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International Classification of Diseases 11th Revision

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International Classification of Diseases (ICD)

Health information for 150 years - comparable statistics - interoperability 11 Revisions (last adopted by World Health Assembly in 2019) 70% of the world's health expenditure allocated – 150 countries 60% of the world's deaths reported - 112 countries Tens of thousands publications relate to ICD Guidelines are integrated with ICD (e.g. mental health) ICD-10 translated into 42 languages



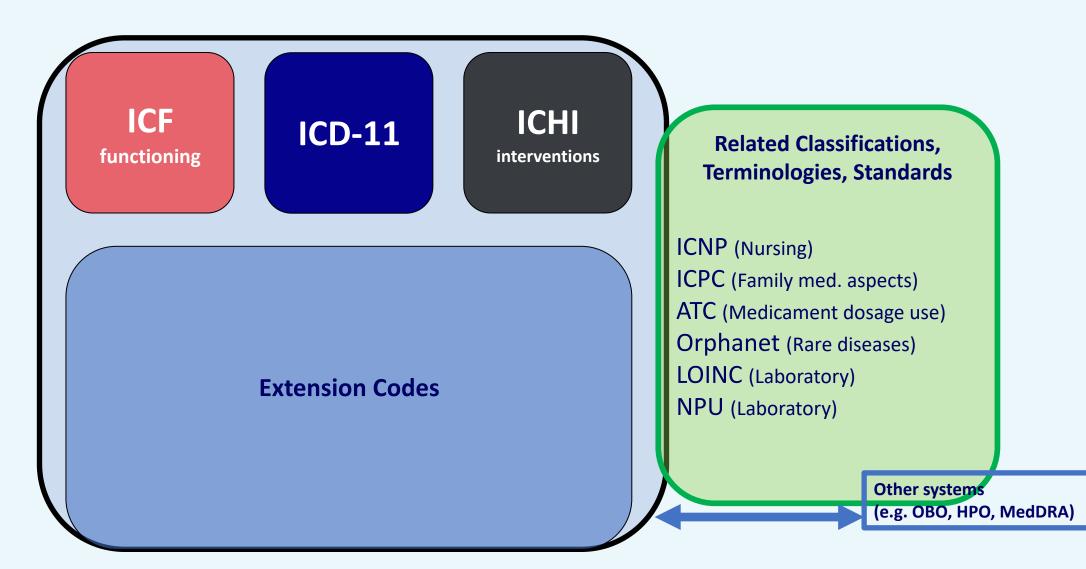
ICD-11 --- Innovation

- Legally mandated health data standard* from January 22
- Internationally agreed data aggregation for health
- Lossless clinical documentation (code all the detail you want)
- Integration of terminology and classification
- Links to other terminologies for other uses
- Integration of WHO terminologies
- Comparable multilingual data collection
- End-to-end digital solution
- Up-to-date scientific knowledge

*WHO Nomenclature Regulations 1967, WHO constitution, World Health Assembly (WHA 72 2019)



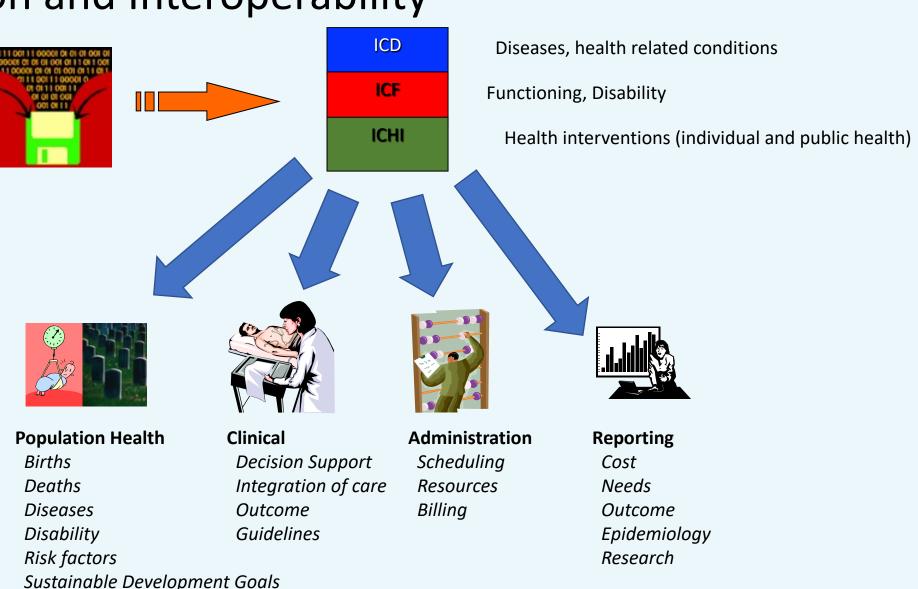
The WHO Family of International Classifications (WHO-FIC)



World Health Organization

WHO-FIC Information and Interoperability

Health Records Surveillance Death certificates





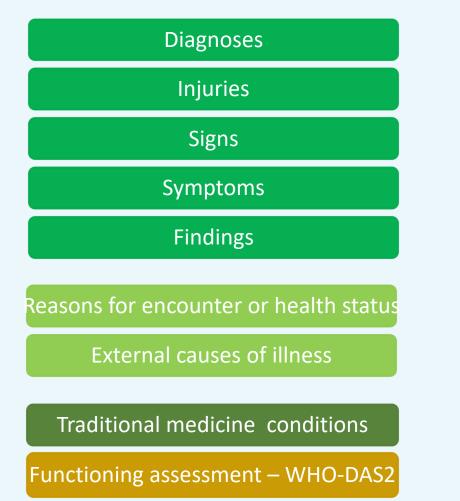
ICD-11 Designed for multiple Uses





ICD-11 – more than diagnoses

Traditional Classes and Terminology



Extension codes - Terminology

Anatomy

Laterality

Infectious agents and AMR

Histopathology (ICD-O)

