ICD-10-CM, ICD-10-PCS and ICD-11

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NCVHS

June 21, 2017

Dates when ICD Revisions were in use in the US (Mortality)

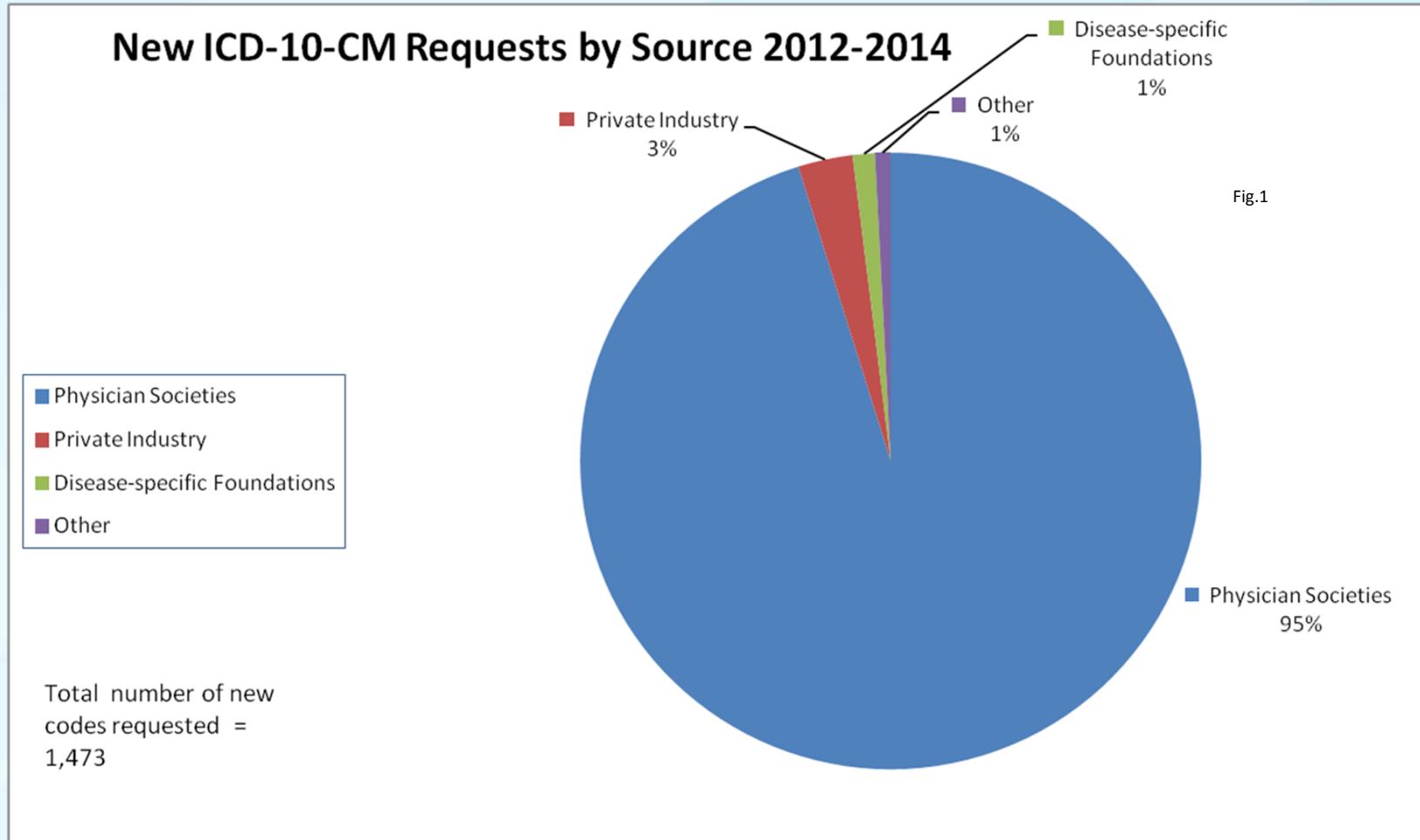| Revision No.	Year of conference when adopted	Years in use in the US
First	1900	1900-1909
Second	1909	1910-1920
Third	1920	1921-1929
Fourth	1929	1930-1938
Fifth	1938	1939-1948
Sixth	1948	1949-1957
Seventh	1955	1958-1967
Eighth, adapted	1965	1968-1978
Ninth	1975	1979-1998
Tenth	1989	1999-

