ICD-11

Agile Implementation Health

Dr Robert Jakob, WHO, Geneva
The Mission of the WHO-FIC Network

Assist & Advise WHO

💡 Develop the WHO Family of International Classifications (WHO-FIC), anticipating needs
🛠️ Maintain & Update WHO-FIC
📢 Disseminate information about WHO-FIC.
🚀 Implement WHO-FIC effectively.
❖ Support National & International health information systems with WHO-FIC.
❖ Enhance Health Statistics with WHO-FIC for better decision-making.
❖ Provide Evidence to drive health improvements with WHO-FIC.
❖ Connecting with health communities, policymakers, dedicated clinicians, visionaries and the global citizen for WHO-FIC.
❖ Serving every member state, empowering each corner of the globe to use WHO-FIC.
Network

Ministerio de Salud de la Nación (MSAL)  
Australian Institute of Health & Welfare (AIHW)  
Secretaria de Vigilância em Saúde e Ambiente (SVSA), Ministério da Saúde  
Canadian Institute of Health Information (CIHI)  
University of Calgary  
Peking Union Medical College Hospital (PUMCH)  
China National Health Development Research Center  
Institute of Health Information and Statistics of the Czech Republic  
Agence du Numérique en Santé (ANS)  
University Hospital of Montpellier  
Technische Universität Braunschweig und der Medizinischen Hochschule Hannover  
The Federal Institute for Drugs and Medical Devices (BfArM)  
Regional Central Health Directorate  
Ministry of Health, Labour and Welfare  
Ministry of Health  
Secretaría de Salud  
Norwegian Directorate of eHealth  
Ministry of Health and Welfare  
University of the Witwatersrand, Johannesburg (Wits), South Africa  
South African Medical Research Council  
University of Barcelona  
The Swiss Tropical and Public Health Institute (SwissTPH)  
Bureau of Policy and Strategy Office of the Permanent Secretary, Ministry of Public Health  
National Institute for Public Health and the Environment (RIVM)  
NHS Digital  
Stanford University  
Centers for Disease Control and Prevention (CDC)
Network

- Experts
- Institutional knowledge
- Diversity
- Trust
- Common interest
- Synergies
- Focus
- Products

Sometimes only one dedicated individual is eager to contribute to certain tasks and products.

......Those who rest on their laurels are wearing them in the wrong place...
Review Groups and links

WHO 3 levels
about 300 directly involved
70 countries

Proposal Platform

State actors
Science
Other NGO
Individuals
20,000 users
99 countries

ICD-11

For people

By people

Proposals for updates
about 17200 proposals already processed

Ontology editor (iCAT)

134,000 terms
85,000 entities
NLP support more than 2 million
Manual mode: more than 100 millions

Numbers per year

Several hundred millions of deaths
Billions of health encounters
60% of global health budget
ICD-11 Implementation Status

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.
ICD-11 And tools also for all WHO/FIC

- Amended coding tool Natural Language Processing
- Planning universal mapping tool
- Fine tuning of translation platform
- Rule editing platform
- Value set platform
- 2024 Update
- Amendments in postcoordination support by the platform
  (postcoordination NOT limited to the one shown)
- Mapping MedDRA started
- Continuation of work with Orphanet
- Continuation of work on Casemix, MoU with NordDRG
- Several workshops
- Core Authoring Tool update (iCAT 2)
- FHIR API
- Translation agreement
Education

https://www.youtube.com/@WHOICD-11/featured
ICD - Maintenance and Governance

Everybody can propose

Proposal

Criteria for relevance - rationale

National and international stakeholders

Input (proposal platform)

Verification (use case, scientific)

Verification (statistical)

Classification and Statistics Advisory Committee (CSAC)

Medical Scientific Advisory Committee

Mortality Reference Group

Morbidity Reference Group

Functioning and Disability Reference Group

Traditional Medicine Reference Group

Classification and Statistics Advisory Committee (CSAC)

