Status of ICD-11

Donna Pickett, MPH, RHIA
Chief, Classifications and Public Health Data Standards, NCHS

NCVHS
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Overview of ICD-11

• History of ICD
• ICD-11 Revision Process
  – Goals
  – Development
  – New features
• Current status
  – ICD-11 Tools
  – Timeline
• How ICD-11 compares to ICD-10-CM
## ICD Revision History

<table>
<thead>
<tr>
<th>ICD Revision No.</th>
<th>Year of Conference When Adopted</th>
<th>Year in Use in the U.S.</th>
<th>ICD, Clinical Modification</th>
<th>Year in Use in the U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>1900</td>
<td>1900-1909</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td>1909</td>
<td>1910-1920</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Third</td>
<td>1920</td>
<td>1921-1929</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fourth</td>
<td>1929</td>
<td>1930-1938</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fifth</td>
<td>1938</td>
<td>1939-1948</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sixth</td>
<td>1948</td>
<td>1949-1957</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seventh</td>
<td>1955</td>
<td>1958-1967</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>H-ICDA-1</td>
<td>1968-1972</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>H-ICDA-2</td>
<td>1973-1978</td>
</tr>
</tbody>
</table>
The International Classification of Diseases 11th Revision is due by 2018

Participate in the ICD Revision
- Beta phase participants will have the opportunity to:
  - Make Comments
  - Make Proposals
  - Propose definitions of diseases in a structured way
  - Participate in Field Trials
  - Assist in translating ICD into other languages

Video invitation to participate
- Frequently Asked Questions About ICD-11
- ICD Information Sheet
- ICD Revision Information Notes
- ICD-11 Browser for browsing the classification and participating the development

ICD-11 Highlights
- ICD-11 Newsletter - November 2015 (pdf 204kb)
  A quarterly update from the WHO team on the ICD-11 progress, accomplishments, and ongoing work.
- Register to become involved
  WHO wants to know if you are interested in being involved in the ICD Revision.
ICD-11 Revision Goals

• Ensure that ICD-11 will function in an electronic environment
  – Will be a digital product
  – Link with terminologies (e.g., SNOMED)
    • 22 July 2010 - WHO and the International Health Terminology Standard Development Organisation (IHTSDO) have worked on a collaborative arrangement to link the WHO Family of Classifications and the Standardized Nomenclature of Medicine - Clinical Terms (SNOMED CT). This arrangement enables the linkage of terminologies and classifications. In the era of computerization of health information and electronic health records, it represents a major achievement.
  – ICD Categories
    • “defined” by "logical operational rules" on their associations and details
  – Support electronic health records and information systems
ICD-11 Revision Goals

• Multi-purpose and coherent classification
  – Mortality, morbidity, primary care, clinical care, research, public health...
  – Consistency & interoperability across different uses

• International multilingual reference standard for scientific comparability
  – English, French, Spanish, Russian, Chinese, Arabic
ICD-11 Development Process

• Topic Advisory Groups (TAGs)
• Content
  – Definitions
  – Content model parameters
• Structure (linearizations)
  – Mortality, morbidity, primary care, quality/patient safety
• JLMMS (mortality & morbidity linearizations)
Stability Analysis
Objectives

- Ensure a **seamless transition** between ICD-10 and ICD-11
  - national
  - international levels
- CrossCutting TAGs review and confirm **continuity** between ICD-10 and ICD-11
- Represent knowledge gained from **national clinical modifications** in the revised ICD.
ICD Contribution

WHO

JLMMS Task Force

RSG SEG

RSG

Morbidity TAG

Mortality TAG

Functioning TAG

Quality & Safety TAG

Primary care TF

Health Informatics and Modelling TAG (HIM TAG)