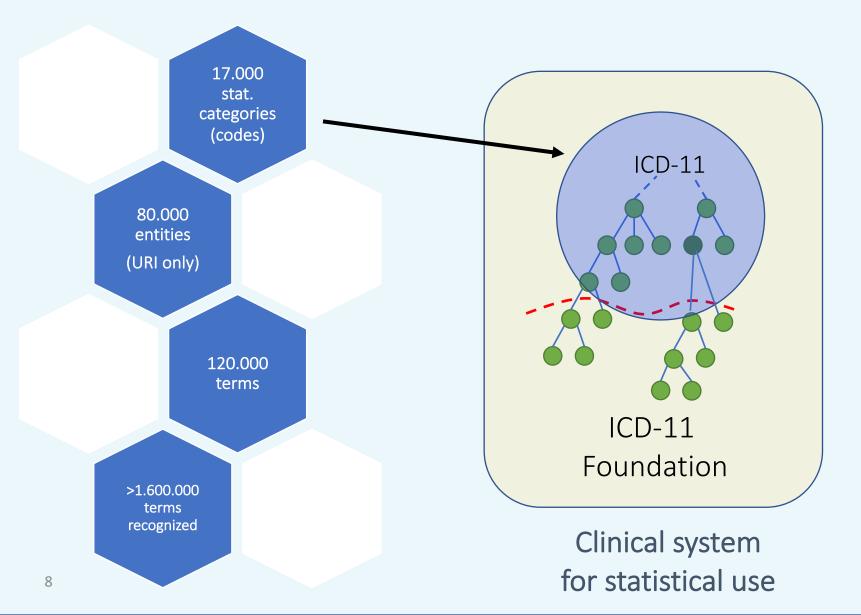
Chemicals and Medicaments (INN)

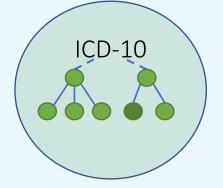
Devices

Mechanisms of harm (Safety) Activities Places

Objects

ICD-11 – more relevant detail





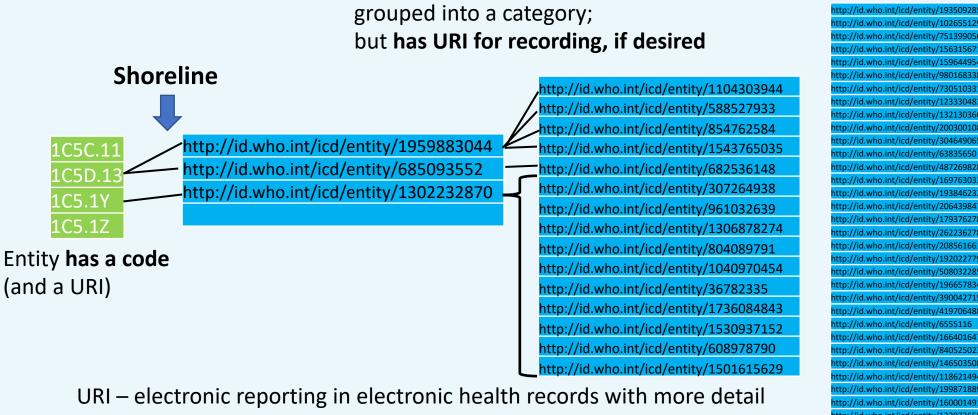
World Health Organization

14000 categories Separate text index Separate rule base Need terminology link Outdated content Statistical system used in clinical setting



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$URI_{-uniform\ resource\ identifier\ of\ any\ entity\ in\ ICD-11}$

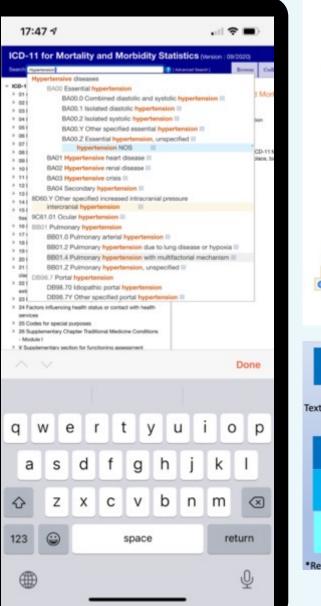


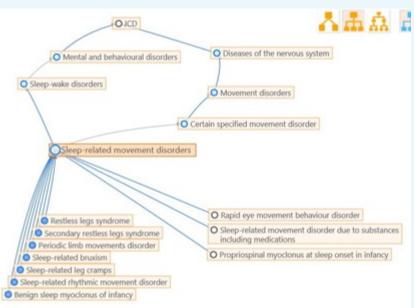
than with categories (80000 URI's, 120000 terms - index)

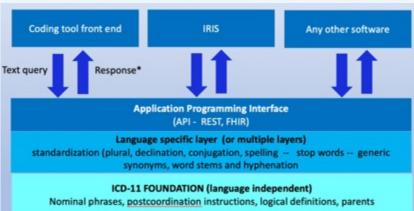
Title & Definition Classification Properties Post-coordination Logical Definitions Terms **Clinical Description Manifestation Properties Causal Properties Temporal Properties Severity Properties Functioning Properties ICD-10 Notes and Hints** Specific Condition Properties **Diagnostic Criteria ICD-10** Linearizations Treatment



ICD-11 Truly Digital







*Response: preferred term, URIs, code or sequence of codes.... Depending on configuration

Modern ontology

Fully digital

Application Programming Interface

Software applications on all devices and OS

Portable: offline & online



Postcoordination ?