National and international stakeholders
DORIS Release Candidate
Digitalization of the rules for selection of cause of death
Source: Reference Guide
Results: Rule set and clarifications for Reference Guide
https://icd.who.int/doris/

WHO Recommendations for conducting an external inspection of a body and filling in the Medical Certificate of Cause of Death
Layout and redesign
Published online
The WHO Family of International Classifications

Cover of all areas of health information Interoperability

Common Foundation

Extension Codes
WHO Terminologies
- WHO INN (non proprietary names - medicaments)
- WHO Devices
- ICD-O - Histopathology (tumours)
- Anatomy
- Details of external causes e.g. parts of buildings
- Severity
- Infectious agents

ICD-11

ICH Interventions

ICF Function

Related Classifications, Terminologies, Standards
- ICNP Nursing
- ICPC Family med. Aspects
- ATC Medicament dosage use
- Orphanet Rare diseases
- LOINC/NPU Laboratory

Links to other systems (OBO, HPO, MedDRA)
ICHI

• Common set of extension codes across WHO-FIC foundation

• Preparations of Member State consultation
• Preparations of pre-release

• Role of a Reference Group - Maintenance
ICF

- Release January 2024
- Modernizations of translations
- Itemisation - terminology
- Reach out to all former ICF translators
- Update WHODAS manual
- Translation licensing
- Amend usage license (align with ICD)
- ICF coding tool (qualifiers)
Terminologies

- Collaborations started:
  - MedDRA
  - Orphanet

- Explorations
  - SNOMED
  - MONDO

- Terminology Network
  - equal opportunities
  - global coverage

- Close collaboration with WHO Digital Health and Innovation Department & HL7
<table>
<thead>
<tr>
<th>Data Set</th>
<th>API</th>
<th>Suitable code system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaccination/prophylaxis information</td>
<td>WHO-FIC+ regulatory</td>
<td>ICD-11/WHOFIC foundation + regulatory</td>
</tr>
<tr>
<td>Resolved, closed or inactive problems</td>
<td>WHO-FIC</td>
<td>ICD-11/WHOFIC foundation</td>
</tr>
<tr>
<td>Medical devices and implants</td>
<td>WHO-FIC+ regulatory</td>
<td>ICD-11/WHOFIC foundation + regulatory</td>
</tr>
<tr>
<td>Procedures</td>
<td>WHO-FIC</td>
<td>ICHI/WHOFIC foundation</td>
</tr>
<tr>
<td>Functional status</td>
<td>WHO-FIC</td>
<td>ICF/WHOFIC foundation</td>
</tr>
<tr>
<td>Social history</td>
<td>WHO-FIC</td>
<td>ICD-11/WHOFIC foundation</td>
</tr>
<tr>
<td>History of previous pregnancies</td>
<td>WHO-FIC</td>
<td>ICD-11/WHOFIC foundation</td>
</tr>
<tr>
<td>Current problems (including diagnosis</td>
<td>WHO-FIC</td>
<td>ICD-11/WHOFIC foundation</td>
</tr>
<tr>
<td>assertion status)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current and relevant past medicines</td>
<td>WHO-FIC</td>
<td>ICD-11/WHOFIC foundation</td>
</tr>
<tr>
<td>Current pregnancy status</td>
<td>WHO-FIC</td>
<td>ICD-11/WHOFIC foundation</td>
</tr>
<tr>
<td>Result observations</td>
<td>(WHOFIC) LOINC/NPU</td>
<td>ICD/ICHI/ICF/WHOFIC foundation/LOINC/NPU</td>
</tr>
</tbody>
</table>
ICD-11 – Global Information Standard

Legally mandated global and national health data standard – in effect from January 2022 (mortality and morbidity), adopted by all countries in 2019

Independent of language and culture

Clinically relevant and scientifically updated

Integration of terminology and classification

Easier use ➔ Accurate coding ➔ Better health information ➔ Improve health Lower transaction costs
Classifications and Terminologies in HIS