Internal Medicine TAG

Paediatrics TAG

Dentistry TAG

Dermatology TAG

Rare Diseases TAG

External Causes and Injuries TAG

GURM

Mental Health TAG

Musculoskeletal TAG

Neoplasms TAG

Neurology TAG

Ophthalmology TAG

Traditional Medicine TAG

Gastroenterology WG

Cardiovascular WG

Hepatology & Pancreatobiliary WG

Nephrology WG

Endocrinology WG

Rheumatology WG

Haematology WG

Respiratory WG

Genito-Urinary, Reproductive and Maternal TAG

Working Groups
ICD-11 Development Process

- RSG & RSG-SEG chair: Dr. Christopher Chute, Johns Hopkins
- Cross-cutting Topic Advisory Groups (TAGs):
  - Co-chair Mortality TAG – Robert Anderson, NCHS
  - Co-chair Morbidity TAG – Donna Pickett, NCHS
  - Co-chair Functioning TAG – Cille Kennedy, ASPE

- Content
  - Definitions
  - Content model parameters

- Structure (linearizations)
  - Mortality, morbidity, primary care, quality/patient safety

- JLMMS (mortality & morbidity linearizations)
• All ICD entities will have definitions:
  key descriptions of the meaning of the category
  in human readable terms – to guide users
  • Limited definition in Print Version – 100 words
  • Detailed definitions ONLINE

• Definitions will be compatible with:
  – Content Model
  – Diagnostic Criteria
  – Across the whole classification and the versions
Major events

- External ICD Process Review
  - http://www.who.int/classifications/icd/revision/2015_11_ICD11_Newsletter.pdf?ua=1
- Activities of individual vertical TAGs
- JLMMS Task Force
- WHO working
Main activities

• Restructure infectious diseases chapter
• Edit ‘Dementia’
• Structure ‘postoperative complications’
• Edit and design ‘primary care’
• Revisit ‘shorelining’
• Edit volume 2
• Ordering
  – Terminology
  – Terms
  – Parenting
  – Exclusions
• Planning
Above or Below Shoreline – good classification (linearization)

- Content is still in foundation
- Content is used as index entry
- Content is codable with postcoordination
- Postcoordination = 2 or more codes describe one disease

- **Criteria: relevance**
  - 95% of cases per country by age group, and sex for mortality and morbidity
Main activities

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• Edit ‘Dementia’
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• Edit and design ‘primary care’
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  – Parenting
  – Exclusions
• Planning
Hierarchy
‘Diabetes’ Chapter 06 - Endocrine Chapter codes

Diabetes mellitus and intermediate hyperglycaemia

- Type 1 DM
- Type 2 DM
- Other DM
- DM, unspecified type
- Intermediate Hyperglycaemia
- Insulin-resistance syndromes
- Complications of DM

ICD-11 Browser Diabetes
Coding example

Patient with type 1 DM with diabetic retinopathy

6A10    Type 1 diabetes mellitus
MG45    Diabetic retinopathy

6A10/MG45 = type 1 DM with diabetic retinopathy
Chapters

- Chapter 01 – Infectious diseases
- Chapter 02 – Neoplasms
- Chapter 03 – Diseases of the blood and blood-forming organs
- Chapter 04 – Disorders of the immune system
- Chapter 05 – Conditions related to sexual health
- Chapter 06 – Endocrine, nutritional and metabolic diseases
- Chapter 07 – Mental and behavioural disorders
- Chapter 08 – Sleep – Wake disorders
- Chapter 09 – Diseases of the nervous system
- Chapter 10 – Diseases of the eye and adnexa
- Chapter 11 – Diseases of the ear and mastoid process
- Chapter 12 – Diseases of the circulatory system
- Chapter 13 – Diseases of the respiratory system
Chapters

- Chapter 14 – Diseases of the digestive system
- Chapter 15 – Diseases of the skin
- Chapter 16 – Diseases of the musculoskeletal system and connective tissue
- Chapter 17 – Diseases of the genitourinary system
- Chapter 18 – Pregnancy, childbirth and the puerperium
- Chapter 19 – Certain conditions originating in the perinatal period
- Chapter 20 – Developmental anomalies
- Chapter 21 – Symptoms, signs, clinical forms, and abnormal clinical and laboratory findings, not elsewhere classified
- Chapter 22 – Injury, poisoning and certain other consequences of external causes
- Chapter 23 – External causes of morbidity and mortality
- Chapter 24 – Factors influencing health status and contact with health services
- Chapter 25 – Codes for special purposes
- Chapter 27 – Traditional medicine
- Chapter 26 – Extension Codes
Differences to ICD-10

