

ICD 11 Revision Update

NCVHS

February 21, 2008

Christopher G Chute, MD DrPH
ICD-11 Revision Steering Group Chair
World Health Organization
Professor and Chair, Biomedical Informatics
Mayo Clinic

ICD-11 Use Cases

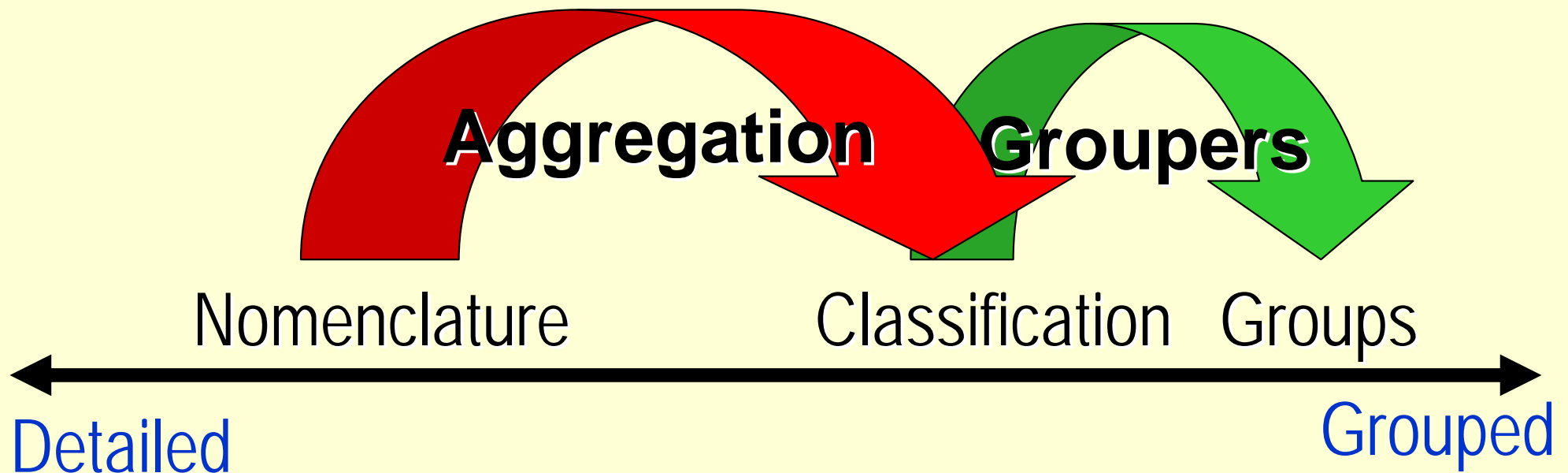
- Morbidity and Mortality public health reporting
- Scientific consensus as high-level clinical phenotypes
- Patient data characterization for clinical and research applications
- Primary Care

ICD-11 Revision Goals

- Evolve an ontologically coherent classification
- Linked logically to underpinning terminologies (e.g. SNOMED, GO)
- Rubrics “defined” by aggregation logics of associations and details
- Human language definitions will be explicit
- Incorporate genomic disease definitions
- Maintain longitudinal consistency through linear derivatives

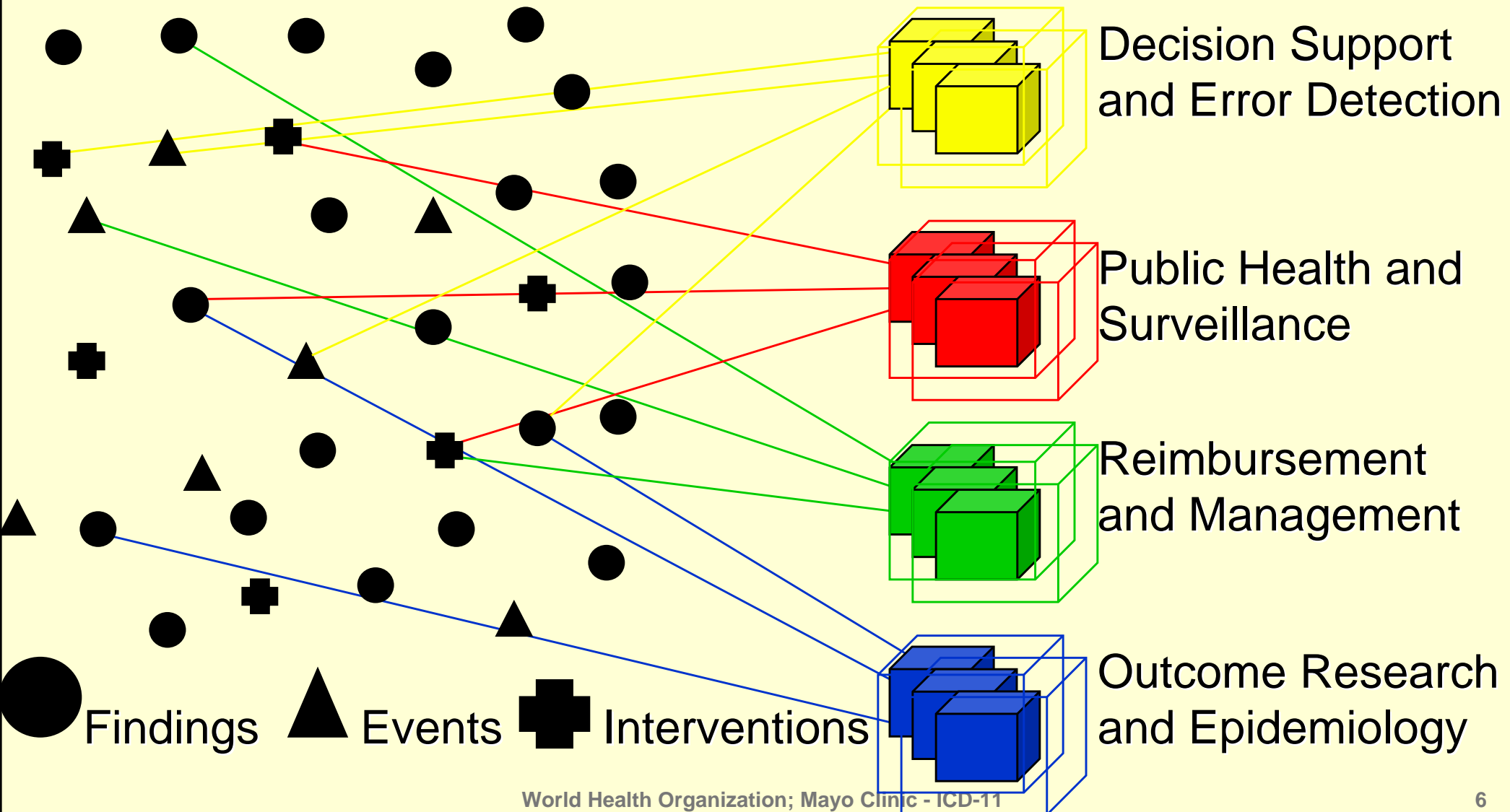
Familiar Points Along Continuum Modern Health Vocabularies

- Nomenclature – Highly Detailed Descriptions (SNOMED)
- Classification – Organized Aggregation of Descriptions into a Rubric (ICDs)
- Groupings – High Level Categories of Rubrics (DRGs)



Aggregation Logics by domain

rule-based aggregations

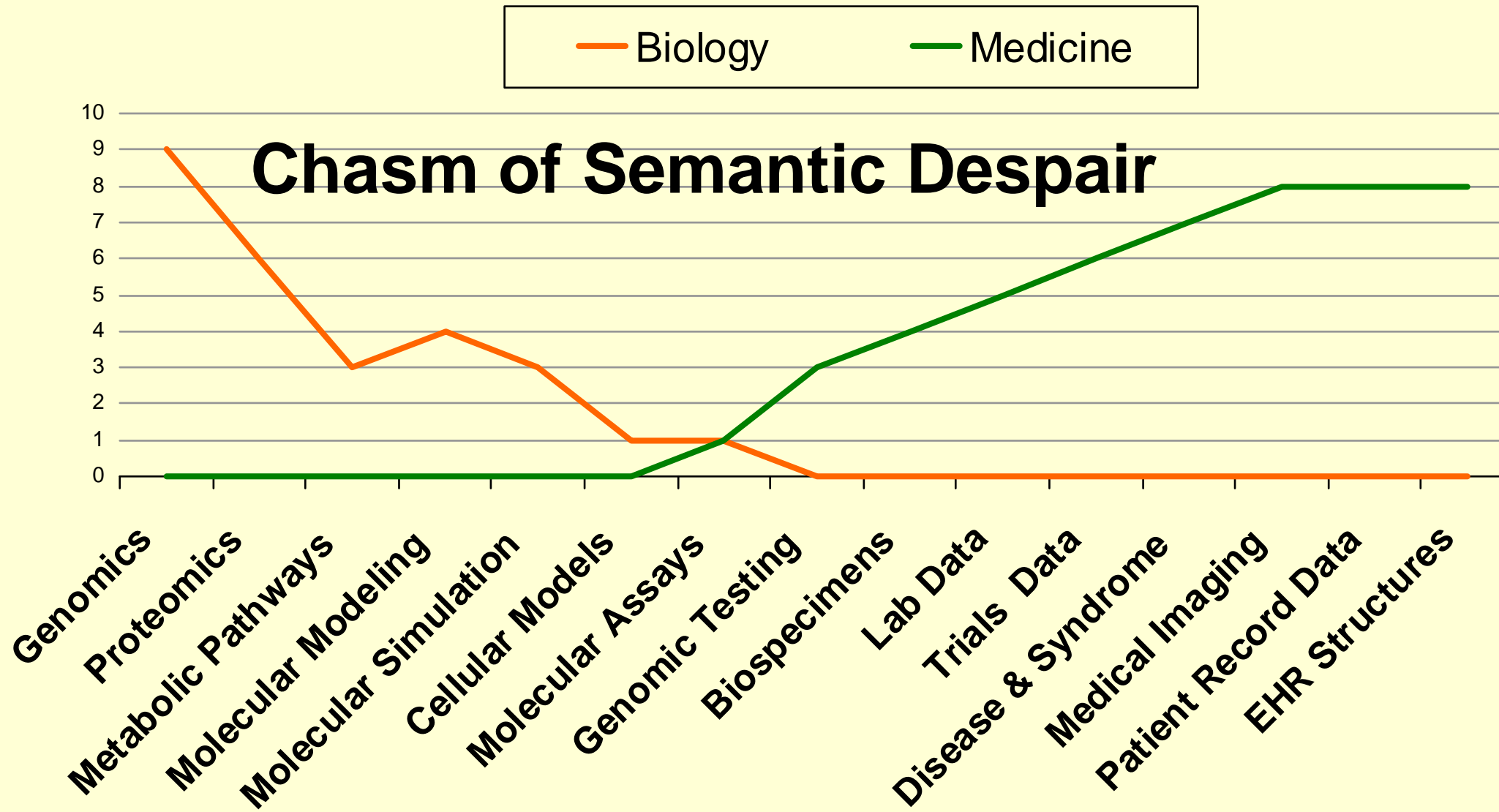


The Genomic Era

- The genomic transformation of medicine far exceeds the introduction of antibiotics and aseptic surgery
- The binding of genomic biology and clinical medicine will accelerate
- The implications for shared semantics across the basic science and clinical communities are unprecedented