Add detail to Malignant neoplasms of nasal cavity

Specific anatomy (use additional code, if desired)

XA43C9	Nasal cavity
XA53X2	Nasal vestibule
XA8D47	Nasal septum
XA8817	Nasal turbinate
XA7WQ4	Nasal cartilage
XA4CN5	Nasal mucosa
XA6YH7	Connective, subcutaneous and other soft tissues of nasal cavity
XA3HQ4	nasal arch vein
XA1B05	Nostril
XA4S17	Columella
XA9YZ7	Sill of nostril

Histopathology (use additional code, if desired)

Search





ICD-11 Simple Use

Type a diagnostic statement into the Coding Tool

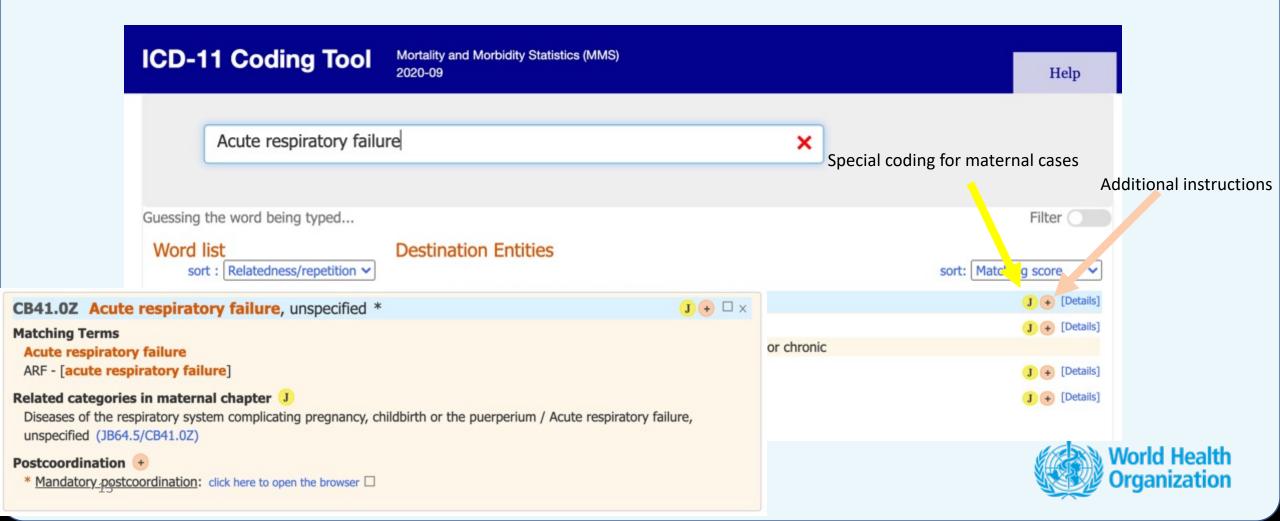
e.g. cancer of stomach

· · · · · · · · · · · · · · · · · · ·					
cancer of stomach		×			
lated words				Fi	ilter 🔿
Vord list sort : Relatedness/repetition 😋	Destinatio	on Entities	sort:	Matching score	0
gestive	2B72.Z	Malignant neoplasms of stomach, unspecified *		•	[Details]
gans	2B71.Z	Malignant neoplasms of oesophagogastric junction, unspecifie	d	۲	[Details
eins	2B72.Y	Other specified malignant neoplasms of stomach		۲	[Details
etastasis	2B72.1	Malignant neuroendocrine neoplasm of stomach		۲	[Details
sophagogastric	2D8Y	Malignant neoplasm metastasis in other specified digestive sys	stem or	gan 🔶	[Details]