• ICD-11 has five new chapters:

  – Chapter 3  Diseases of the Blood and Blood-forming Organs
  – Chapter 4  Disorders of the Immune System.
  – Chapter 6  Conditions related to Sexual Health.
  – Chapter 8  Sleep-Wake Disorders
  – Chapter 26  Extension codes
  – Chapter 27  Traditional Medicine
<table>
<thead>
<tr>
<th>Term</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation</td>
<td>Everything in ICD</td>
</tr>
<tr>
<td>Entity</td>
<td>Thing in foundation</td>
</tr>
<tr>
<td>Linearization</td>
<td>Classification</td>
</tr>
<tr>
<td>Stem code</td>
<td>Category (mostly dagger)</td>
</tr>
<tr>
<td>Extension code</td>
<td>Additional</td>
</tr>
<tr>
<td>information</td>
<td>Classification</td>
</tr>
<tr>
<td>Linearization parents</td>
<td>Chapter, Block, Category,</td>
</tr>
<tr>
<td>hierarchy</td>
<td></td>
</tr>
</tbody>
</table>
Differences to ICD-10- Coding scheme

• The chapter numbering:
  – now arabic numbers
  – not roman numerals

• The coding scheme for categories:
  – now minimum 4 characters
  – 2 levels of subcategories

• Coding scheme
  – always has a letter in the second position to distinguish from the codes of ICD-10.
  – No I,I (L,i); 0,O (Zero, o)

• First character of the code always relates to the chapter number.
  – 1-Z
Differences to ICD-10 - Terminology

• ICD-10 had a range of expressions to describe a causal relationship between conditions in a code title.
  – In ICD 11, the preferred term is “due to”.

• ICD-10 had a range of expressions indicating the coincidence of two conditions in a code title (e.g. “in” or “with”).
  – In ICD-11, the preferred term is “associated with”.
## Differences to ICD-10: Extensions

<table>
<thead>
<tr>
<th>Term</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis timing indicator</td>
<td>Histopathology</td>
</tr>
<tr>
<td>Severity scale value</td>
<td>Consciousness</td>
</tr>
<tr>
<td>Dimensions of injury</td>
<td>Substances</td>
</tr>
<tr>
<td>Topology Scale Value</td>
<td>Code usage</td>
</tr>
<tr>
<td>Specific Anatomic Detail</td>
<td>Temporality</td>
</tr>
<tr>
<td>Capacity or context</td>
<td>Etiology</td>
</tr>
<tr>
<td>Dimensions of external causes</td>
<td></td>
</tr>
</tbody>
</table>
## New Feature: X – Extension Code Chapter

<table>
<thead>
<tr>
<th><strong>Type 1</strong></th>
<th><strong>Type 2</strong></th>
<th><strong>Type 3</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity</td>
<td><strong>Main Condition</strong> (types)</td>
<td>History of</td>
</tr>
<tr>
<td><strong>Temporality</strong> (course of the condition)</td>
<td>Reason for encounter/admission</td>
<td>Family History of</td>
</tr>
<tr>
<td><strong>Temporality</strong> (Time in Life)</td>
<td>Main Resource Condition</td>
<td>Screening/Evaluation</td>
</tr>
<tr>
<td>Etiology</td>
<td><strong>Present on Admission</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Anatomic detail</strong></td>
<td><strong>Provisional</strong> diagnosis</td>
<td></td>
</tr>
<tr>
<td>Topology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Anatomic Location</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Histopathology</td>
<td><strong>Diagnosis confirmed by</strong></td>
<td></td>
</tr>
<tr>
<td>Biological Indicators</td>
<td><strong>Rule out / Differential</strong></td>
<td></td>
</tr>
<tr>
<td>Consciousness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>External Causes (detail)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Injury Specific (detail)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Differences to ICD-10: Definitions