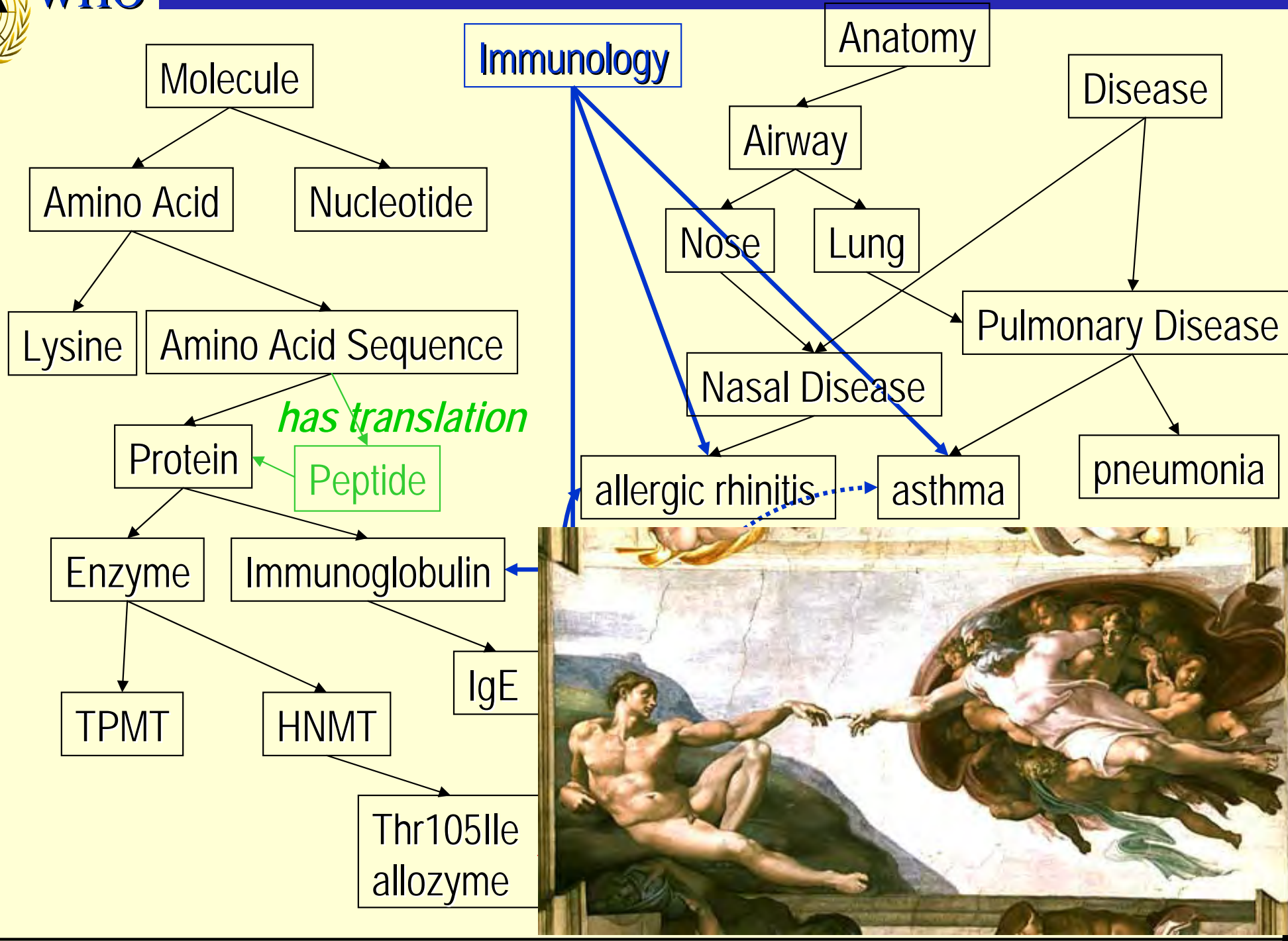
The Continuum Of Health Classification

Biology meets Clinical Medicine



Highly Aggregated

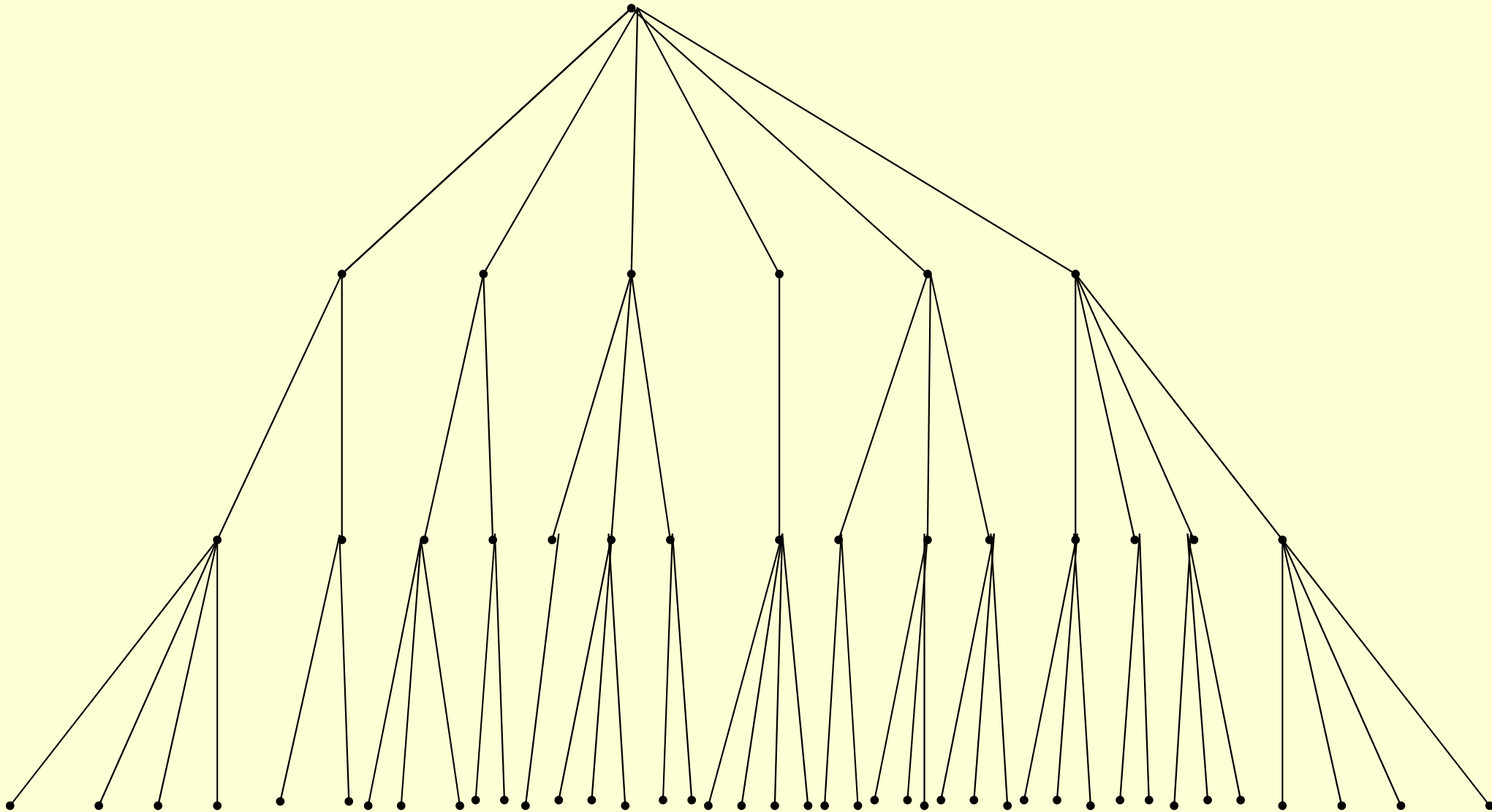
Fine Detail



Molecular

Clinical

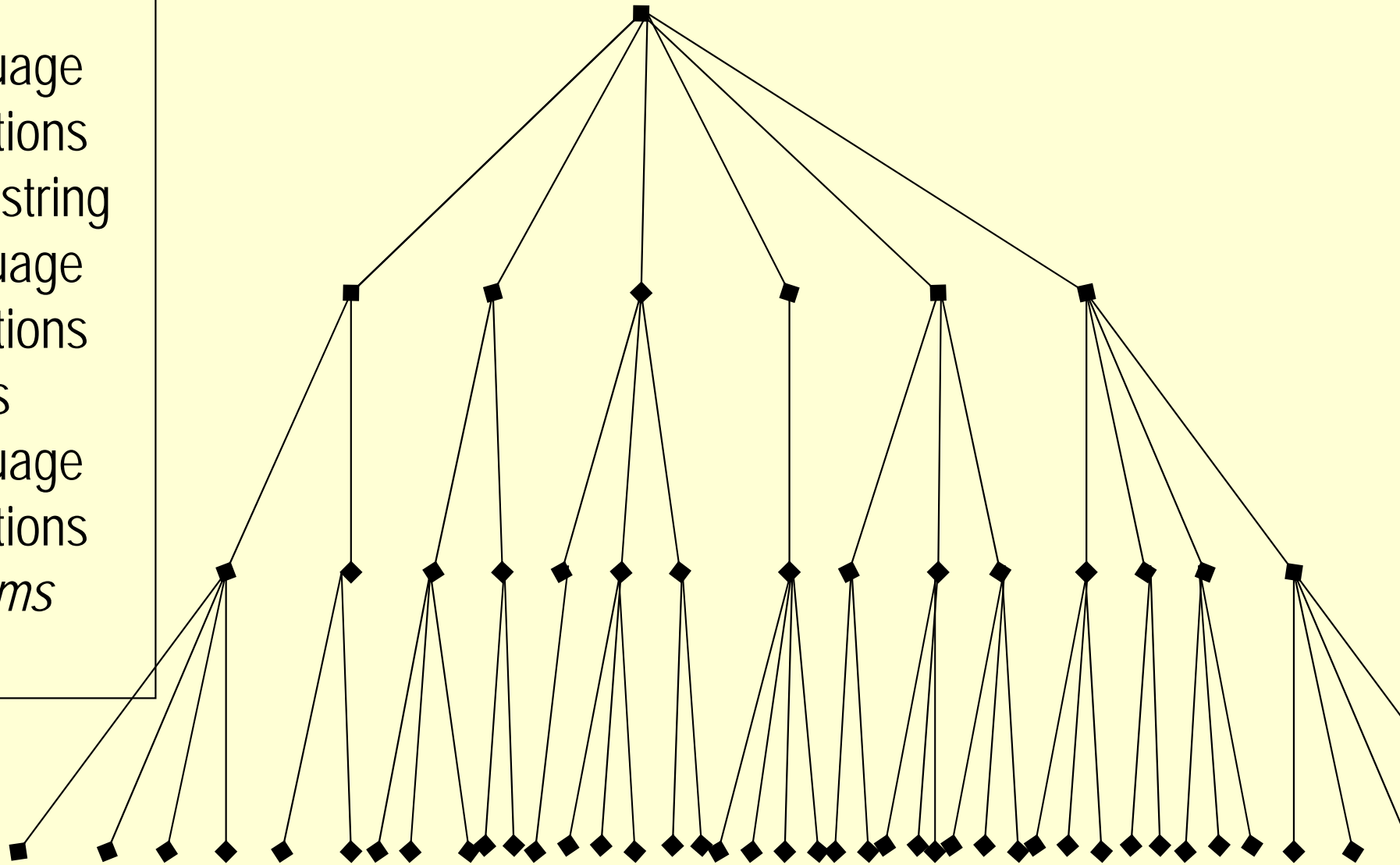
Traditional Hierarchical System ICD-10 and family



Addition of structured attributes to concepts

Concept name

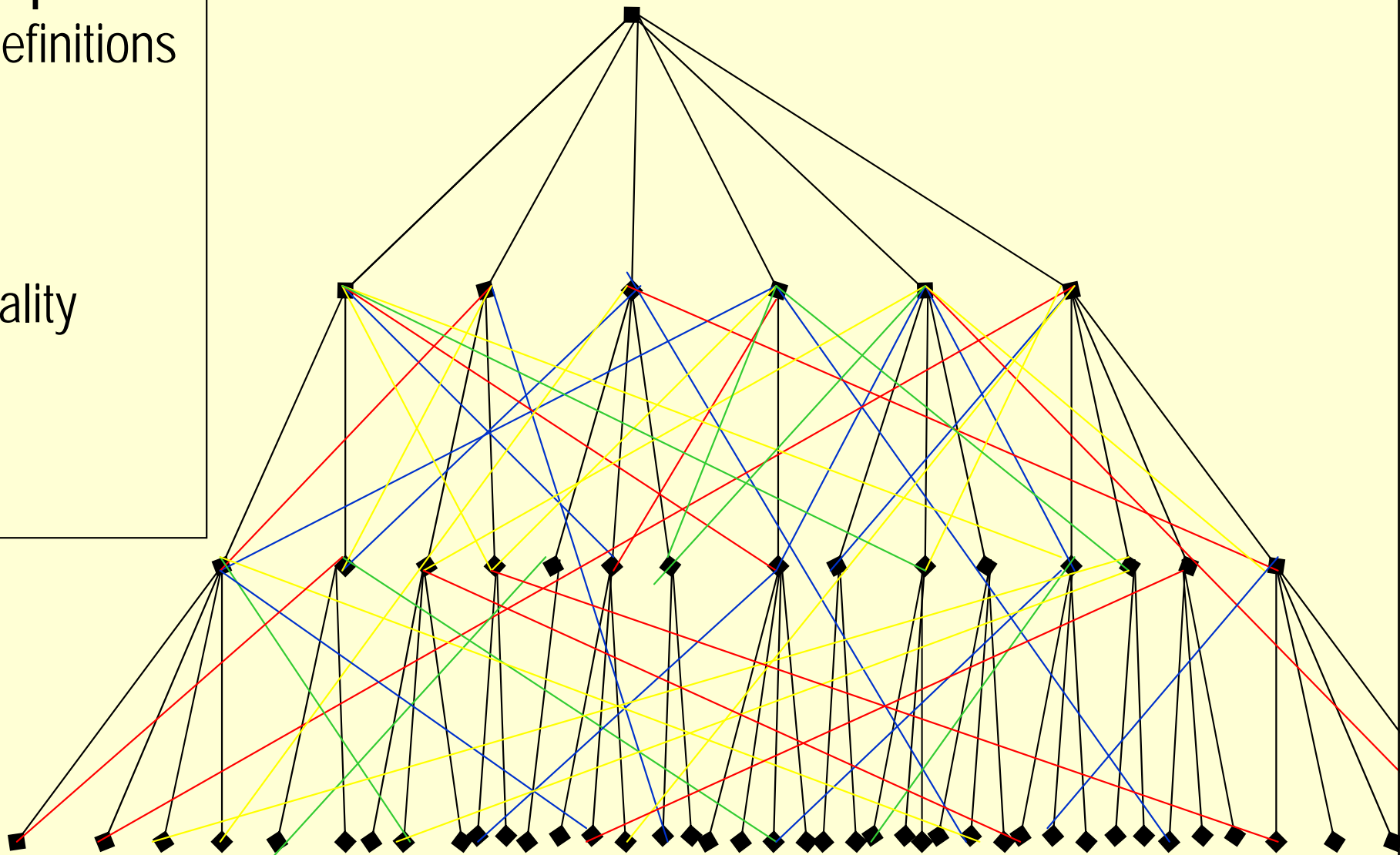
- Definition
 - Language translations
- Preferred string
 - Language translations
- Synonyms
 - Language translations
- *Index Terms*