The Coding Tool will find the best match

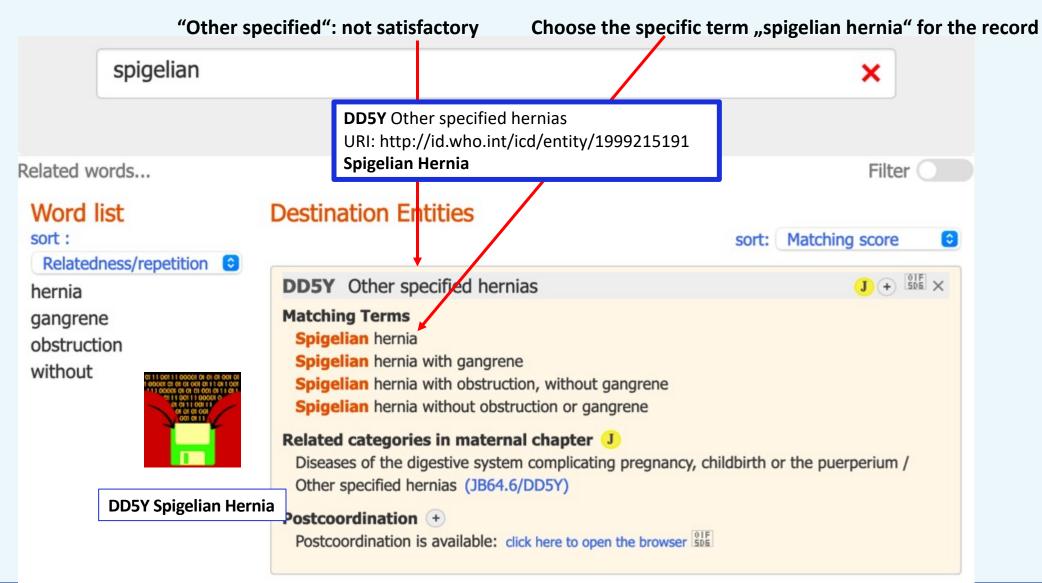


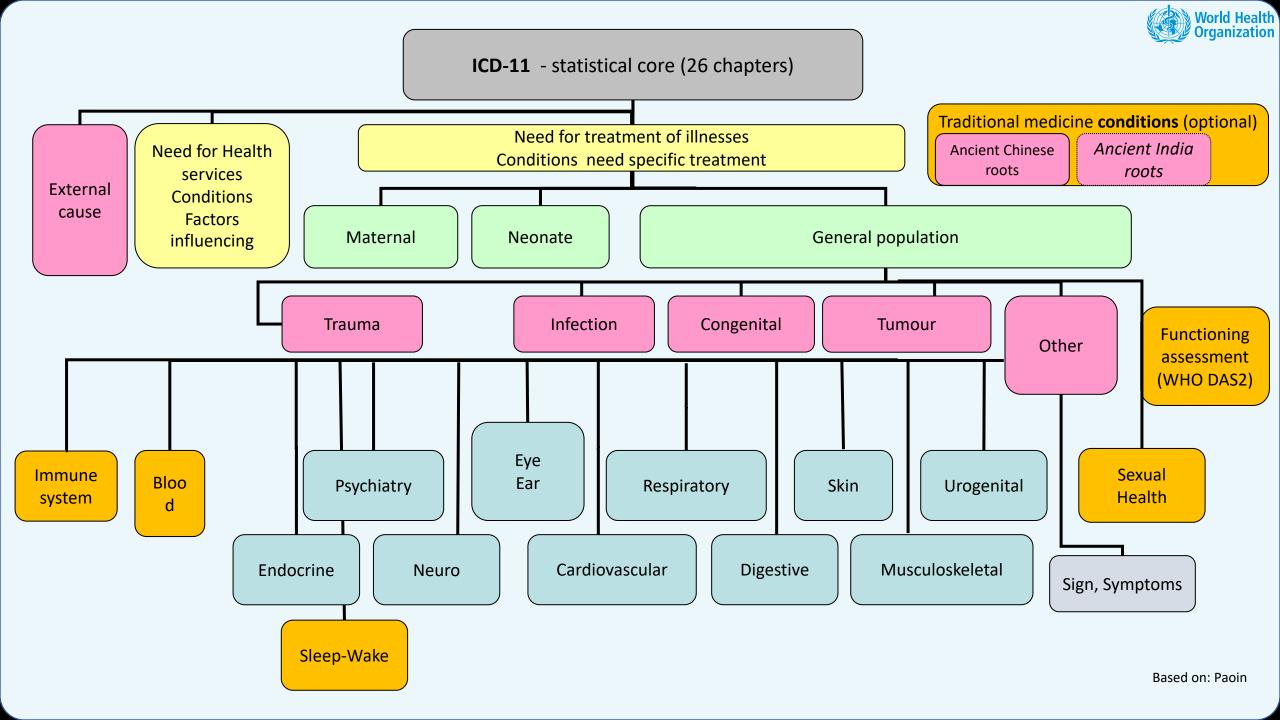
Effortless get additional information





ICD-11 keeping clinical detail







ICD-11 Coding scheme

Arabic numbers (not roman numerals)	1 - X	
The coding scheme for categories:		
 Minimum 4 characters 	1A00	
 2 levels of subcategories 	1A36.00	
Coding scheme		
always letter in second position (distinction cod	es of ICD-10)	
 No letter O: avoid confusion with number "zero" 	"	
 Only capital L: avoid confusion with number "on 	ne"	
 First character relates to the chapter number (1 	-X)	
 Residual « other » and «unspecified» code end 	with «X» and «Z» respective	ly
Special coding scheme for blocks:		
«Level of Block» + «code of first category»: e.g		



Chapter 01 – Certain infectious diseases

Allow reporting of main infection syndromes without mention of a specific agent or when public health concern

Influenza, moved into Chapter 1

Prion diseases moved into Nervous system.

Antimicrobial resistance (GLASS*) is found in Ch. 21 but is to be used in combination with the infectious disease.

HIV Stages

New definition of Sepsis

*Global Antimicrobial Resistance Surveillance System



Coding options for tuberculosis

- 1B10 Tuberculosis of the respiratory system
- 1B11 Tuberculosis of the nervous system
- 1B12 Tuberculosis of other systems and organs
- 1B13 Miliary tuberculosis
- 1B14 Latent tuberculosis
- 1B1Y Other specified tuberculosis
- 1B1Z Tuberculosis, unspecified