- Content model
  - ICD-11 categories have a short and a long definition.
  - All ICD-11 categories include separate information on
    - anatomy,
    - aetiology and
    - other aspects

Can be accessed for search purposes, or when browsing in the tabular list of the

- For morbidity, the definition of main diagnosis has changed:
  - reason for admission after assessment at the end of the stay.
ICD-11 Tools  apps.who.int/classifications/icd11/browse

• Coding tool: spelling-synonyms no problem  icd11ct.cloudapp.net/ct#
• ICD-11 browser
  – See foundation and linearization – grid view
  – Download versions
  – ‘frozen’ versions
  – See differences

• Proposal tool
  – Make suggestions and discuss them
  – Notifications

• Review tool

• Translation tool
  – Translate in your language

• Mapping tool
  – See mapping at detailed level
  – Comment mapping to and from ICD-10
www.who.int/classifications/icd/revision/

• Online information
  – FAQ
  – Video
  – Working groups
  – ICD-11 features
  – Becoming involved
The ICD-11 Beta Phase

• Draft ICD-11 Content presented in web portal: www.who.int/classifications/icd11

• Daily Updates

• Participants can:
  – Make comments
  – Make proposals to change ICD Categories
  – Propose structured definitions of diseases
  – Participate in field testing
  – Assist in translating ICD into other languages

• Answer Single Assessment Questions
  – (e.g. Is this category in the right place? Is this scientifically accurate?)
ICD-11 Review Process

• Focus
  – Scientific accuracy
  – Completeness of each unit
  – Internal consistency
  – Utility/relevance of each unit

• Types of Review
  – Initial
  – Continuous
Field Trials

• WHO will develop a framework to ensure standardization of beta testing

• Goals
  – Test fitness of ICD-11 for multiple purposes (mortality, morbidity, quality, other use cases)
  – Ensure comparability between ICD-10 and ICD-11
  – Increase consistency, identify improvement paths, reduce errors
Field Trials

• Assessments
  – Applicability (feasibility): ease of use
  – Reliability (consistency): same results by all each time
  – Utility (added value): renders useful information
Field Trials

• **Key Uses**
  – Mortality: cause of death coding, verbal autopsy
  – Morbidity: hospital discharge, outpatient, casemix

• **Different settings**
  – Primary care: high and low resource settings
  – General health care
  – Research settings: population health, clinical research
### Examples of ICD-10-CM Concepts in ICD-11

<table>
<thead>
<tr>
<th>Concept</th>
<th>ICD-10</th>
<th>ICD-11 Beta</th>
<th>ICD-10-CM</th>
<th>9-CM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encounter for prophylactic breast removal</td>
<td>No</td>
<td>No (as a unique code)</td>
<td>Yes</td>
<td>1994</td>
</tr>
<tr>
<td>Female genital mutilation</td>
<td>No</td>
<td>Yes</td>
<td>Yes - 2005</td>
<td>2004</td>
</tr>
<tr>
<td>Genetic susceptibility to breast CA</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>2004</td>
</tr>
<tr>
<td>CKD Staging</td>
<td>Yes - 2010</td>
<td>Yes</td>
<td>Yes</td>
<td>2005</td>
</tr>
<tr>
<td>Pressure ulcer stages</td>
<td>Yes - 2010</td>
<td>Yes</td>
<td>Yes - 2005</td>
<td>2008</td>
</tr>
<tr>
<td>Laterality</td>
<td>No</td>
<td>Yes – as extension code</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
ICD-10-CM Implementation Timeline

  Summary document available at
  http://www.ncvhs.hhs.gov/031105a1.htm

• NCVHS Hearings (1997-2003)
  Summary document available at
  http://www.ncvhs.hhs.gov/031105a2.htm

• NPRM (2008)
• Final Rule (2009)
• NPRM (2012)
• Final Rule (2012)
• Interim Final Rule (2014)
Thank You

Donna Pickett, MPH, RHIA
dfp4@cdc.gov

For more information please contact Centers for Disease Control and Prevention

3311 Toledo Road, MD 20782
Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348
E-mail: cdcinfo@cdc.gov Web: http://www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.