ICD-9-CM Coordination and Maintenance Committee

- Public updating process has been in place to update ICD-9-CM since 1985
- Process continues for updating of ICD-10-CM and ICD-PCS
  - Two meetings each year (March and September)
  - Meetings open to the public to the public
    - In-person
    - Dial-in
    - Webcast
- Approved proposals are presented and comments are encouraged both at the meetings and in writing. Recommendations and comments are carefully reviewed and evaluated, once the comment period has closed, before final decisions are made.
  - Approved changes effective October 1
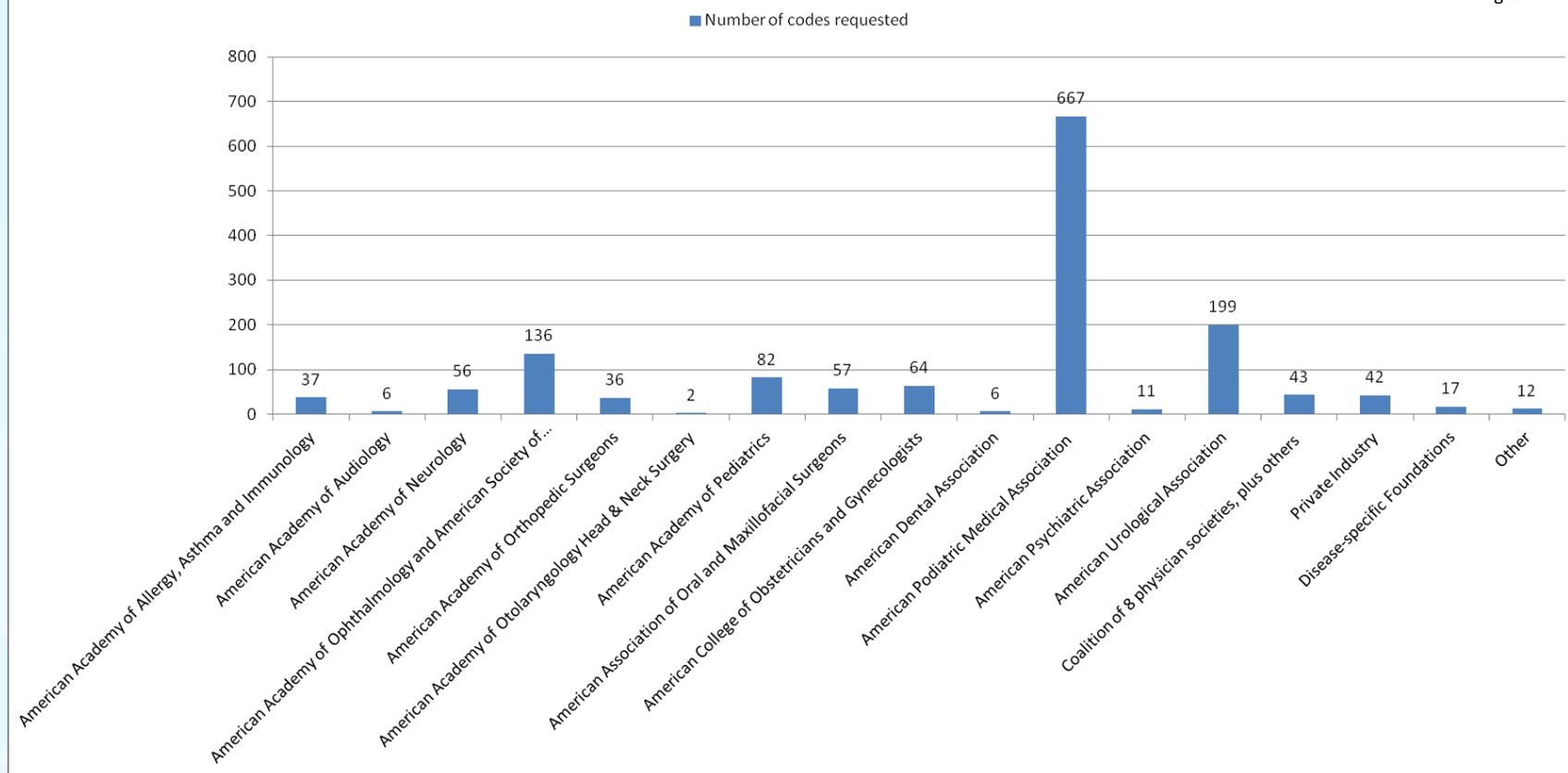
ICD-10 Coordination and Maintenance Committee

