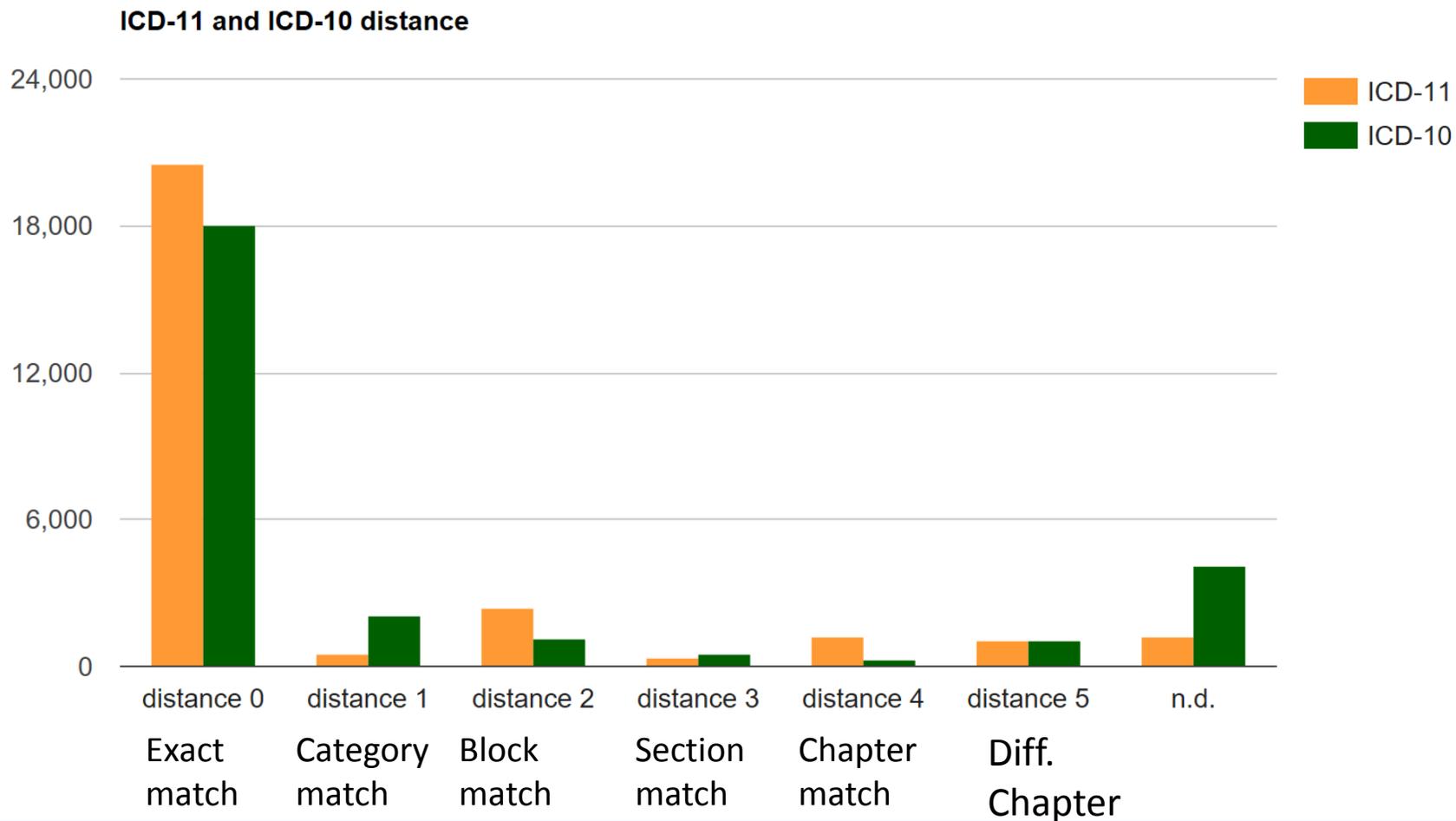
ICD-10 list

#	code
190	A41.5
52	A415
48	P36.4
30	A41.8
12	A418
10	A41.4

Example of ICD-11 coding distance measure for Diagnostic term: “Clostridium difficile diarrhea”