Add detail to Tuberculosis of the respiratory system

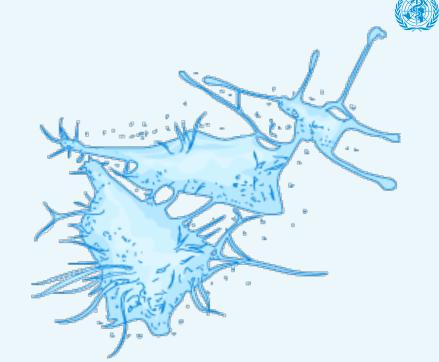
- MG52.0 Antibiotic resistant Mycobacterium
 - MG52.00 Multi-drug resistant Mycobacterium tuberculosis
 - MG52.01 Antibiotic resistant non-tuberculous Mycobacterium
 - MG52.02 Extensively drug-resistant mycobacterium tuberculosis
 - MG52.0Y Other specified antibiotic resistant Mycobacterium
 - MG52.0Z Antibiotic resistant Mycobacterium, unspecified

Chapter 02 – Neoplasms

Histopathology has been added

Basalioma

Subtypes of Melanoma



The concepts of unknown and uncertain behavior have been split into two unique categories

Chapter 02 – Neoplasms

Generally, the hierarchy :

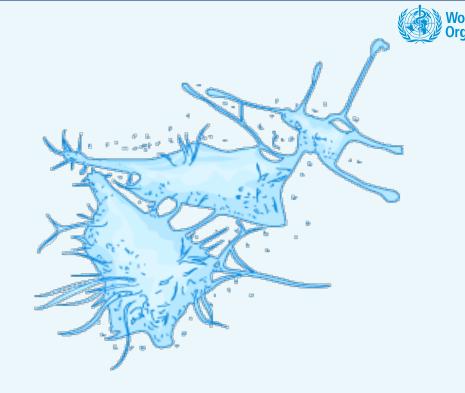
Behaviour;

Broad sites or systems;

the specific site or morphological (histology) type

Three exceptions to this hierarchy:

- 1. Neoplasms of brain and central nervous system 1st level is broad sites
- 2. Neoplasms of haematopoietic and lymphoid tissues where 1st level is broad morphological (histology) type
- Malignant mesenchymal neoplasms where 1st level is specific morphological (histology) type





Chapter 04 – Diseases of the immune system

This new chapter (previously part of Chapter III in ICD-10) has the following sections:

Immunodeficiencies

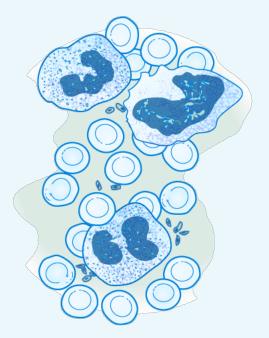
Non-organ specific systemic disorders (NOSSAD)

Autoinflammatory disorders

Allergic or hypersensitivity conditions (+anaphylaxis)

Certain diseases involving the immune system

Diseases of thymus





Chapter 06 – Mental, behavioural or neurodevelopmental disorders

New structures

- Alignment with DSM V
- Gaming disorder

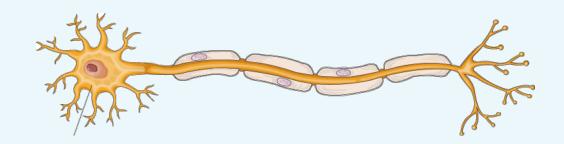
Gender incongruence moved into chapter 17





Chapter 08 – Diseases of the nervous system

More clinical restructuring More clinical detail Received prion disease Received cerebrovascular diseases





Coding options for "stroke"

8B11.0 Cerebral ischaemic stroke due to extracranial large artery atherosclerosis

- 8B11.1 Cerebral ischaemic stroke due to intracranial large artery atherosclerosis
- 8B11.2 Cerebral ischaemic stroke due to embolic occlusion

8B11.20 Cerebral ischaemic stroke due to cardiac embolism

Laterality (use additional code, if desired)

- XK9J Bilateral
- XK8G Left
- XK9K Right
- XK70 Unilateral, unspecified

Specific anatomy (use additional code, if desired)

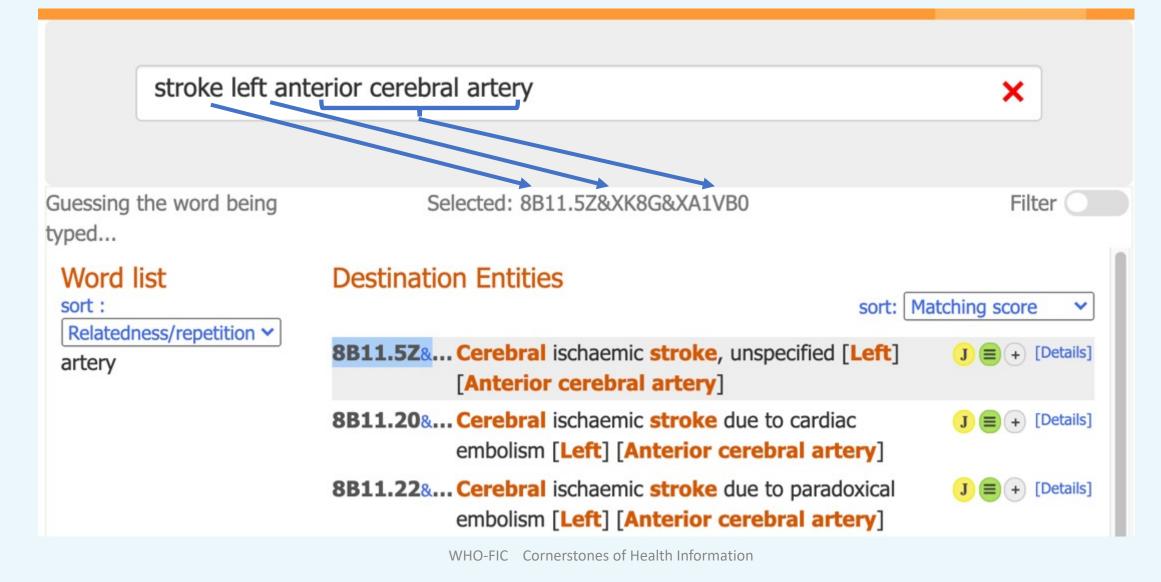
- XA13S2 Cerebral artery
- XA1VB0 Anterior cerebral artery
- XA2K99 Basilar artery
- XA3185 Pontine branches of the basilar artery
- ...