❑ ***October 1, 2016***: First regular annual updates to ICD-10 code sets (ICD-10-CM and ICD-10-PCS) began

❑ **Diagnosis Addenda posted on NCHS website (June 2017)**

  ▪ PDF and machine-readable formats posted

❑ **Procedure Addenda and related files posted on CMS website (June 2017)**

  ▪ PDF and machine-readable formats posted

New ICD-10-CM Requests by Source 2012-2014

Fig.1

Legend:
- Physician Societies
- Private Industry
- Disease-specific Foundations
- Other

Private Industry 3%
Disease-specific Foundations 1%
Other 1%
Physician Societies 95%

Total number of new codes requested = 1,473

ICD-10-CM New Code Requests 2012-2014 by Specific Physician Specialties
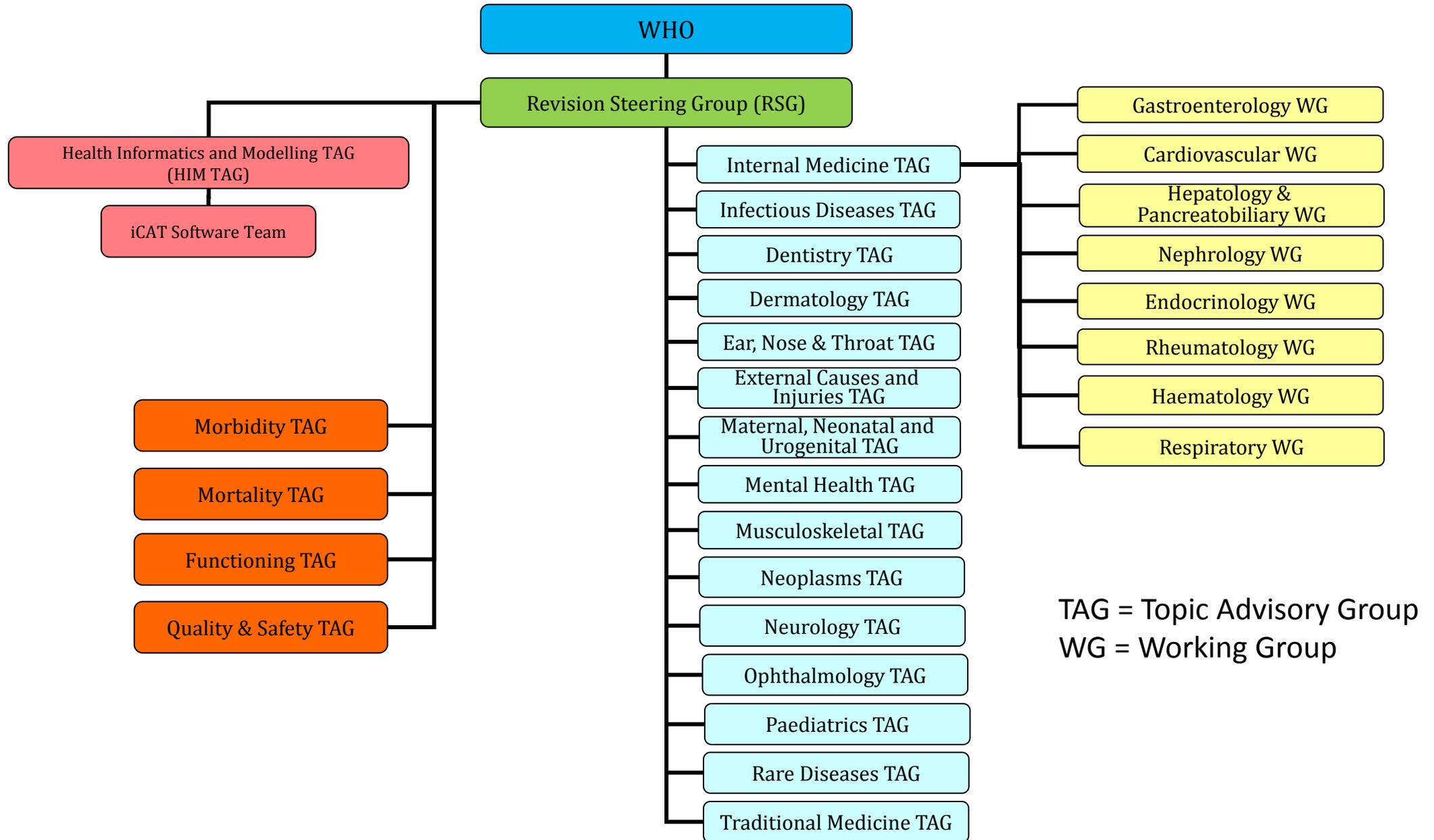
Fig.2