Distance	Match type	Gold standard Code in ICD-11	Actual code assignment in ICD-11 (n=286)	Actual code assignment - ICD-11 Title
0	Exact match	1A04	1A04 (85% of coders)	Enterocolitis due to Clostridium difficile
1	Category match (i.e. Sibling/Residual/Parent match)	1A04	1A0Y (3% of coders)	Other specified bacterial intestinal infections
2	Block match	1A04	1A1Y (2% of coders)	Other specified bacterial foodborne intoxications
3	Section match	1A04	1A6Y (0.7% of coders)	Other specified protozoal intestinal infections
4	Chapter match	1A04	--	--
5	Different Chapter	1A04	MF21 (2% of coders)	Diarrhoea

Distance between actual & gold standard code assignment (Distance calculator for ICD coding)



Follow-up action on issues identified in testing

● Classification issues

- *Right breast angioliopoma*: added missing PostC for anatomy and laterality & code for Breast NOS missing
- *End stage renal failure* added as index term under *GC41.5 Chronic kidney disease, stage 5*

● Tooling issues

- Post-coordination combinations are automatically indexed the following axes
 - Laterality
 - Course (acute /chronic)
 - Specific anatomy

● Coder issues: awareness & adherence

1250 Type 2 diabetes mellitus with diabetic foot

223	5A11	82	36.77%
	5A11/BC14	48	21.52%
	BC14	30	13.45%
	BC14/5A11	19	8.52%
	5A14	4	1.79%
	5A11 / BC14	3	1.35%
	Other	37	16.59%

ICD-11 field implementation assessment tool (ICDfit)



Purpose

- WHO & Member States can check translation and data quality
- ICD coders can test their accuracy in coding with ICD-11

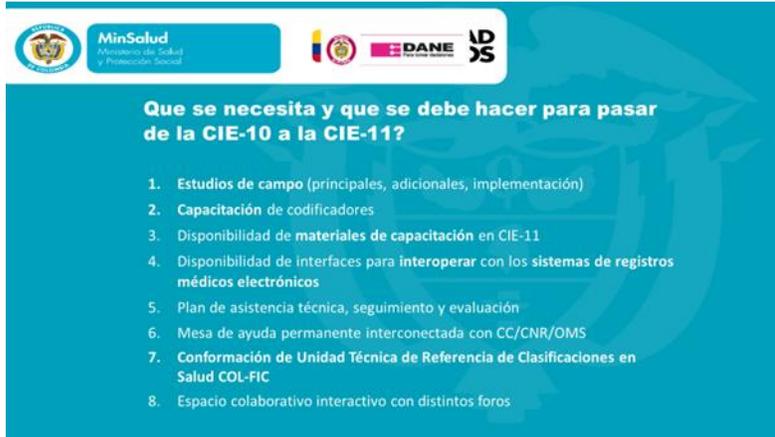
Modules (i.e. set of terms/cases)

- Pre-existing modules:
 - international morbidity module
 - international mortality module
 - custom clinical speciality modules
- Locally defined modules
 - Direct terms-set imported into a module

Analytics

- WHO can assess coding quality and improve classification & tooling
- Coders will get summary score indicating their coding accuracy & timing
- Coders can compare their results with their peers