Has manifestation (use additional code, if desired)

• ...



Use the coding tool



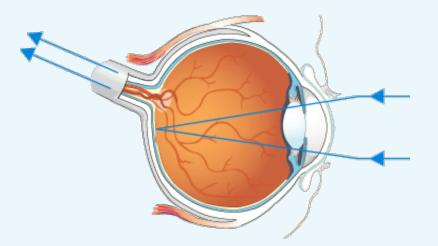


09 – Diseases of the visual system

More clinical detail

Reorganized

Added findings, injuries and tumours in other chapters





Chapter 11 - Diseases of the circulatory system

Heart valve disease no longer dominated by rheumatic fever (now: valvevitium-etiology)

New distinct higher level categories

Diseases of the myocardium, including extensive subsections on Myocarditis and Cardiomyopathy. Cardiac arrhythmia, including a large new subsection on 'Cardiac arrhythmia associated with genetic disorder' and 'Pacemaker or implantable cardioverter or defibrillator or lead dysfunction' New subsection on Pulmonary Hypertension in the Pulmonary heart disease and diseases of pulmonary circulation section Myocardial infarction: STEMI --- Non-STEMI

Severity: e.g. Peripheral Artery Disease: Rutherford or Fontaine

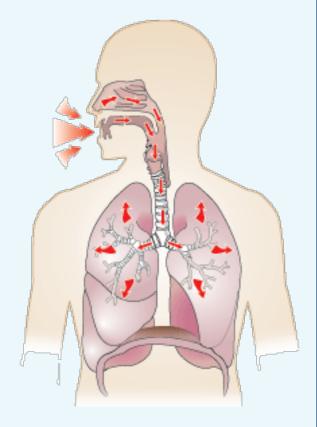


Chapter 12 – Diseases of the respiratory system

Specific Infectious lung diseases have been moved to Chapter 01 to better reflect the infectious nature of these conditions.

Developmental respiratory diseases are now located in Chapter 20 Developmental anomalies.

Cystic fibrosis has been moved to Certain lower respiratory tract diseases and multi- parented to metabolic disorders in the Endocrine chapter

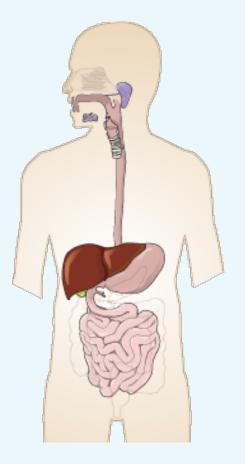




Chapter 13 – Diseases of the digestive system

More detailed anatomical groups - rostral-caudal order More recent clinical detail

Important digestive diseases have been allocated their own category (e.g. gastro-oesophageal reflux disease)



World Health Organization

Chapter 14 – Diseases of the skin

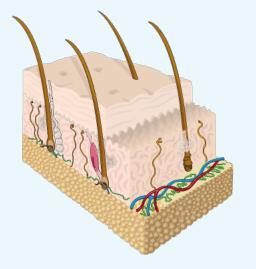
The general hierarchy of Chapter 14 consists of the following:

1st level Broad category of disease/disorder type

2nd level - Specific disease/disorder type with some anatomical site

3rd level - - Further specificity of disease/disorder type

Major changes have been made to this chapter adding detail coming from the fusion of the American, British and German dermatological terminologies (last update was made in 1948)

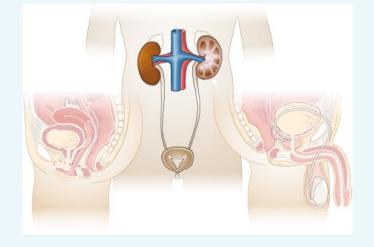




Chapter 16 – Diseases of the genitourinary system

To reflect the current scientific understanding for certain genitourinary conditions, additional detail has been included for the following areas:

Amenorrhea Ovarian dysfunction Female pelvic pain Endometriosis Adenomyosis Female infertility Male infertility Early pregnancy loss Pregnancy outcomes



The Kidney failure section of the classification has been revised (KDIGO)



Chapter 17 – Conditions related to sexual health

New chapter in ICD-11 divided into major sections for:

- Sexual dysfunctions
- Sexual pain disorders
- Gender incongruence

The general hierarchy consists of: 1st level broad category of condition 2nd level - specific type of condition 3rd level - - specific disease/disorder



Chapter 18 – Pregnancy, childbirth or the puerperium

Additional specifications have been included for "Early pregnancy loss". A new section Obstetric haemorrhage has been added to enable all types of haemorrhage to be grouped together





Chapter 20 – Developmental anomalies

Chapter 20 has undergone a major restructure with it now having four major sections

- Structural developmental anomalies primarily affecting one body system
- 2. Multiple developmental anomalies or syndromes
- 3. Chromosomal anomalies, excluding gene mutations
- 4. Conditions with disorders of intellectual development as a relevant clinical feature