Need for an 11th Revision

- ICD-10, despite the updating process, is outdated
- Structural changes were needed to some chapters
- Increasing need to operate in an electronic environment
- Revision process was launched in April 2007

ICD Revision Organizational Structure

WHO

Revision Steering Group (RSG)

Health Informatics and Modelling TAG (HIM TAG)

iCAT Software Team

Morbidity TAG

Mortality TAG

Functioning TAG

Quality & Safety TAG

Internal Medicine TAG

Infectious Diseases TAG

Dentistry TAG

Dermatology TAG

Ear, Nose & Throat TAG

External Causes and Injuries TAG

Maternal, Neonatal and Urogenital TAG

Mental Health TAG

Musculoskeletal TAG

Neoplasms TAG

Neurology TAG

Ophthalmology TAG

Paediatrics TAG

Rare Diseases TAG

Traditional Medicine TAG

Gastroenterology WG

Cardiovascular WG

Hepatology & Pancreatobiliary WG

Nephrology WG

Endocrinology WG

Rheumatology WG

Haematology WG

Respiratory WG

TAG = Topic Advisory Group
WG = Working Group

Current ICD-11 Schedule

April 2007	Revision launch
Sept 2009	Beginning of Alpha process
Sept 2010	Release of 1st version of Alpha draft
May 2011	Beta process begins
Jan 2015	Formation of ICD-11 Taskforce
Oct 2016	ICD-11 Revision Conference (Tokyo)
May 2018	Submission to World Health Assembly

ICD-11-MMS

- Original plans were to have 2 separate "linearizations" or classifications for mortality and morbidity

- After much debate, it was decided that the classification should be a joint classification used for both purposes with shared maintenance

- Mortality and morbidity will share the same structure, but perhaps not the same level of detail

ICD-11 Taskforce

- Formed in January 2015 to address serious deficiencies that made the classification unusable for statistical purposes
- Created a set of standards for the classification:
  - ICD-11 should generally be consistent with ICD-10 unless there is a compelling scientific reason to change
  - Mutual exclusivity of categories,
  - Maximum number of code digits (6)
  - Maintaining major COD groupings (e.g., pneumonia) needed for statistical presentation
  - Addition of "other" and "unspecified" categories
- Review of and work on individual chapters is ongoing

ICD-11 Revision Conference

- 12-14 October, 2016 in Tokyo, Japan
- ICD-11 will be presented to Member States
- What was presented will not be the finished product
- Additional work still needs to be done but much has been done

Field Testing

- Need to test ICD-11 to ensure that it is fit for purpose, i.e., coding and statistical presentation

- Development of a benchmarking file that can be coded by multiple coders

- Aggregation of data into national and international tabulation lists

Implementation of ICD-11

Assume:

Presentation to WHA in 2018

Classification is fit for purpose, i.e., coders can use it and it usable for statistical presentation

When would implementation occur?

Estimate a minimum of 3 years for implementation…so, 2021 at the earliest?

Much depends on how a country uses the classification (for example, inpatient only, inpatient & outpatient, other settings)

Overview of ICD-11

- History of ICD
- ICD-11 Revision Process
  - Goals
  - Development
  - New features
- Current status
  - ICD-11 Tools
  - Timeline

ICD Revision History

ICD Revision No.	Year of Conference When Adopted	Year in Use in the U.S.	ICD, Clinical Modification	Year in Use in the U.S.
First	1900	1900-1909		
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Fourth	1929	1930-1938		
Fifth	1938	1939-1948		
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Seventh	1955	1958-1967		
Eighth	1965	1968-1978	ICDA-8 H-ICDA-1 H-ICDA-2	1968-1978 1968-1972 1973-1978
Ninth	1975	1979-1998	ICD-9-CM	1979
Tenth	1989	1999-	ICD-10-CM	Oct. 1, 2015