Regional consultations on ICD-11 testing and transition preparation

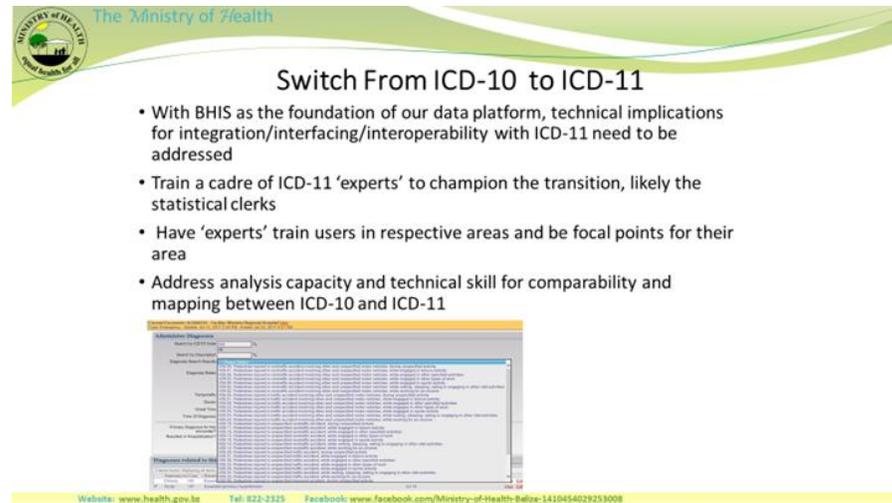


MinSalud
Ministerio de Salud y Protección Social

DANE
Departamento Administrativo Nacional de Estadística

Que se necesita y que se debe hacer para pasar de la CIE-10 a la CIE-11?

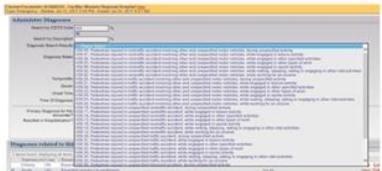
1. Estudios de campo (principales, adicionales, implementación)
2. Capacitación de codificadores
3. Disponibilidad de materiales de capacitación en CIE-11
4. Disponibilidad de interfaces para interoperar con los sistemas de registros médicos electrónicos
5. Plan de asistencia técnica, seguimiento y evaluación
6. Mesa de ayuda permanente interconectada con CC/CNR/OMS
7. Conformación de Unidad Técnica de Referencia de Clasificaciones en Salud COL-FIC
8. Espacio colaborativo interactivo con distintos foros



The Ministry of Health

Switch From ICD-10 to ICD-11

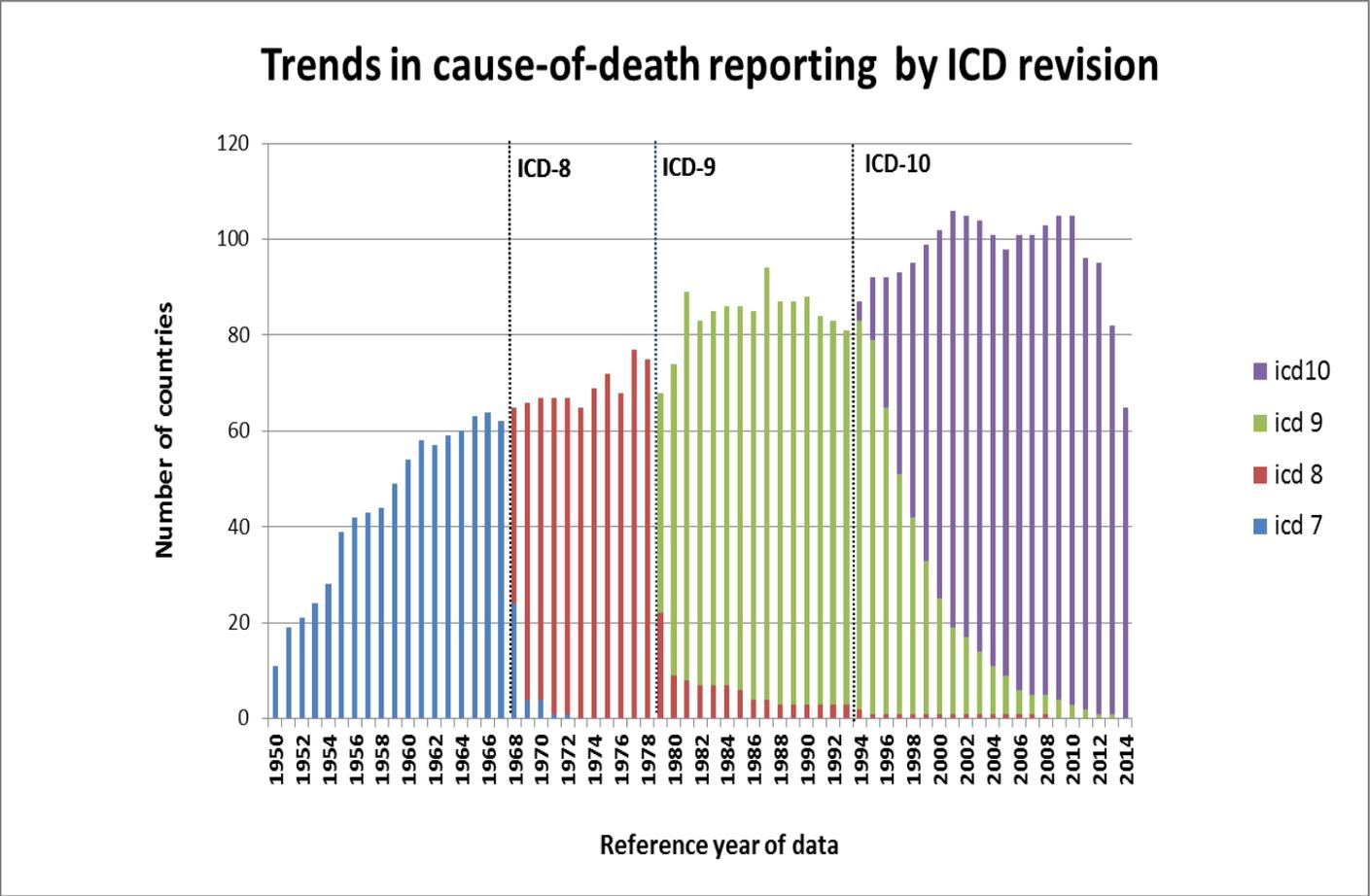
- With BHIS as the foundation of our data platform, technical implications for integration/interfacing/interoperability with ICD-11 need to be addressed
- Train a cadre of ICD-11 'experts' to champion the transition, likely the statistical clerks
- Have 'experts' train users in respective areas and be focal points for their area
- Address analysis capacity and technical skill for comparability and mapping between ICD-10 and ICD-11