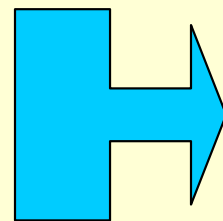
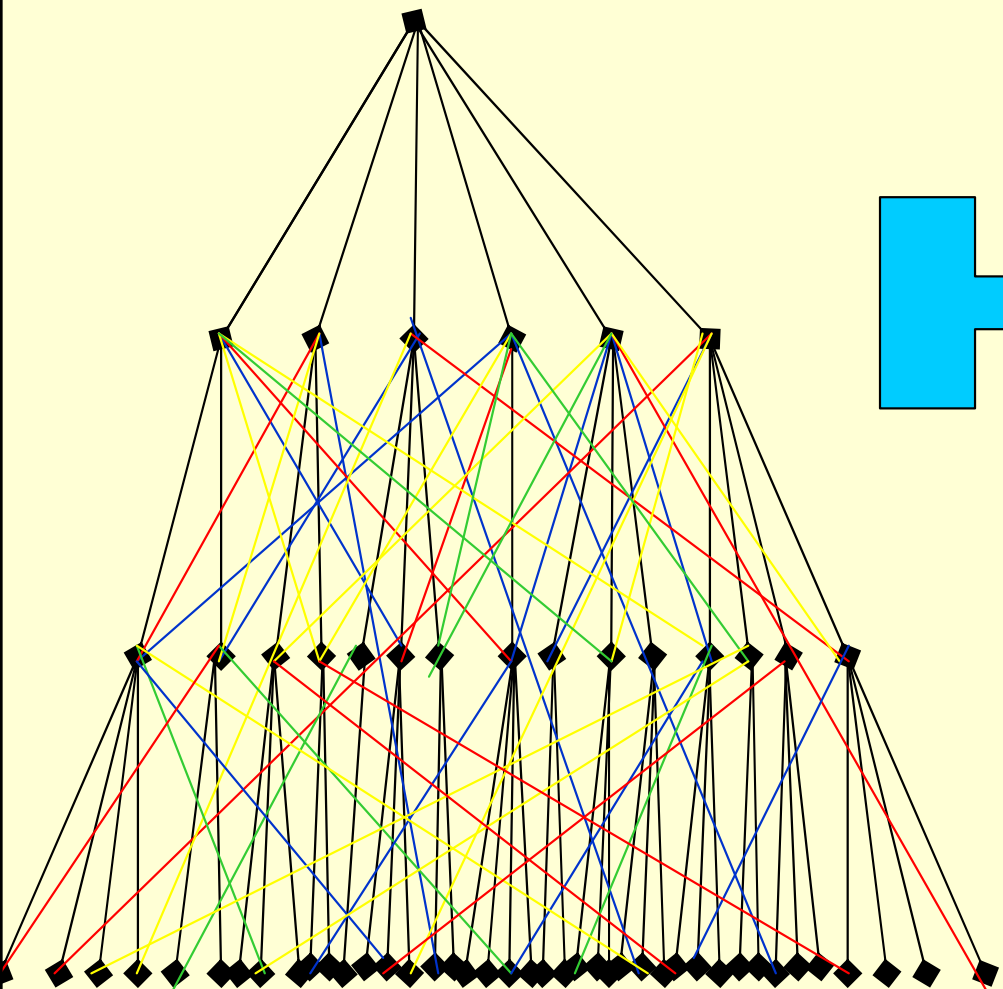
Addition of semantic arcs - Ontology

Relationships

- Logical Definitions
- Etiology
- Genomic
- Location
 - Laterality
- Histology
- Severity
- Acuity



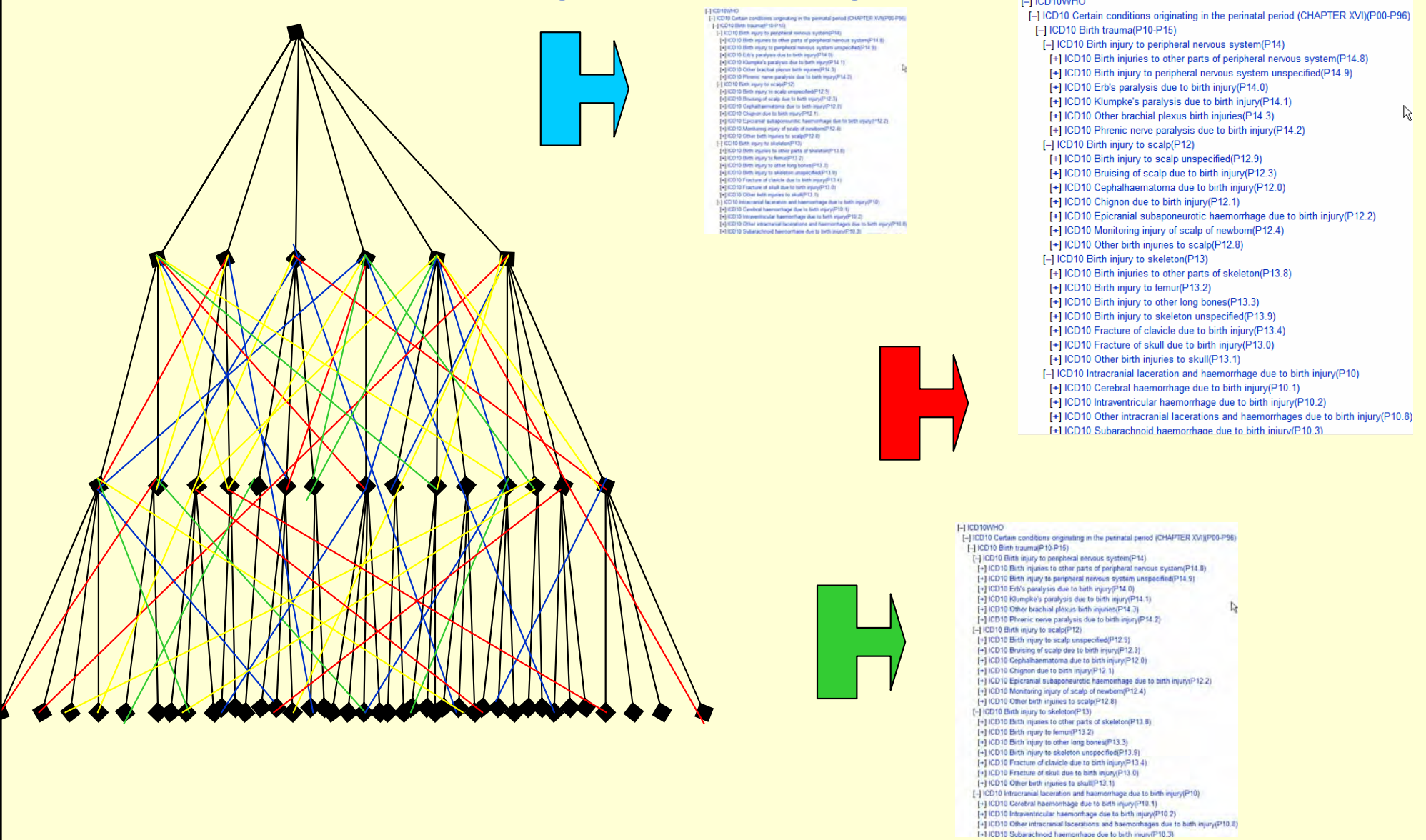
Serialization of "the cloud" Algorithmic Derivation



- [-] ICD10WHO
- [-] ICD10 Certain conditions originating in the perinatal period (CHAPTER XVI)(P00-P96)
- [-] ICD10 Birth trauma(P10-P15)
 - [-] ICD10 Birth injury to peripheral nervous system(P14)
 - [+] ICD10 Birth injuries to other parts of peripheral nervous system(P14.8)
 - [+] ICD10 Birth injury to peripheral nervous system unspecified(P14.9)
 - [+] ICD10 Erb's paralysis due to birth injury(P14.0)
 - [+] ICD10 Klumpke's paralysis due to birth injury(P14.1)
 - [+] ICD10 Other brachial plexus birth injuries(P14.3)
 - [+] ICD10 Phrenic nerve paralysis due to birth injury(P14.2)
 - [-] ICD10 Birth injury to scalp(P12)
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 - [+] ICD10 Chignon due to birth injury(P12.1)
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 - [+] ICD10 Fracture of skull due to birth injury(P13.0)
 - [+] ICD10 Other birth injuries to skull(P13.1)
 - [-] ICD10 Intracranial laceration and haemorrhage due to birth injury(P10)
 - [+] ICD10 Cerebral haemorrhage due to birth injury(P10.1)
 - [+] ICD10 Intraventricular haemorrhage due to birth injury(P10.2)
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 - [+] ICD10 Subarachnoid haemorrhage due to birth injury(P10.3)