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World Health Organization

| Health topics | Data | Media centre | Publications | Countries | **Programmes** | Governance | About WHO | | Search |

Classifications

- Family of International Classifications
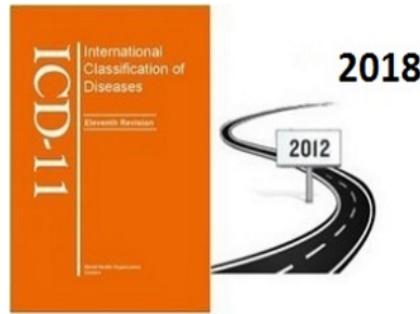- Family of International Classifications network
- **Classification of Diseases (ICD)**
- Classification of Functioning, Disability and Health (ICF)
- Classification of Health Interventions (ICHI)
- Frequently asked questions

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 209kb]
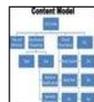A quarterly update from the WHO team on the ICD-11 progress, accomplishments, and ongoing work.

Register to become involved
WHO wants to know if you are interested in being involved in the ICD Revision.

Timelines
Learn about the ICD-11 Timelines

New ICD-11 Features

Content Model

Definitions

ICD Revision

Revision News

Steering Group

Topic Advisory Groups

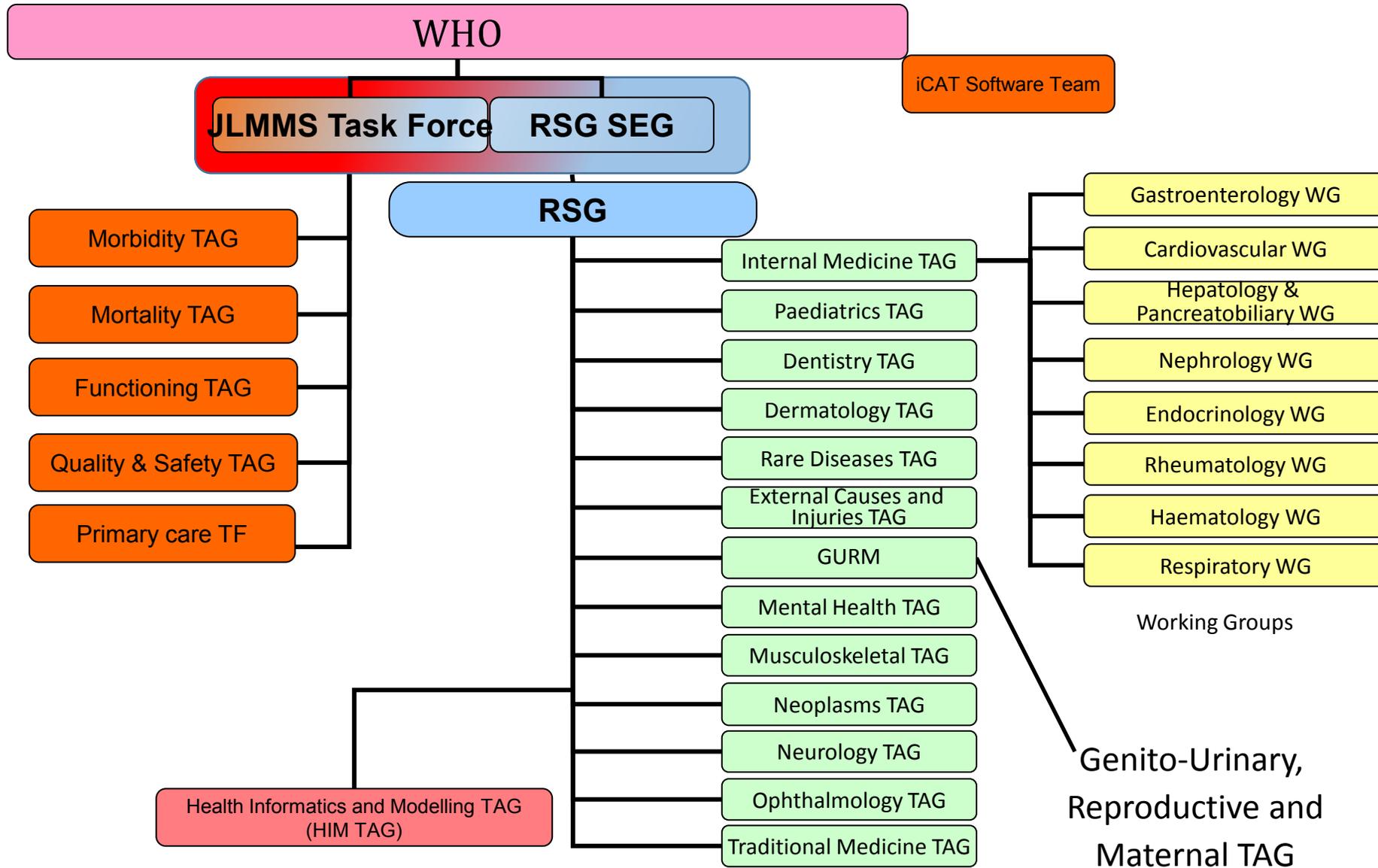External Review of the ICD-11 Revision

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
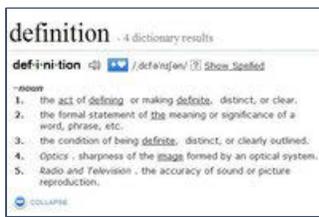   information systems

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 Contribution

WHO

iCAT Software Team

JLMMS Task Force   RSG SEG

RSG

- Morbidity TAG
- Mortality TAG
- Functioning TAG
- Quality & Safety TAG
- Primary care TF

- 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

Working Groups

Health Informatics and Modelling TAG (HIM TAG)

Genito-Urinary, Reproductive and Maternal TAG

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 descriptions:

  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*

- Descriptions 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
- JLMMS Task Force

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

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

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 l,I (L,i); 0,O (Zero, o)

- First character of the code always relates to the chapter number.
  - 1-Z

Differences to ICD-10: **Extensions**

Term	Translation
Diagnosis timing indicator	Histopathology
Severity scale value	Consciousness
Dimensions of injury	Substances
Topology Scale Value	Code usage
Specific Anatomic Detail	Temporality