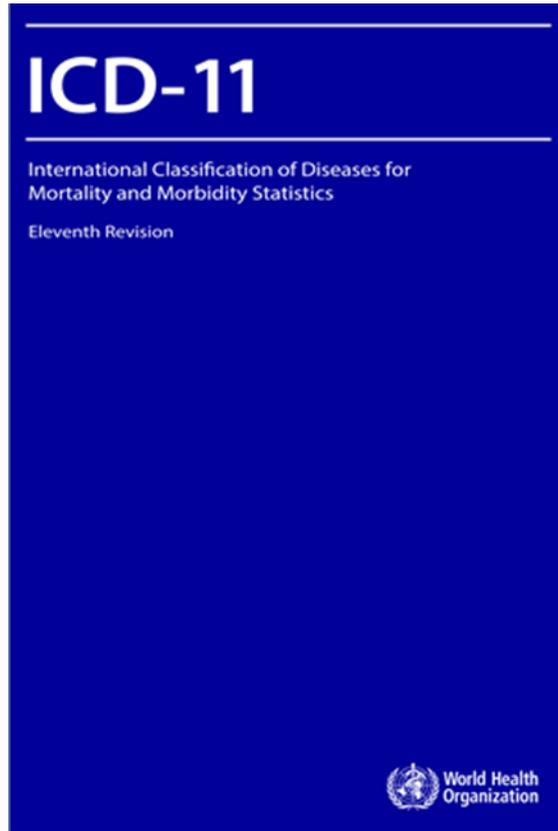
Website: www.health.gov.lk | Tel: 822-2323 | Facebook: www.facebook.com/Ministry-of-Health-Sri-Lanka-1410454629253008

- AMRO/PAHO (Sep 2017)
- EMRO (Aug/Nov 2017)
- EURO (through WHO-FIC CCs in 2017)
- SEARO & WPRO (through WHO-FIC Asia-Pacific Network in 2017)
- AFRO (upcoming)