Linear views may serve multiple use-cases

Morbidity, Mortality, Quality, ...



```

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```

Task

- Distributed editing of a complex information resource (aka ICD family members)
- Intuitive and simple user interface
- No cost to users; open source resources
- Low-profile application; thin-client (web based)
- Capacity to set hierarchy of permissions

ICD-10 Plus

ICD-11 draft

ICD Terminology

Application

**ICD-10 +
WEB Application**

Hi-Ki
Joint-authoring Tool
WIKI like application

**Protégé/OWL
LEXGRID**

Key Tasks

- **Clinical Modification Owners** enter their **CM** version Codes
- **TAG** and **Workgroups** enter proposals

- **TAG Experts for ICD-11**
- **WHO editors**
 - Taxonomic rules
 - Definitions
 - Diagnostic criteria

- **Ontology Model**
- **Linkages between ICD and:**
 - SNOMED
 - Other ontology & terminologies
- **Clinical interface algorithms**

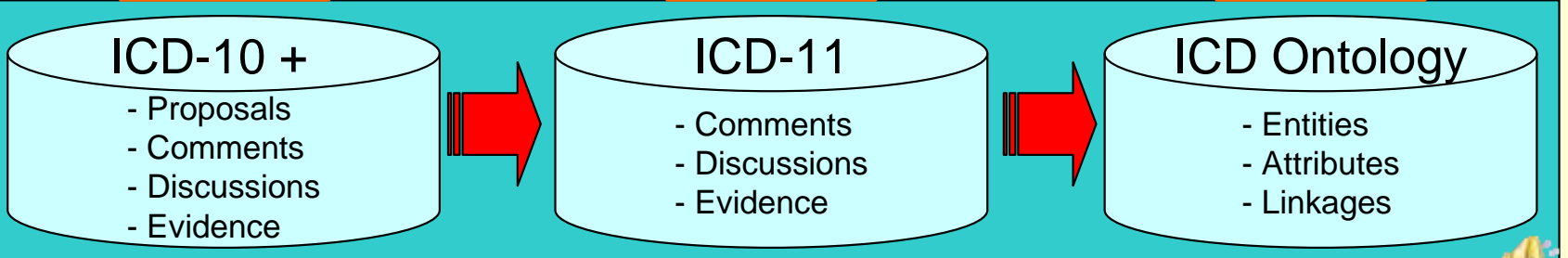
Access

- **ANY USER** can **POST** proposals or comments.
- **ANY USER** can **REVIEW** other proposals and discuss.

- **ALL USERS** can see drafts and comment.

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Technical Layer



Second Phase Requirements

1. Robust back-end for content
 - Capable of appropriate exports (e.g. ClaML)
2. Description Logic capability
3. Aggregation Logic (rule) support
4. Leverage industry and community standards
 - Semantic Web, DL, open-source tools
5. Integrate with existing terminologies
 - IHTSDO, Gene Ontology, LOINC,

Implies Suite of ICD 11 Development Tools

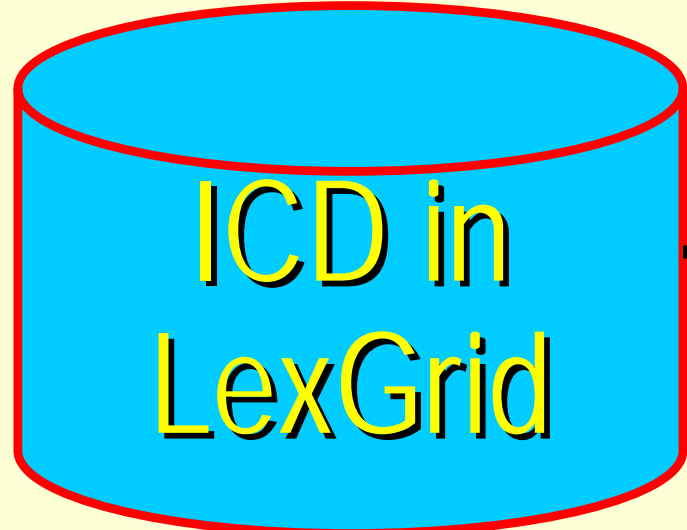
- Light-weight distributed editor
- Robust DL capable editor
- Robust persistence (storage) layer
 - Archival Back-end
 - Formats for input/output
 - RDF, XLM, ClaML, OWL, HL7, CSV (Excel), etc.
 - Interlinkage with Terminology content
- Workflow management
 - Workflow status

Tool Collaboration

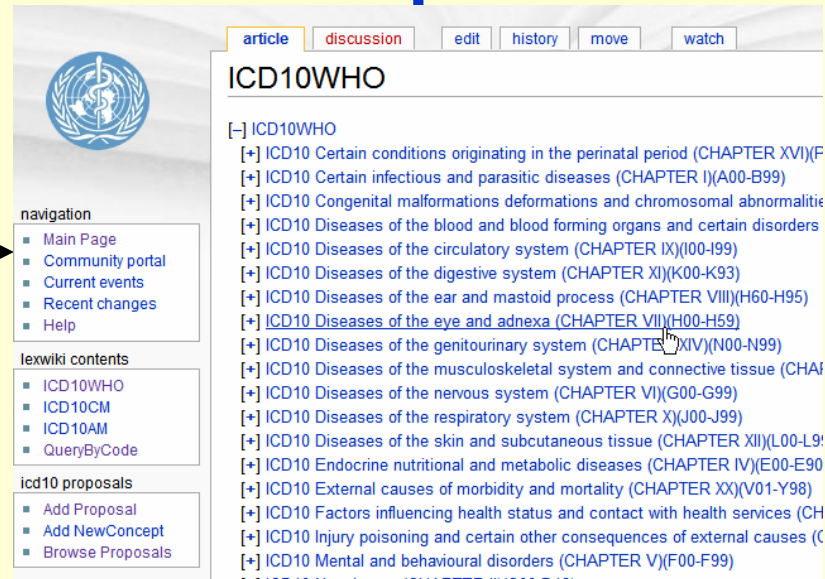
Open-source distributed authoring

- Mayo Clinic, Division of Biomedical Informatics
- Apelon – terminology consultants
- NCI – National Cancer Institute
 - caBIG – Bioinformatics Grid
 - NCI Thesaurus development task
- Stanford – Biomedical Informatics Research
 - Developers of Protégé and Collaborative Protégé
 - National Center for Biomedical Ontologies

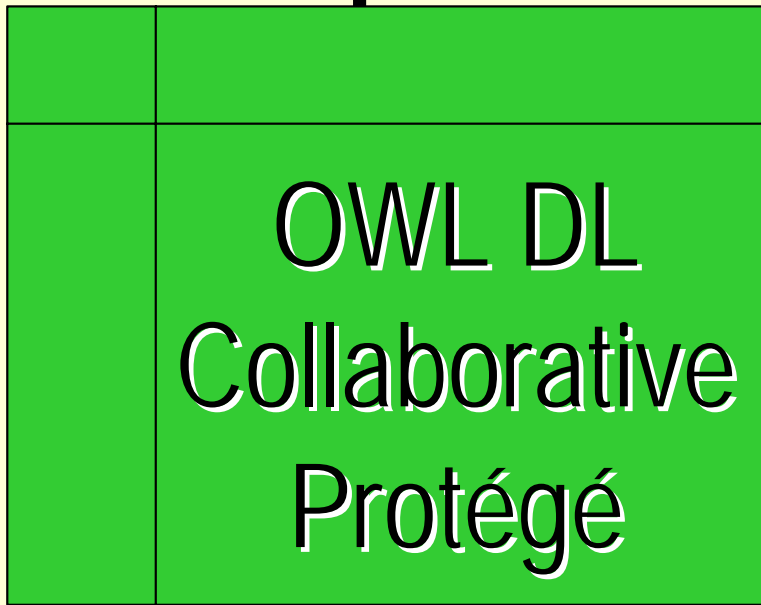
ICD 11 Editing Process in Development



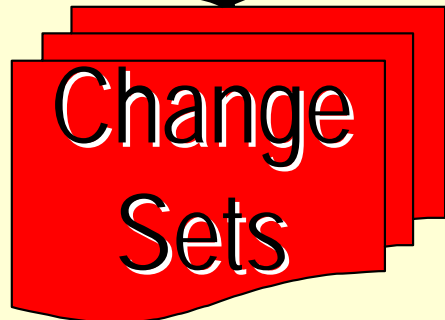
Export and Load



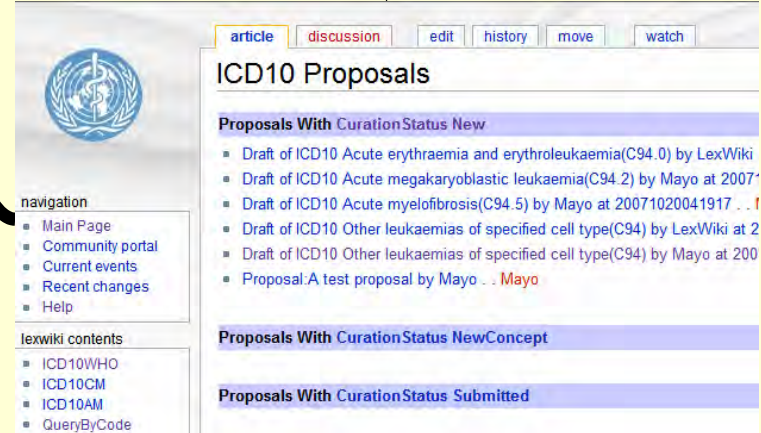
OWL RDF dump



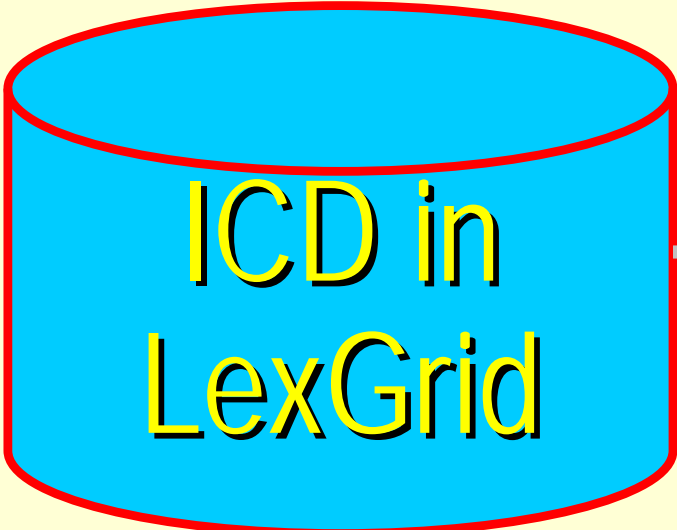
HL7/ISO format



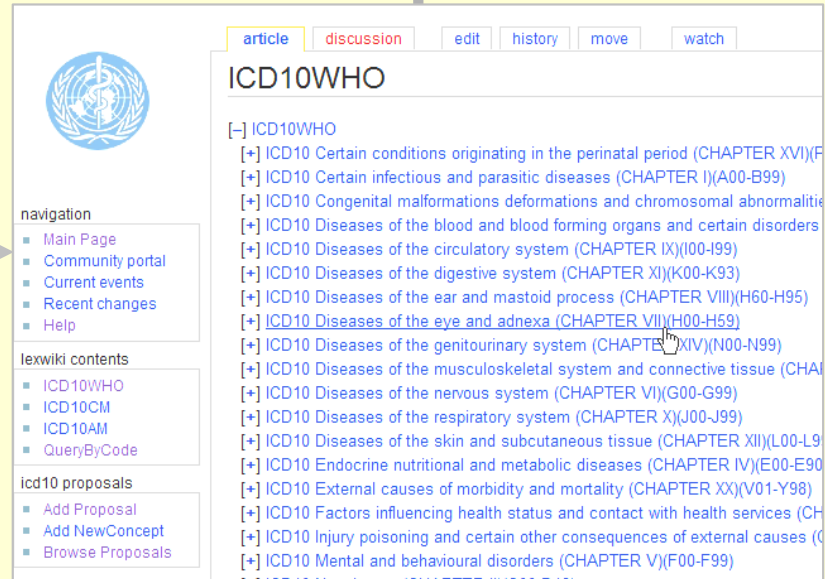
Review and select



ICD 11 Editing Process in Development



Export and Load



ICD10WHO

- [-] ICD10WHO
- [+] ICD10 Certain conditions originating in the perinatal period (CHAPTER XVI)(F00-F09)
- [+] ICD10 Certain infectious and parasitic diseases (CHAPTER I)(A00-B99)
- [+] ICD10 Congenital malformations deformations and chromosomal abnormalities (CHAPTER II)(Q00-Q99)
- [+] ICD10 Diseases of the blood and blood forming organs and certain disorders involving the immune mechanism (CHAPTER III)(D00-D99)
- [+] ICD10 Diseases of the circulatory system (CHAPTER IX)(I00-I99)
- [+] ICD10 Diseases of the digestive system (CHAPTER XI)(K00-K93)
- [+] ICD10 Diseases of the ear and mastoid process (CHAPTER VIII)(H60-H95)
- [+] ICD10 Diseases of the eye and adnexa (CHAPTER VII)(H00-H59)
- [+] ICD10 Diseases of the genitourinary system (CHAPTER XIV)(N00-N99)
- [+] ICD10 Diseases of the musculoskeletal system and connective tissue (CHAPTER X)(M00-M99)
- [+] ICD10 Diseases of the nervous system (CHAPTER VI)(G00-G99)
- [+] ICD10 Diseases of the respiratory system (CHAPTER X)(J00-J99)
- [+] ICD10 Diseases of the skin and subcutaneous tissue (CHAPTER XII)(L00-L99)
- [+] ICD10 Endocrine nutritional and metabolic diseases (CHAPTER IV)(E00-E90)
- [+] ICD10 External causes of morbidity and mortality (CHAPTER XX)(V01-Y98)
- [+] ICD10 Factors influencing health status and contact with health services (CHAPTER V)(Z00-Z99)
- [+] ICD10 Injury poisoning and certain other consequences of external causes (CHAPTER S)(S00-T98)
- [+] ICD10 Mental and behavioural disorders (CHAPTER V)(F00-F99)
- [+] ICD10 Neoplasms (CHAPTER II)(C00-D49)

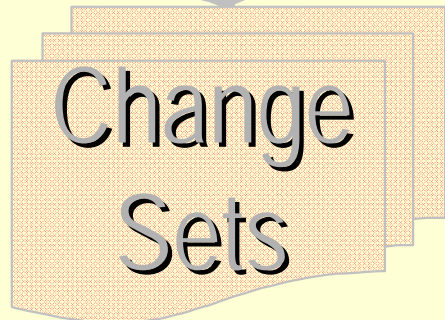
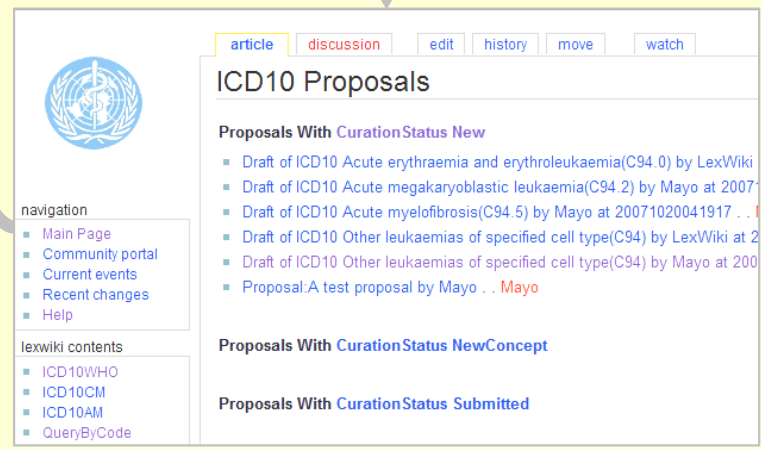
Review and select

OWL RDF dump



OWL DL Collaborative Protégé

HL7/ISO format

ICD10 Proposals

Proposals With CurationStatus New

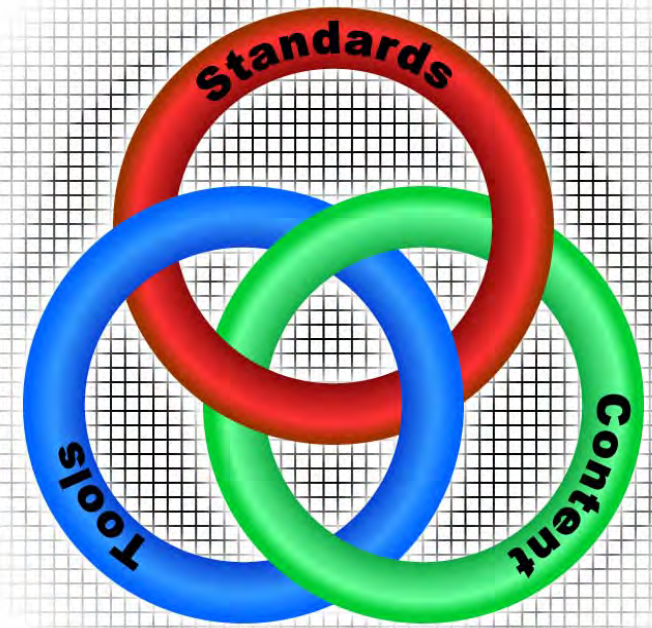
- Draft of ICD10 Acute erythraemia and erythroleukaemia(C94.0) by LexWiki
- Draft of ICD10 Acute megakaryoblastic leukaemia(C94.2) by Mayo at 20071020041917 . . .
- Draft of ICD10 Acute myelofibrosis(C94.5) by Mayo at 20071020041917 . . .
- Draft of ICD10 Other leukaemias of specified cell type(C94) by LexWiki at 20071020041917 . . .
- Draft of ICD10 Other leukaemias of specified cell type(C94) by Mayo at 20071020041917 . . .
- Proposal:A test proposal by Mayo . . . Mayo