Chapter 23 – External causes of morbidity or mortality

Removed detail (not usually reported)

Can be added with code combination with extension codes

Aligned detail between "intents"

Land transport accidents high level now traffic – nontraffic

Causes of healthcare related harm

Completely overhauled for modern reporting of harm or near failure





Code complications

- PL11 Mode of injury or harm associated with a surgical or other medical procedure
- PL12 Mode of injury or harm associated with a surgical or other medical device, implant or graft
- PL13 Mode of injury or harm associated with exposure to a drug, medicament or biological substance
- XE7JV Osseointegration problem
 - XE94Z Failure to osseointegrate
 - XE0Z9 Loss of osseointegration
 - **XE2K9** Loosening of implant not related to bone-ingrowth
- XEOVD Migration or expulsion of device
- XE7Q8 Manufacturing, packaging or shipping problem

- PK99 Orthopaedic devices, implants or grafts associated with injury or harm
 - **PK99.0** Orthopaedic devices associated with injury or harm, diagnostic or monitoring devices
 - **PK99.1** Orthopaedic devices associated with injury or harm, therapeutic, nonsurgical or rehabilitative devices
 - **PK99.2** Orthopaedic devices associated with injury or harm, prosthetic or other implants, materials or accessory devices



Changes with impact – at code or grouping level

Disease group		
Influenza	=>	Infectious diseases
Specified meningitis	=>	Infectious diseases
Specified pneumonia	=>	Infectious diseases
Acute rheumatic fever	=>	Infectious diseases
Cerebrovascular diseases	=>	Nervous system
Several chapters' signs and symptoms (e.g. pain in joint, cardiac arrest, hemiplegia)	=>	Signs and symptoms
Brain tumours and tumours of the haematopoetic system		Reporting all, not just malignant ones



No change compared to ICD-10

Conditions included in following chapters have not been subjected to moved:

- Maternal
- Perinatal
- Injury
- Tumour

Mortality coding rules have kept their intent



A Patient's Path



Person worried, feels increasingly sick; some infection is circulating

ICD-11 Code the worry of the patient

Data inform planning of prevention

Practitioner identifies febrile viral infection

ICD-11 Code reason for encounter - infection

Data inform resource planning and epidemiology

Severity increases and referral to secondary care, intensive care, COVID-19 identified

ICD-11	Code reason for stay – COVID-19
ІСНІ	Code therapies

Data inform resource planning, DRG, service availability and epidemiology

Family members are checked for contagion

ICD-11	COVID-19 excluded
ІСНІ	Code diagnostic test

Data inform epidemiology, coding, service availability



A near incident occurs at the intensive care unit (failure infusion pump)

ICD-11 Code failure pump, no harm to patient

Data inform patient safety and quality monitoring, device safety monitoring, costing

Recovery requires physiotherapy

ICD-11	Code and assess functioning score		
ICF	Code specific functioning	Data inform costing, DRG, service availability, resource planning, impact of services	
ICHI	Code physiotherapy		

Fitness has improved and the person is back to work



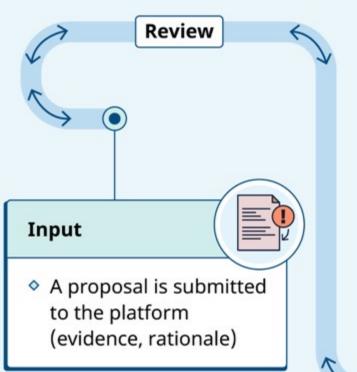
Participation

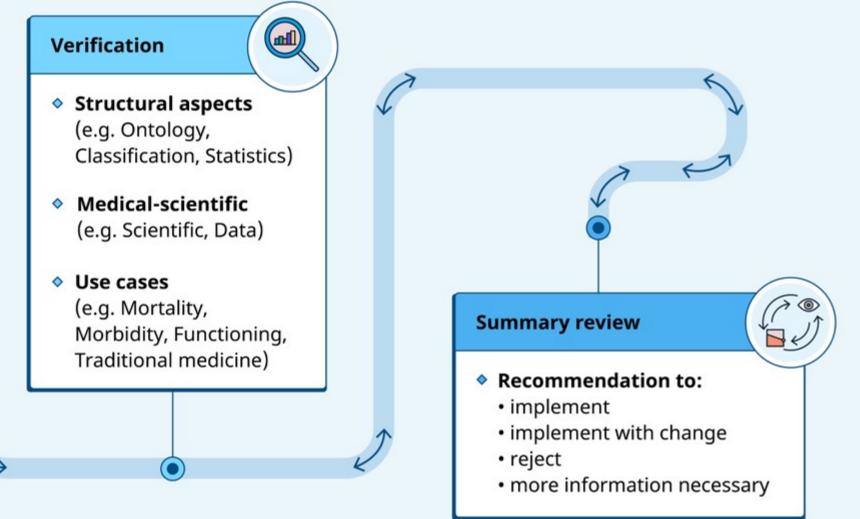
ICD empowers patients, care workers, clinicians, public health

to participate in the design of the system

that improves care and improves use of resources.