- WHO INN (non proprietary names - medicaments)
- WHO Devices
- ICD-O - Histopathology (tumours)
- Anatomy
- Details of external causes e.g. parts of buildings
- Severity
- Infectious agents

ICD-11

ICH Interventions

ICF Function

Terms

Health* Record Systems

Population Health
- Births
- Deaths
- Diseases
- Disability
- Risk factors

Clinical
- Decision Support
- Integration of care
- Outcome

Administration
- Scheduling
- Resources
- Billing

Reporting
- Cost
- Needs
- Outcome

Health* Record Systems

Budget
- Health
- Credibility
- Cost
- Needs
- Outcome

Health system functions
- Governance stewardship
- Resource generation human, physical, and knowledge
- Financing collecting, pooling and purchasing
- Service delivery personal and population-based

Health accounts dimensions
- Health care
- Consumption
- Finances

Instrumental objectives
- Health accounts
- Health care
- Consumption
- Finances

Common Foundation
ICD-11

Clinical system for statistical use

- Scientifically up-to-date
- Language independent
- More detail beyond statistical categories (foundation in yellow)
- Improved motivation to report correctly

Includes Traditional Medicine

Codes and URI Combinations:

- 17 000 stat. categories (codes)
- 85 000 entities
- 134 000 terms
- >2 000 000 terms with formalized postcoordination

Searchable in “Google style” without training
## Classification and Terminology

### Stem Codes

- Diagnoses
- Injuries
- Signs
- Symptoms
- Findings
- Reasons for encounter or health status
- External causes of illness & death
- Traditional medicine conditions
- Functioning assessment - WHO-DAS2

### Terminology

**Extension codes**

- Severity
- Temporality
- Anatomy
- Laterality
- Consciousness
- Infectious agents and AMR
- Histopathology (ICD-O)
- Chemicals and Medicaments (INN)
- Devices
- Mechanisms of harm (Safety)
- Activities
- Places
- Objects
5A11 Type 2 diabetes mellitus

Description
Diabetes mellitus type 2 (formerly non-insulin-dependent diabetes mellitus (NIDDM) or adult-onset diabetes) is a metabolic disorder that is characterised by high blood glucose in the context of insulin resistance and relative insulin deficiency.

Inclusions
non-insulin-dependent diabetes of the young

Exclusions
Diabetes mellitus in pregnancy (JA63)
Diabetes mellitus, other specified type (5A13)
Idiopathic Type 1 diabetes mellitus (5A10)

Exclusions from above levels
Pre-existing type 2 diabetes mellitus in pregnancy (JA63.1)

All Index Terms
Show all [27] ▼

Coded Elsewhere
Pre-existing type 2 diabetes mellitus in pregnancy (JA63.1)

Related categories in maternal chapter
Pre-existing type 2 diabetes mellitus in pregnancy (JA63.1)

Related categories in perinatal chapter
Neonatal diabetes mellitus (KB60.2)
5A11 2型糖尿病

描述
2型糖尿病（以前称为非胰岛素依赖型糖尿病（NIDD）或成人型糖尿病）是一种代谢紊乱，其特点是在胰岛素抵抗和应答胰岛素缺乏的条件下出现高血糖。

包括术语
- 青少年型非胰岛素依赖型糖尿病

不包括术语
- 妊娠期糖尿病 (JA63)
- 糖尿病，其他特定类型 (SA13)
- 青年期糖尿病 (SA10)

上层中的不包括 显示全部 [2] ▼

全部索引词 显示全部 [38] ▼

编码表头处
- 妊娠期糖尿病 (JA63.1)
- 孕产妇情况中的相关分类
- 妊娠期糖尿病 (JA63.1)
- 妊娠期糖尿病 (JA63.1)

相关类别
- Pre-existing type 2 diabetes mellitus in pregnancy (JA63.1)
- Related categories in maternal chapter
- Pre-existing type 2 diabetes mellitus in pregnancy (JA63.1)
- Related categories in perinatal chapter
- Neonatal diabetes mellitus (KB60.2)
Disorders due to substance use