Proposals With CurationStatus NewConcept

Proposals With CurationStatus Submitted

LexGrid Ontology Services as *Backend*

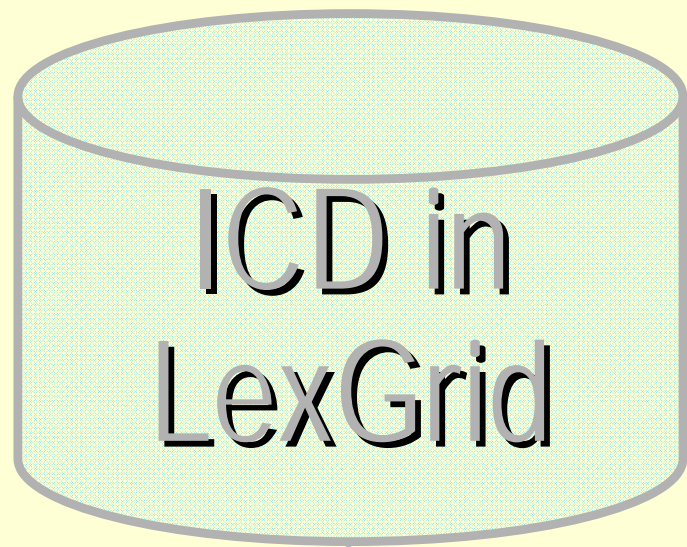
- HL7 ANSI Standard
- ISO DIS
- Open specification & source
- *Provide consistency and standardization required to support large-scale vocabulary adoption and use*
 - Common *model*, tools, formats, and interfaces
- Standard terminology model (Excel to OWL)
- Grid-nodal architecture
- <http://informatix.mayo.edu>



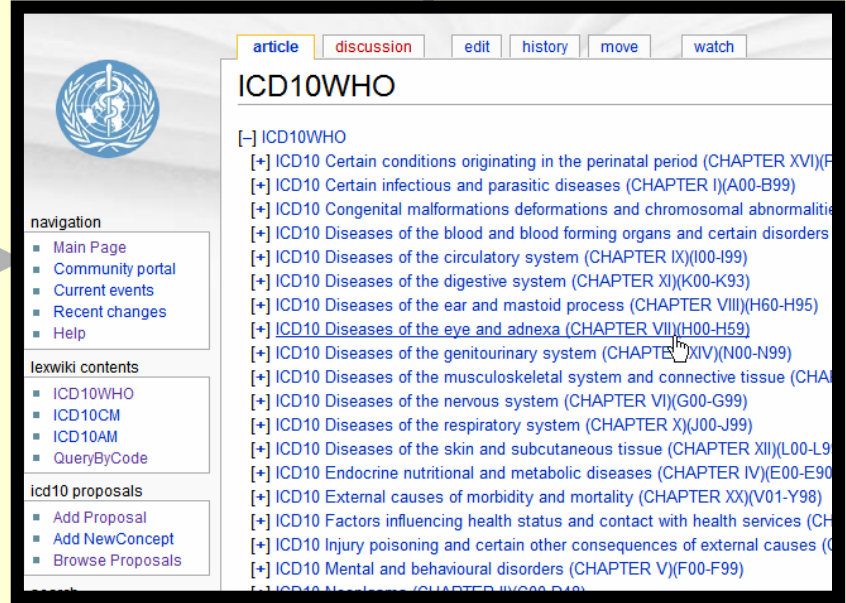
LexGrid aspects relevant to ICD-11

- Support for formal definitions, synonyms
- Standards-based import and export
- Supports multiple languages
 - Using 16-bit character sets (Asian languages)
- Cross-linking across codes systems
 - Terminology to classification linkage
- Can hold logic rules
 - OWL Description Logic style relationships
 - Can contain "coding rules," index, entry points,...
- Capacity to serve as central archive
 - Support nodal replication, synchronization

ICD 11 Editing Process in Development



Export and Load

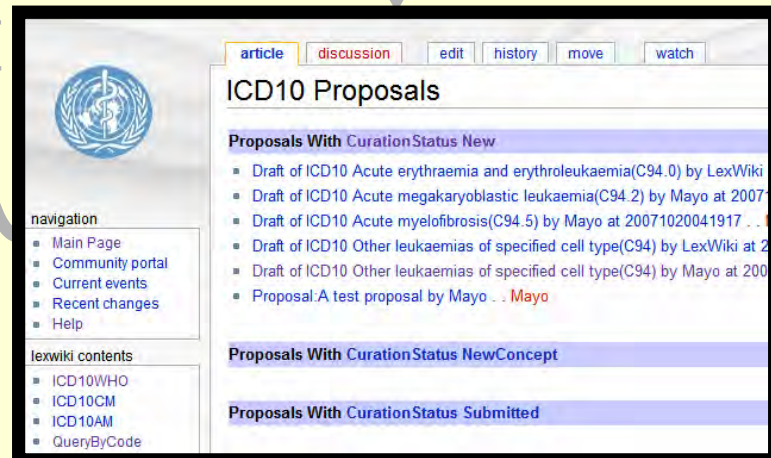
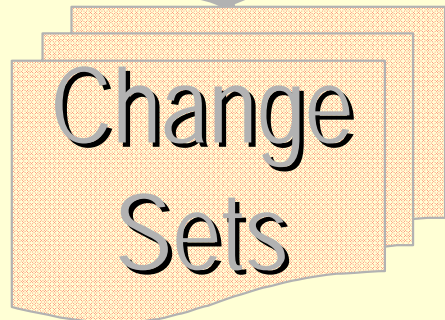


Review and select

OWL RDF dump



HL7/ISO format



Wiki

Basis for *Light-weight editor*

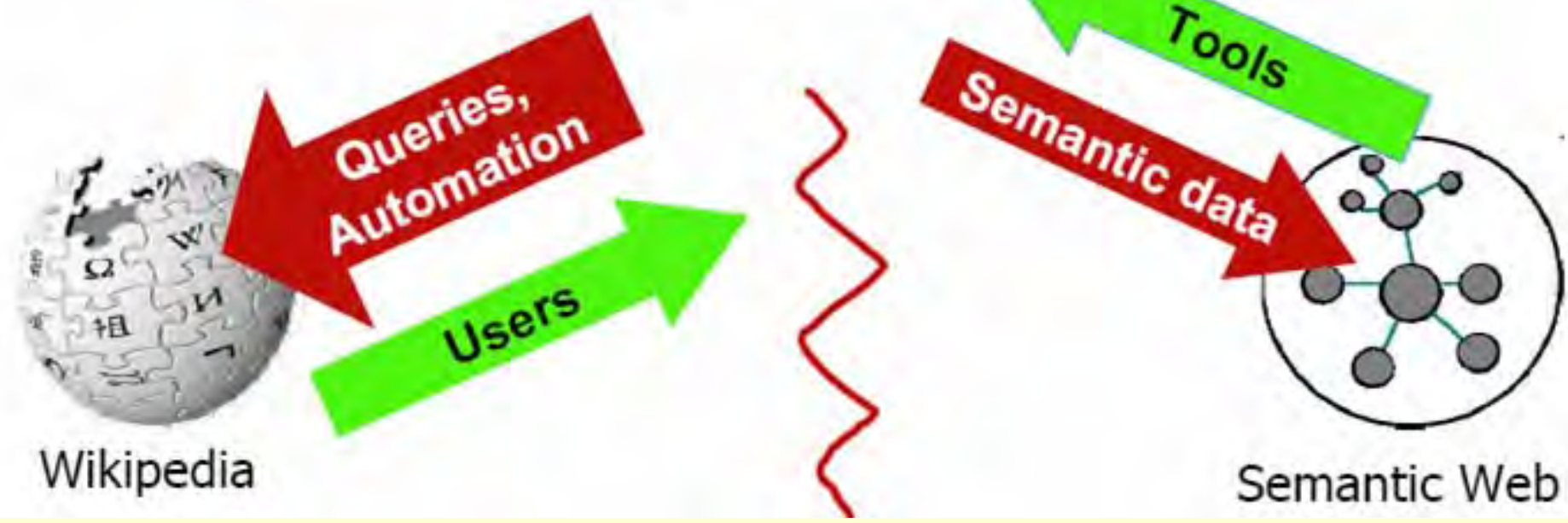
- The largest and most successful “social computing” project in history
- Tools and resources to permit huge communities to asynchronously author and edit complex resources
- Computer engineering of impressive capacity
 - Wikipedia manages >12,000 hits/second
 - Includes transactional edits

W3C Semantic Web

- Explosion of methods, standards, tools
- Transform the practicality of complex concept management
 - XML – simple, interoperable syntax
 - RDF – simple data structure for semantic content
 - OWL – ontology authoring and interchange

Goal: Marrying Wikipedia and the Semantic Web

- Wikipedia has many users and content, but: many manual processes, text-based search
- Semantic Web has sophisticated information processing, but: few data



From:



search

navigation

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icd10 classifications

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- [ICD10CM](#)
- [ICD10AM](#)
- [QueryByCode](#)

icd10 proposals

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- [Add NewConcept](#)
- [Browse Proposal](#)
- [By CurationStatus](#)

toolbox

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LexWiki

(Redirected from [Main Page](#))

Leave a comment ...

ICD10+ Collaborative Revision Platform

This is a ICD10+ collaborative content development platform based on Semantic MediaWiki.

See [Quick Start Guide - A walk through the wiki and workflow process](#)

ICD10 Classifications

- [ICD10WHO](#) - The Second Edition of the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10).
- [ICD10CM](#) - The 2007 release of International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM).
- [ICD10AM](#) - The Fifth Edition of International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM).

LexWiki SandBox

Users may play here to get familiar with ICD10 content representation and proposal creation. See [Help Page](#).

[+] [SandBox ICD10 Other leukaemias of specified cell type\(C94\)](#)

User Scenarios and Usability

- [User Scenarios](#) - a page to describe the potential user roles and general user scenarios.
- [ICD Collaborative Platform Integration](#) - a collaborative effort for integration of the LexWiki with the [WHO ICD₁₀ Revision Platform](#) .
- [LexWiki Feature Request](#) - a page to add your feature request.

testGraph

Getting started with Wikis



LexWiki ICD

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ICD10CM

This 2007 release of the **International Classification of Diseases, 10th revision, Clinical Modification (ICD-10-CM)** is being published by the United States Government in recognition of its responsibility to promulgate this classification throughout the United States for morbidity coding. **The International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10)**, published by the World Health Organization (WHO), is the foundation of ICD-10-CM. [From ICD-10-CM PREFACE, July 2007 Release]

[\[-\] ICD10CM](#)

[\[+\] ICD10CM Accidents\(V00-X58\)](#)

[\[+\] ICD10CM Certain conditions originating in the perinatal period \(CHAPTER 16\)\(P00-P96\)](#)

[\[+\] ICD10CM Certain infectious and parasitic diseases \(CHAPTER 1\)\(A00-B99\)](#)

[\[+\] ICD10CM Congenital malformations deformations and chromosomal abnormalities \(CHAPTER 17\)\(Q00-Q99\)](#)

[\[+\] ICD10CM Diseases of the blood and blood forming organs and certain disorders involving the immune mechanism \(CHAPTER 3\)\(D50-D89\)](#)

[\[+\] ICD10CM Diseases of the circulatory system \(CHAPTER 9\)\(I00-I99\)](#)

[\[-\] ICD10CM Diseases of the digestive system \(CHAPTER 11\)\(K00-K93\)](#)

[\[+\] ICD10CM Diseases of appendix\(K35-K38\)](#)

[\[+\] ICD10CM Diseases of esophagus stomach and duodenum\(K20-K31\)](#)