ICD-11 maintenance is a transparent public process







Mandatory coding

The use of combination codes you use depends on your national setting and legislation

Mandatory use are chapters 1-25; minimum detail 4-character categories

Optional use

- Traditional medicine
- Functioning assessment
- Extension codes

Mandatory rules for coding are specified in the reference guide (online)

Suggestions for improvement: Proposal mechanism

Questions: icd@who.int



Terms

ICD is a Global Good, by WHO for Countries ICD is a legally mandated standard

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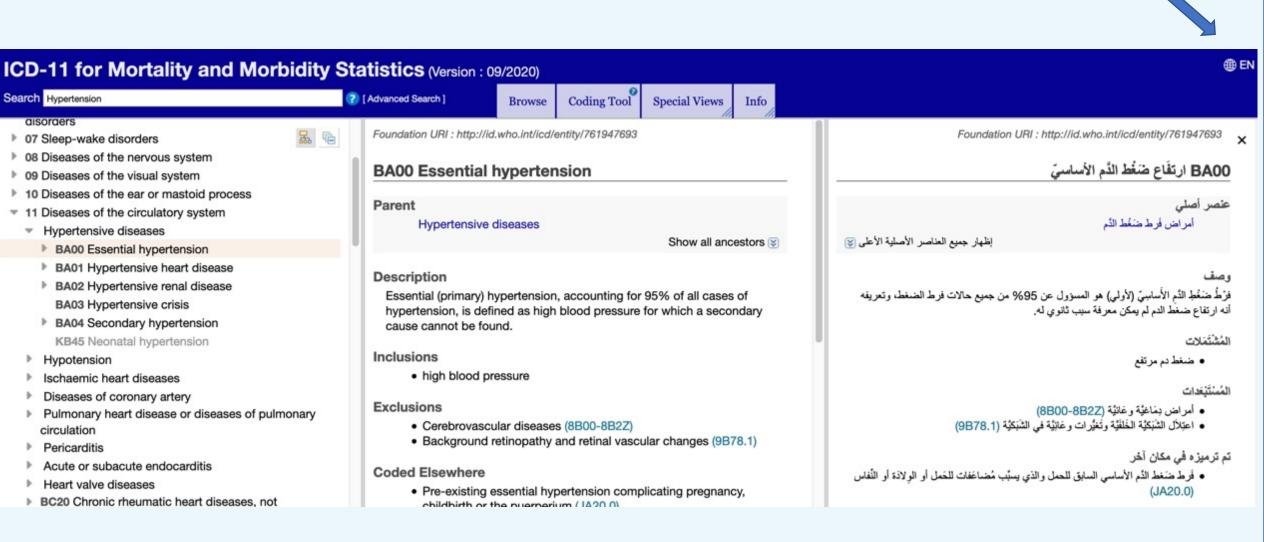
Translations are coordinated by Ministries of Health

Translations are subject to the same terms of use as the versions published by WHO



ICD-11 Multilingual

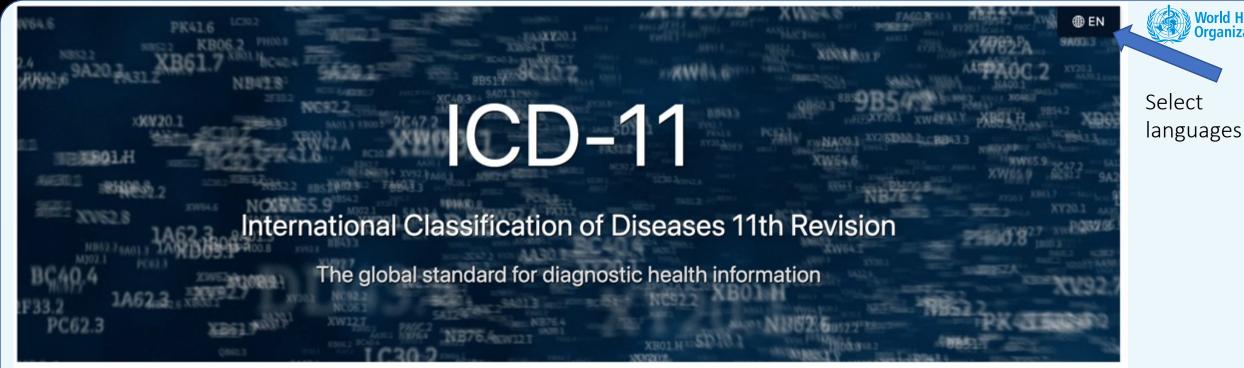
Select languages





Tools for Users

Coding	API- Integration with IT		Training		Guides for implementation and use		
Mappings to ICD- 10	Causes of death		(develo	Casemix (development started)		ANACOD 3 – quality assessment of cause of death statistics	
Software assisted selection cause of death (testing prototype)		Prop	osals	Trans	slation		



Use ICD-11

ICD-11 Browser for seeing the content ICD-11 Coding Tool for coding with ICD-11 **ICD-API** web services to get programmatic access to ICD-

11 ICD-11 Implementation or **Transition Guide**

Learn More

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Comments Proposals Translations



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o://id.	o://id.who.int/icd/entity/850137482		User Guide	
aus	ses of m	orbidity or n	r Print Versio	ns

tion of an 'injury' is: 'Injuries are c ectricity, chemicals, and ionizing ra shold of human tolerance. In som I lack of essential agents such as for most analytical purposes and es according to whether or not th

nal (i.e. accidental) I (i.e. deliberate): onal (e.g. assault and homicide) (e.g. abuse of drugs and alcohol, vention (e.g. action by police or o nsurrection and disturbances (e.g ined intent

ICD-11 Reference Guide

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ICD-11 Maintenance, **Contributions**, Proposals

ICD Home Page

Earlier releases and Update history

Access information and different files







A Global Good

Mandated by international regulations

Improved and refined by

Global contributions and feedback

For comparable data, reliable easy use and interoperability

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