ICD Transitions

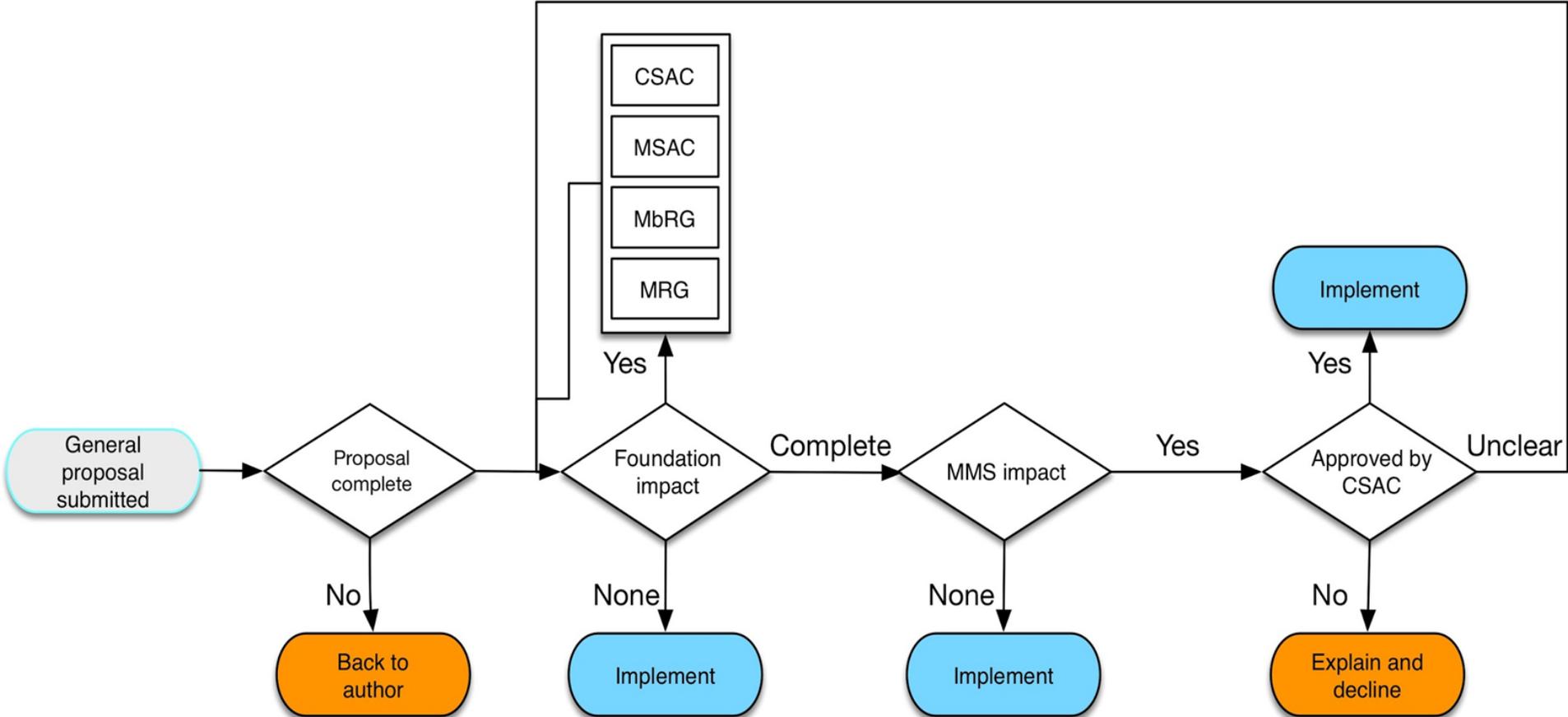


ICD-11 implementation package



- Advocacy materials
- Training materials
- Transition tables (Maps from and to ICD-10)
- Translation tooling
- ICD-11 field implementation assessment tool (ICDfit)
- Transition Guide
- Maintenance arrangements
- Web Services

ICD - Maintenance



ICD Revision Process Status & way forward



2016-17

- Launch of the **ICD-11 2016 version for Member State comment** @ ICD Revision Conference, October 2016 Tokyo, Japan
- **Field testing** in various settings
- **Technical work and tools** continuing

2018-2021

- **Release of the ICD-11 version for implementation** (June 2018);
- **Member States** initiate development of **transition plans**
- **ICD-11 resolution at WHO Executive Board & World Health Assembly 2019**

2022+

- Routine update and maintenance

Thank you