[\[-\] ICD10CM Diseases of liver\(K70-K77\)](#)

[\[+\] ICD10CM Alcoholic liver disease\(K70\)](#)

[\[+\] ICD10CM Chronic hepatitis not elsewhere classified\(K73\)](#)

[\[+\] ICD10CM Fibrosis and cirrhosis of liver\(K74\)](#)

[\[+\] ICD10CM Hepatic failure not elsewhere classified\(K72\)](#)


[\[+\] ICD10CM Liver disorders in diseases classified elsewhere\(K77\)](#)

[\[+\] ICD10CM Other diseases of liver\(K76\)](#)

[\[+\] ICD10CM Other inflammatory liver diseases\(K75\)](#)

[\[+\] ICD10CM Toxic liver disease\(K71\)](#)

[\[+\] ICD10CM Diseases of oral cavity and salivary glands\(K00-K14\)](#)

search 

navigation

- [Main Page](#)
- [Community portal](#)
- [Current events](#)
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icd10 classifications

- [ICD10WHO](#)
- [ICD10CM](#)
- [ICD10AM](#)
- [QueryByCode](#)

icd10 proposals

- [Add Proposal](#)
- [Add NewConcept](#)
- [Browse Proposal](#)
- [By CurationStatus](#)

toolbox

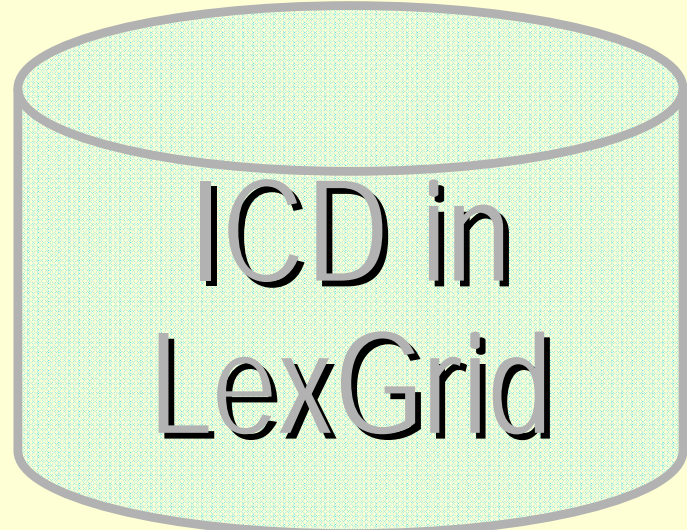
- [What links here](#)
- [Related changes](#)
- [Upload file](#)
- [Special pages](#)



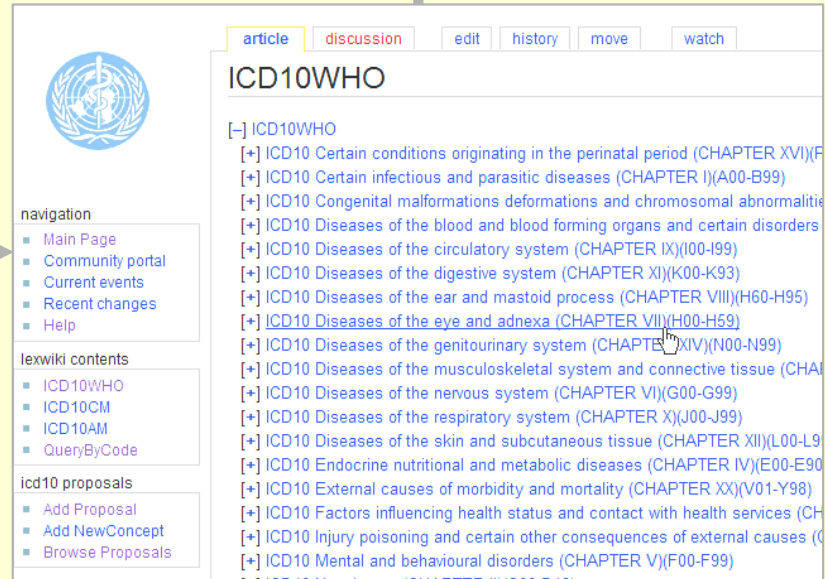
Proposed Hierarchy of Wiki Authority by ICD Domain (not implemented)

- 0 Revision Steering Committee
- 1 Revision Domain/Topic Working Groups & WHO-FIC Network
- 2 Accredited Experts
 - Designated by Working Group Members & WHO-FIC Network
- 3 Accredited Persons
 - Designated by Experts
- 4 Registered Interested Persons (Public)

ICD 11 Editing Process in Development



Export and Load



ICD10WHO

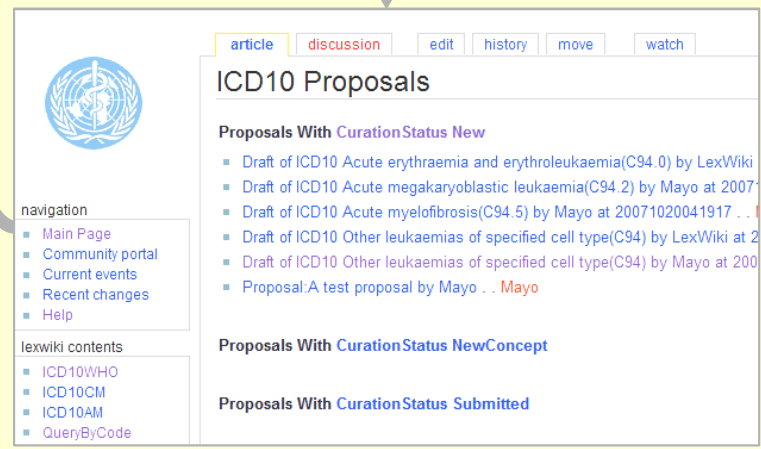
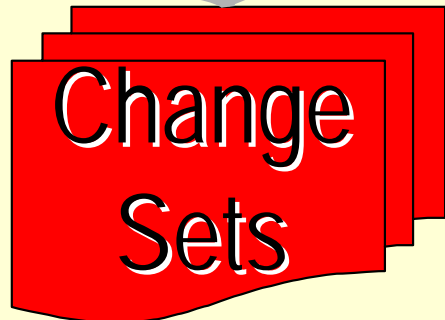
- [-] ICD10WHO
- [+] ICD10 Certain conditions originating in the perinatal period (CHAPTER XVI)(F00-F09)
- [+] ICD10 Certain infectious and parasitic diseases (CHAPTER I)(A00-B99)
- [+] ICD10 Congenital malformations deformations and chromosomal abnormalities (CHAPTER II)(Q00-Q99)
- [+] ICD10 Diseases of the blood and blood forming organs and certain disorders involving the immune mechanism (CHAPTER III)(D00-D99)
- [+] ICD10 Diseases of the circulatory system (CHAPTER IX)(I00-I99)
- [+] ICD10 Diseases of the digestive system (CHAPTER XI)(K00-K93)
- [+] ICD10 Diseases of the ear and mastoid process (CHAPTER VIII)(H60-H95)
- [+] ICD10 Diseases of the eye and adnexa (CHAPTER VII)(H00-H59)
- [+] ICD10 Diseases of the genitourinary system (CHAPTER XIV)(N00-N99)
- [+] ICD10 Diseases of the musculoskeletal system and connective tissue (CHAPTER X)(M00-M99)
- [+] ICD10 Diseases of the nervous system (CHAPTER VI)(G00-G99)
- [+] ICD10 Diseases of the respiratory system (CHAPTER X)(J00-J99)
- [+] ICD10 Diseases of the skin and subcutaneous tissue (CHAPTER XII)(L00-L99)
- [+] ICD10 Endocrine nutritional and metabolic diseases (CHAPTER IV)(E00-E90)
- [+] ICD10 External causes of morbidity and mortality (CHAPTER XX)(V01-Y98)
- [+] ICD10 Factors influencing health status and contact with health services (CHAPTER III)(Z00-Z99)
- [+] ICD10 Injury poisoning and certain other consequences of external causes (CHAPTER II)(S00-T98)
- [+] ICD10 Mental and behavioural disorders (CHAPTER V)(F00-F99)
- [+] ICD10 Neoplasms (CHAPTER II)(C00-D49)

Review and select

OWL RDF dump



HL7/ISO format



ICD10 Proposals

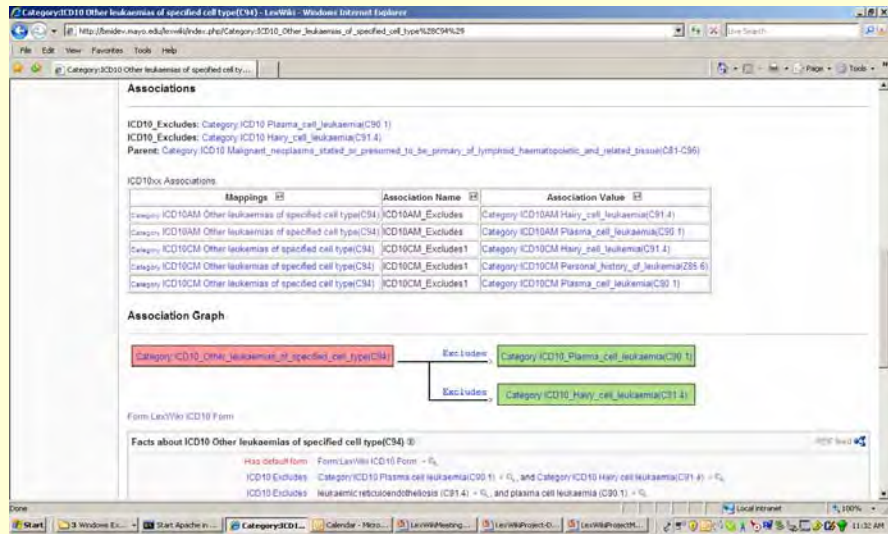
Proposals With CurationStatus New

- Draft of ICD10 Acute erythraemia and erythroleukaemia(C94.0) by LexWiki
- Draft of ICD10 Acute megakaryoblastic leukaemia(C94.2) by Mayo at 20071020041917 . . .
- Draft of ICD10 Acute myelofibrosis(C94.5) by Mayo at 20071020041917 . . .
- Draft of ICD10 Other leukaemias of specified cell type(C94) by LexWiki at 20071020041917 . . .
- Draft of ICD10 Other leukaemias of specified cell type(C94) by Mayo at 20071020041917 . . .
- Proposal:A test proposal by Mayo . . . Mayo

Proposals With CurationStatus NewConcept

Proposals With CurationStatus Submitted

Changeset Model by Annotation Ontology (Protégé/LexWiki Interface)



Category: ICD10 Other leukaemias of specified cell type(C94) - LexWiki

ICD10_Excludes: Category ICD10 Plasma_cell_leukaemia(C90.1)
 ICD10_Excludes: Category ICD10 Hairy_cell_leukaemia(C91.4)
 Parent: Category ICD10 Malignant_neoplasms_sit_preferred_to_be_primary_of_lymphoid_haematopoietic_and_related_tissues(C81-C96)

Category	Association Name	Association Value
Category ICD10AM Other leukaemias of specified cell type(C84)	ICD10AM_Excludes	Category ICD10AM Hairy_cell_leukaemia(C91.4)
Category ICD10AM Other leukaemias of specified cell type(C84)	ICD10AM_Excludes	Category ICD10AM Plasma_cell_leukaemia(C90.1)
Category ICD10CM Other leukaemias of specified cell type(C84)	ICD10CM_Excludes1	Category ICD10CM Hairy_cell_leukaemia(C91.4)
Category ICD10CM Other leukaemias of specified cell type(C84)	ICD10CM_Excludes1	Category ICD10CM Personal_history_of_leukaemia(Z85.6)
Category ICD10CM Other leukaemias of specified cell type(C84)	ICD10CM_Excludes1	Category ICD10CM Plasma_cell_leukaemia(C90.1)

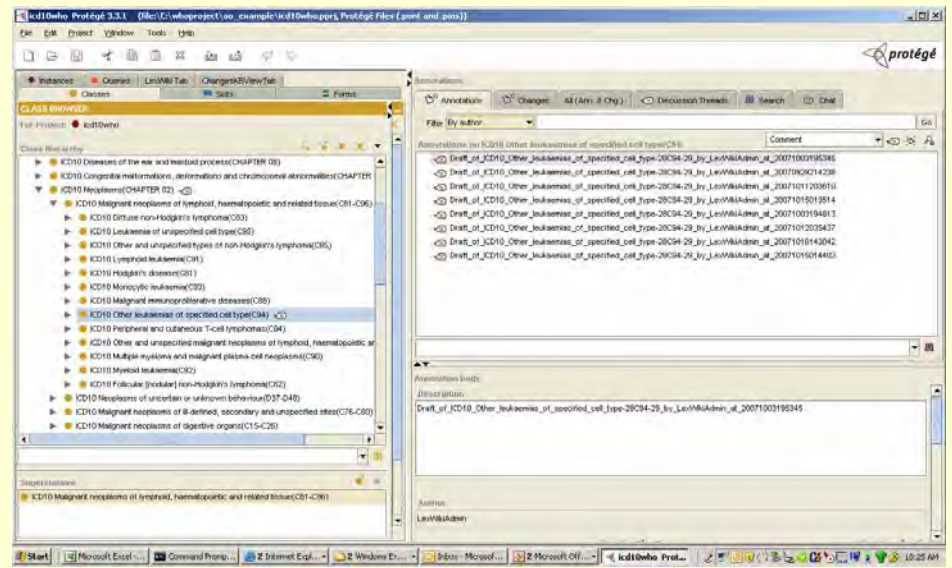
Association Graph