Capacity or context	Etiology
Dimensions of external causes	

New Feature: X – Extension Code Chapter

Type 1	Type 2	Type 3
Severity	**Main Condition** (types)	**History of**
Temporality (course of the condition)	Reason for encounter/admission	**Family History of**
Temporality (Time in Life)	Main Resource Condition	Screening/Evaluation
Etiology	**Present on Admission**	
Anatomic detail Topology Specific Anatomic Location	**Provisional** diagnosis	
Histopathology	**Diagnosis confirmed by**	
Biological Indicators	**Rule out / Differential**	
Consciousness		
External Causes *(detail)*		
Injury Specific (detail)		

Differences to ICD-10: Descriptions

- Content model
  - ICD-11 categories have a short and a long descriptions.
  - 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
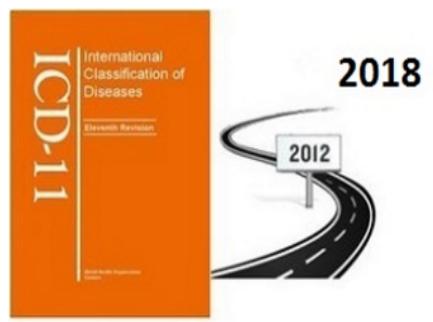
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Classifications

Family of International Classifications

Family of International Classifications network

Classification of Diseases (ICD)

Classification of Functioning, Disability and Health (ICF)

Classification of Health Interventions (ICHI)

Frequently asked questions

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2018

2012

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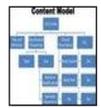A quarterly update from the WHO team on the ICD-11 progress, accomplishments, and ongoing work.

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ICD-10-CM Implementation Timeline

- Evaluation of ICD-10 for U.S. purposes (1994 - 1997)
  - 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)

ICD-10-CM Implementation Timeline and ICD-11 Implications

- Evaluation of ICD-11 for U.S. purposes (2018 - 2021)
  Summary document available at http://www.ncvhs.hhs.gov/031105a1.htm

- NCVHS Hearings (2021-2027)
  Summary document available at http://www.ncvhs.hhs.gov/031105a2.htm

- NPRM (?)

- Final Rule (?)

- NPRM (?)

- Final Rule (?)

- Interim Final Rule (?)

Other Issues Related to ICD-11 Implementation

- Revisions to existing HIPAA standards to accommodate ICD-11 changes in structure and conventions
  - X12 (for example change to 5010 from 4010)
  - Post coordination and clustering

- WHO intention to limit development of national modifications

- Licensing implications?