Disorder due to use of drug

- Episode
- Harmful pattern of use
  - Episodic
  - Continuous
- Dependence
  - Current use
  - Early full remission
  - Sustained partial remission
  - Sustained full remission
- Intoxication
- Withdrawal
- Delirium
- Psychotic disorder

6C40 ...alcohol
6C41 ...cannabis
6C42 ...synthetic cannabinoids
6C43 ...opioids
6C44 ...sedatives, hypnotics or anxiolytics
6C45 ...cocaine
6C46 ...stimulants including amphetamines, ...
6C47 ...synthetic cathinones
6C48 ...caffeine
6C49 ...hallucinogens
6C4A ...nicotine
6C4B ...volatile inhalants
6C4C ...MDMA or related drugs, including MDA
6C4D ...dissociative drugs including ketamine ...

XM3UF9  Nabilone
XM4HM2  Tetrahydrocannabinol
XM5B55  Cannabidiol
XM1W83  Dronabinol
Type a diagnostic statement into the Coding Tool
e.g. *Osteoarthritis of right knee*

The Coding Tool will find the best match including the code combination (postcoordination) information for left or right (laterality)
Implementation
Key recommended actions

- Establishing a National Centre of Excellence
- Maintenance of existing system during the transition
- Project management and strategic planning
- Self-Assessment
- Dual Coding Studies
- Use of ICD-11 with terminologies and electronic health records
- Technical requirements and lead time for
  - health information system changes
  - tools and casemix groupers
Priority areas

01. ICD-11 translation
02. ICD-11 familiarization & training
03. IT planning and piloting ICD-11
04. Ensure comparability and quality of data
05. Advocacy and dissemination
06. Mortality and morbidity reporting
Self-Assessment

- Stakeholders
- Information infrastructure
  - Standards
  - IT – Software (vendors)
  - Internet
  - Lead time for preparations
- Use of data
- Training
- Costs and Benefits (material and immaterial)
- Impact
  - Statistics
  - Reimbursement
WHO guidance and assistance

ICD-11 Implementation package incl.
- ICD-11 implementation and transition guide
- ICD-11 tools incl. APIs
- ICD-11 e-learning tool (upcoming)

ICD-11 Training & familiarization

Country support
- Translation support
- Support pilot project on integrating ICD-11 APIs in EMR and HIS software
- Enrich ICD-11 index with mortality and morbidity term sets
How to use the browser

How to use ICD, WHOFIC

Codes for primary tabulation

Maps between ICD10 and ICD-11

Classifications and WHO-FIC Network
ICD-11 Value Proposition

- Scientifically up-to-date – epidemiology, clinical and research

- Easy to use - save on training, coding time, coding software
  - NLP
  - Expandable lists of synonyms, foundation, postcoordination
  - Online / offline software integration - API

- Accurate detail - record once – reuse for multiple purposes
  - Clinical terms
  - Safety reporting: Devices, medicaments, safety events, antimicrobial resistance
  - Detail from clinical modifications included
ICD-11 Value Proposition

- Multilingual - International – software re-usable in multiple settings
  - Standard encoding
  - Uniform API (FHIR and other)
  - Online / offline use

- Online maintenance – share maintenance workload
  - Open access
  - Open processes

- Free use – including coding tools – save costs
ICD-11 uses

- Health record
- Death Certificate
- Publications
- Reimbursement
- Vaccination certificate
- Traditional Medicine
- Essential medicines
- UHC Menu

Primary care
Secondary Care
Tertiary Care
ICD-11 use

- Webpage icd.who.int 2 million hits per month
- ICD-11 browser 0.9 million hits per month
- ICD-11 API 60 million requests per month
- Offline version* 0.3 million downloads

*offline version includes the full package with API. WHO receives no information about level of use of the downloaded packages.