```

  graph TD
    A[Category ICD10_CM_Other_leukaemias_of_specified_cell_type(C84)] -- Excludes --> B[Category ICD10_Plasma_cell_leukaemia(C90.1)]
    A -- Excludes --> C[Category ICD10_Hairy_cell_leukaemia(C91.4)]
  
```

Facts about ICD10 Other leukaemias of specified cell type(C94) Ⓢ

Has default form: Form: LexWiki ICD10 Form - Ⓢ
 ICD10_Excludes: Category ICD10 Plasma_cell_leukaemia(C90.1) ≠ Ⓢ, and Category ICD10 Hairy_cell_leukaemia(C91.4) ≠ Ⓢ
 ICD10_Excludes: Malignant_reitrospondioblastosis (C91.4) ≠ Ⓢ, and plasma_cell_leukaemia (C90.1) ≠ Ⓢ.



ICD10leho Protégé 3.3.1

Instances: Classes, Instances, LexWikiTab, ChangesetViewTab

Class Hierarchy

- ICD10 Diseases of the ear and hearing process (CHAPTER 08)
- ICD10 Congenital malformations, deformations and chromosomal abnormalities (CHAPTER 09)
- ICD10 Neoplasms (CHAPTER 10)
 - ICD10 Malignant neoplasms of lymphoid, hematopoietic and related tissues (C81-C96)
 - ICD10 Other and unspecified types of non-Hodgkin's lymphoma (C82)
 - ICD10 Leukemias of unspecified cell type (C85)
 - ICD10 Other and unspecified types of non-Hodgkin's lymphoma (C85)
 - ICD10 Lymphoid leukaemias (C81)
 - ICD10 Hodgkin's disease (C81)
 - ICD10 Monocytic leukaemia (C92)
 - ICD10 Malignant neuroendocrine diseases (C88)
 - ICD10 Other leukaemias of specified cell type (C84) - Ⓢ
 - ICD10 Peripheral and cutaneous T-cell lymphomas (C84)
 - ICD10 Other and unspecified malignant neoplasms of lymphoid, hematopoietic and related tissues (C81-C96)
 - ICD10 Multiple myeloma and malignant plasma cell neoplasms (C90)
 - ICD10 Myeloid leukaemia (C82)
 - ICD10 Follicular (nodular) non-Hodgkin's lymphoma (C82)
 - ICD10 Neoplasms of uncertain or unknown behavior (C83-C86)
 - ICD10 Malignant neoplasms of the testes, secondary and unspecified sites (C76-C80)
 - ICD10 Malignant neoplasms of digestive organs (C15-C26)

Annotations

File: By author

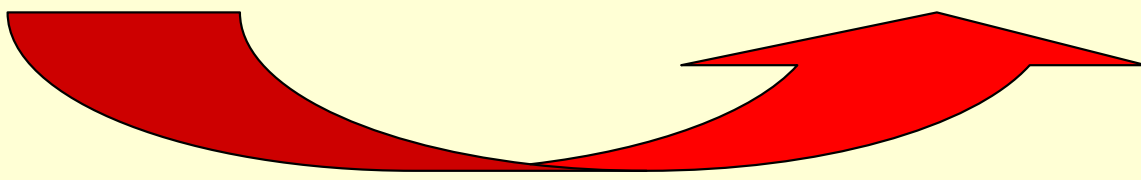
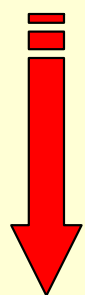
Annotations for ICD10 Other leukaemias of specified cell type(C94)

- Drat_of_ICD10_Other_leukaemias_of_specified_cell_type-20034-29_by_LexWikiAdmin_at_20071003190345
- Drat_of_ICD10_Other_leukaemias_of_specified_cell_type-20034-29_by_LexWikiAdmin_at_2007100214238
- Drat_of_ICD10_Other_leukaemias_of_specified_cell_type-20034-29_by_LexWikiAdmin_at_20071011203610
- Drat_of_ICD10_Other_leukaemias_of_specified_cell_type-20034-29_by_LexWikiAdmin_at_20071015019514
- Drat_of_ICD10_Other_leukaemias_of_specified_cell_type-20034-29_by_LexWikiAdmin_at_20071003194813
- Drat_of_ICD10_Other_leukaemias_of_specified_cell_type-20034-29_by_LexWikiAdmin_at_200710012005437
- Drat_of_ICD10_Other_leukaemias_of_specified_cell_type-20034-29_by_LexWikiAdmin_at_20071016143042
- Drat_of_ICD10_Other_leukaemias_of_specified_cell_type-20034-29_by_LexWikiAdmin_at_20071016014403

Annotation 3-sets

Drat_of_ICD10_Other_leukaemias_of_specified_cell_type-20034-29_by_LexWikiAdmin_at_20071003190345

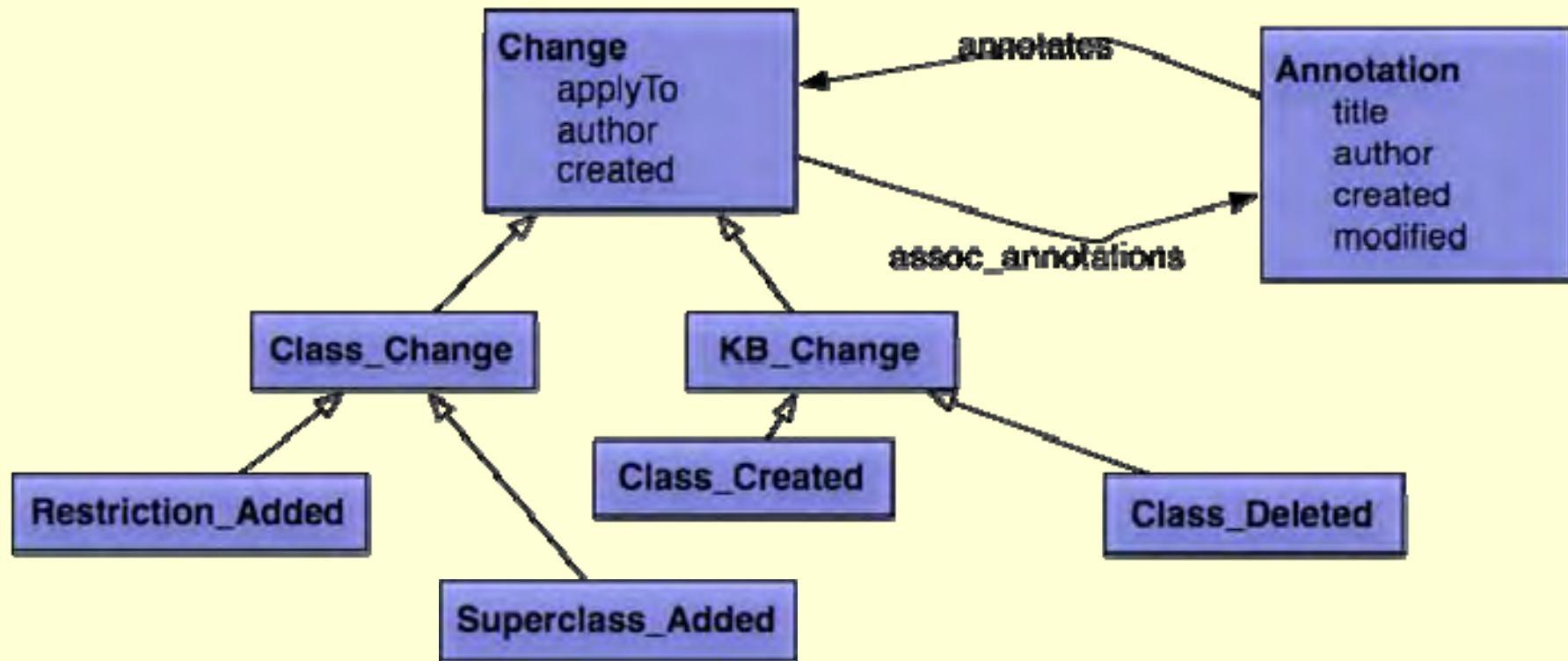
Author: LexWikiAdmin



Portable ChangeSet
In RDF format

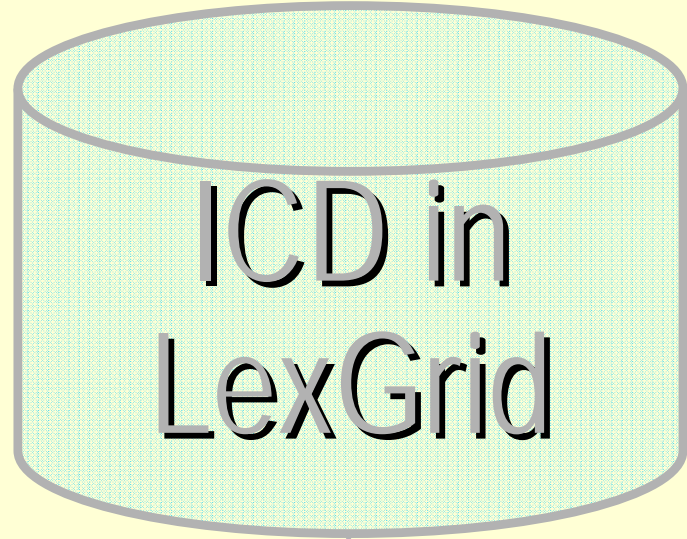
Export/Load Change Set
Into Collaborative Protege

ChAO: Change and Annotations Ontology

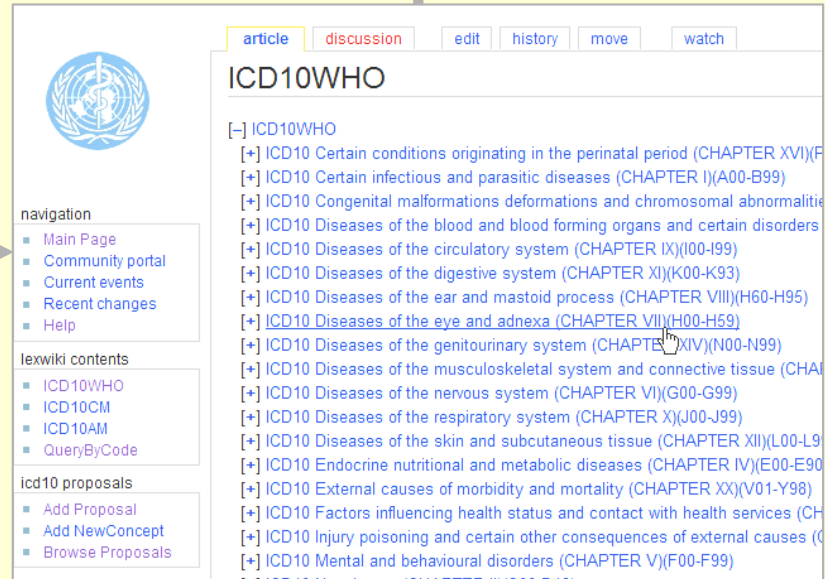


N. Noy, A Framework for Ontology Evolution in Collaborative Environments, ISWC06

ICD 11 Editing Process in Development



Export and Load




ICD10WHO

- [-] ICD10WHO
- [+] ICD10 Certain conditions originating in the perinatal period (CHAPTER XVI)(F00-F09)
- [+] ICD10 Certain infectious and parasitic diseases (CHAPTER I)(A00-B99)
- [+] ICD10 Congenital malformations deformations and chromosomal abnormalities (CHAPTER II)(Q00-Q99)
- [+] ICD10 Diseases of the blood and blood forming organs and certain disorders involving the immune mechanism (CHAPTER III)(D00-D89)
- [+] ICD10 Diseases of the circulatory system (CHAPTER IX)(I00-I99)
- [+] ICD10 Diseases of the digestive system (CHAPTER XI)(K00-K93)
- [+] ICD10 Diseases of the ear and mastoid process (CHAPTER VIII)(H60-H95)
- [+] ICD10 Diseases of the eye and adnexa (CHAPTER VII)(H00-H59)
- [+] ICD10 Diseases of the genitourinary system (CHAPTER XIV)(N00-N99)
- [+] ICD10 Diseases of the musculoskeletal system and connective tissue (CHAPTER X)(M00-M99)
- [+] ICD10 Diseases of the nervous system (CHAPTER VI)(G00-G99)
- [+] ICD10 Diseases of the respiratory system (CHAPTER X)(J00-J99)
- [+] ICD10 Diseases of the skin and subcutaneous tissue (CHAPTER XII)(L00-L99)
- [+] ICD10 Endocrine nutritional and metabolic diseases (CHAPTER IV)(E00-E90)
- [+] ICD10 External causes of morbidity and mortality (CHAPTER XX)(V01-Y98)
- [+] ICD10 Factors influencing health status and contact with health services (CHAPTER Z)(Z00-Z99)
- [+] ICD10 Injury poisoning and certain other consequences of external causes (CHAPTER S)(S00-T88)
- [+] ICD10 Mental and behavioural disorders (CHAPTER V)(F00-F99)
- [+] ICD10 Neoplasms (CHAPTER II)(C00-D49)

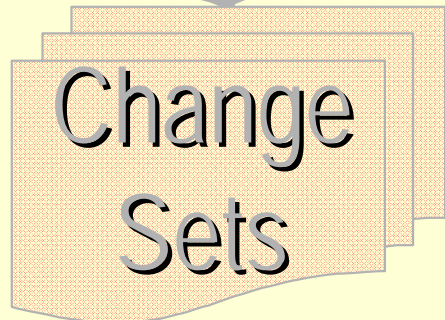
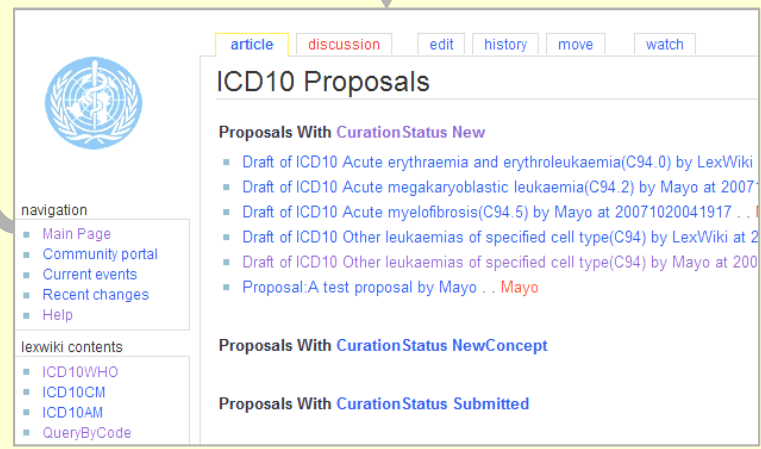
Review and select

OWL RDF dump



OWL DL Collaborative Protégé

HL7/ISO format

ICD10 Proposals

Proposals With CurationStatus New

- Draft of ICD10 Acute erythraemia and erythroleukaemia(C94.0) by LexWiki
- Draft of ICD10 Acute megakaryoblastic leukaemia(C94.2) by Mayo at 20071020041917
- Draft of ICD10 Acute myelofibrosis(C94.5) by Mayo at 20071020041917
- Draft of ICD10 Other leukaemias of specified cell type(C94) by LexWiki at 20071020041917
- Draft of ICD10 Other leukaemias of specified cell type(C94) by Mayo at 20071020041917
- Proposal:A test proposal by Mayo . . . Mayo

Proposals With CurationStatus NewConcept

Proposals With CurationStatus Submitted

Instances of Changes

icd10who Protégé 3.3.1 (file:\C:\whoproject\ao_example\icd10who.pprj, Protégé Files (.pont and .pins))

File Edit Project Window Tools Help



Instances Queries LexWiki Tab ChangesKBViewTab

Classes Slots Forms

CLASS BROWSER

For Project: icd10who

Class Hierarchy

- ▶ ICD10 Diseases of the ear and mastoid process(CHAPTER 08)
- ▶ ICD10 Congenital malformations, deformations and chromosomal abnormalities(CHAPTER 09)
- ▼ ICD10 Neoplasms(CHAPTER 02)
 - ▶ ICD10 Malignant neoplasms of lymphoid, haematopoietic and related tissue(C81-C96)
 - ▶ ICD10 Diffuse non-Hodgkin's lymphoma(C83)
 - ▶ ICD10 Leukaemia of unspecified cell type(C95)
 - ▶ ICD10 Other and unspecified types of non-Hodgkin's lymphoma(C85)
 - ▶ ICD10 Lymphoid leukaemia(C91)
 - ▶ ICD10 Hodgkin's disease(C81)
 - ▶ ICD10 Monocytic leukaemia(C93)
 - ▶ ICD10 Malignant immunoproliferative diseases(C88)
 - ▶ **ICD10 Other leukaemias of specified cell type(C94)**
 - ▶ ICD10 Peripheral and cutaneous T-cell lymphomas(C84)
 - ▶ ICD10 Other and unspecified malignant neoplasms of lymphoid, haematopoietic and related tissue(C81-C96)
 - ▶ ICD10 Multiple myeloma and malignant plasma cell neoplasms(C90)
 - ▶ ICD10 Myeloid leukaemia(C92)
 - ▶ ICD10 Follicular [nodular] non-Hodgkin's lymphoma(C82)
 - ▶ ICD10 Neoplasms of uncertain or unknown behaviour(D37-D48)
 - ▶ ICD10 Malignant neoplasms of ill-defined, secondary and unspecified sites(C76-C80)
 - ▶ ICD10 Malignant neoplasms of digestive organs(C15-C26)

Superclasses

- ▶ ICD10 Malignant neoplasms of lymphoid, haematopoietic and related tissue(C81-C96)

Annotations

Annotations Changes All (Ann. & Chg.) Discussion Threads Search Chat

Filter By author...

Changes for ICD10 Other leukaemias of specified cell type(C94)

- Property Changed at:Draft_of_ICD10_Other_leukaemias_of_specified_cell_type-28C94-29_by_LexWikiAdmin
- Property Changed at:Draft_of_ICD10_Other_leukaemias_of_specified_cell_type-28C94-29_by_LexWikiAdmin
- Property Changed at:Draft_of_ICD10_Other_leukaemias_of_specified_cell_type-28C94-29_by_LexWikiAdmin
- Property Changed at:Draft_of_ICD10_Other_leukaemias_of_specified_cell_type-28C94-29_by_LexWikiAdmin
- Property Changed at:Draft_of_ICD10_Other_leukaemias_of_specified_cell_type-28C94-29_by_LexWikiAdmin
- Property Changed at:Draft_of_ICD10_Other_leukaemias_of_specified_cell_type-28C94-29_by_LexWikiAdmin
- Property Changed at:Draft_of_ICD10_Other_leukaemias_of_specified_cell_type-28C94-29_by_LexWikiAdmin

Annotation body

Context

Property Changed at:Draft_of_ICD10_Other_leukaemias_of_specified_cell_type-28C94-29_by_LexWikiAdmin_at_2007

ApplyTo

- ▶ ICD10 Other leukaemias of specified cell type(C94)

AssociatedAnnotations

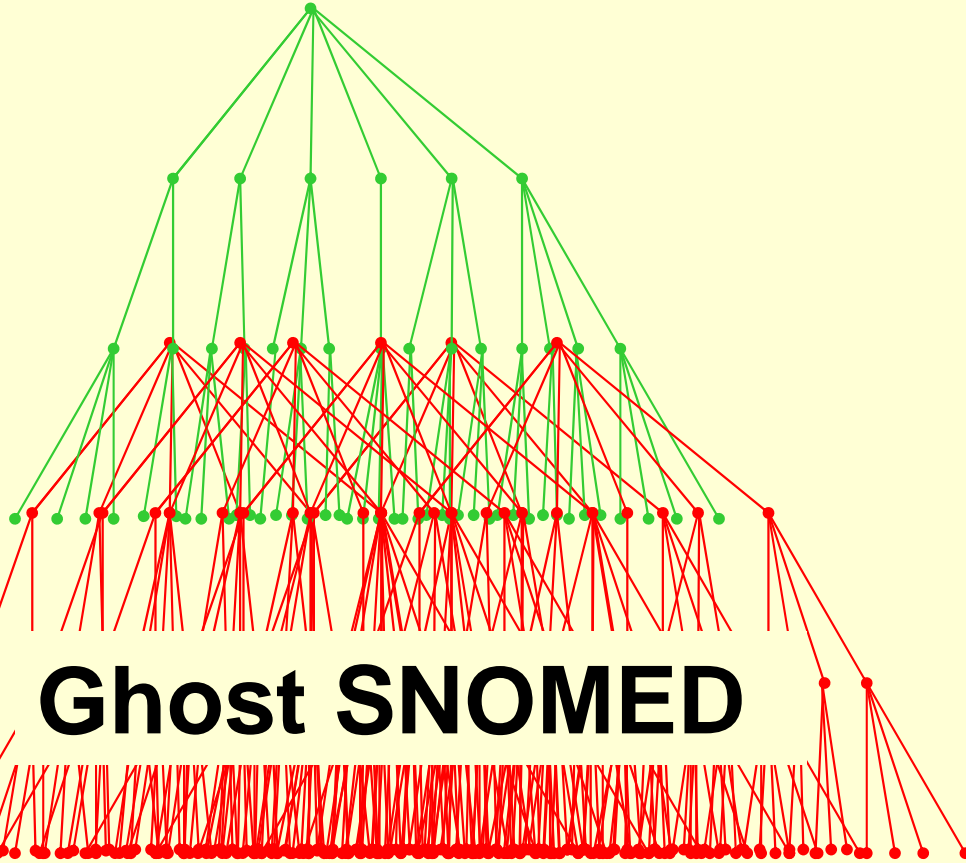
Discussions with IHTSDO

International Health Terminology (IHT)

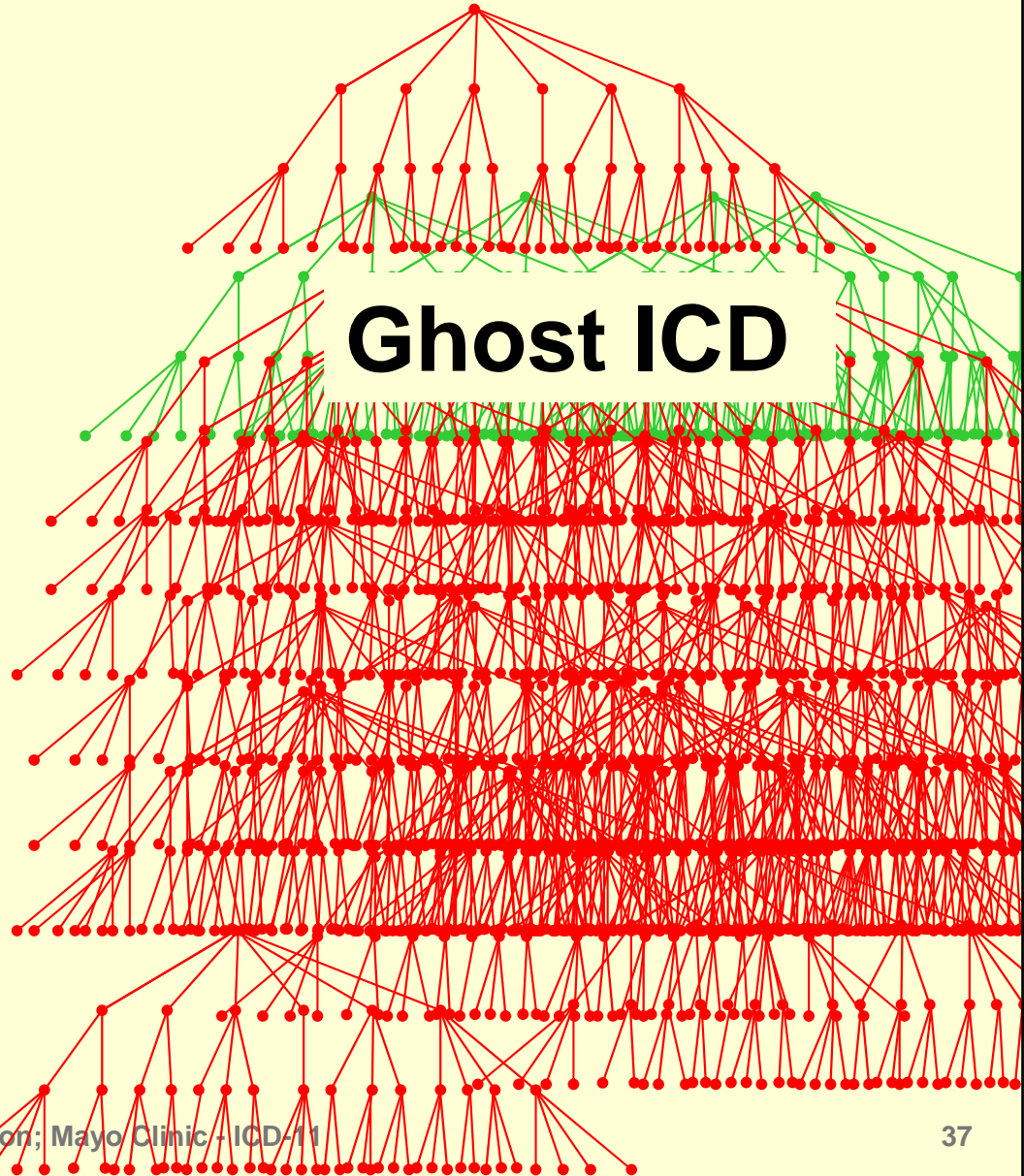
- IHT (SNOMED) will require high-level nodes that aggregate more granular data
 - Use-cases include mutually exclusive, exhaustive,...
 - Sounds a lot like ICD
- ICD-11 will require lower level terminology for aggregation logic definitions
 - Detailed terminological underpinning
 - Sounds a lot like SNOMED

Potential Future States

ICD-11



SNOMED



Joint Alternate Future ICD-IHTSDO

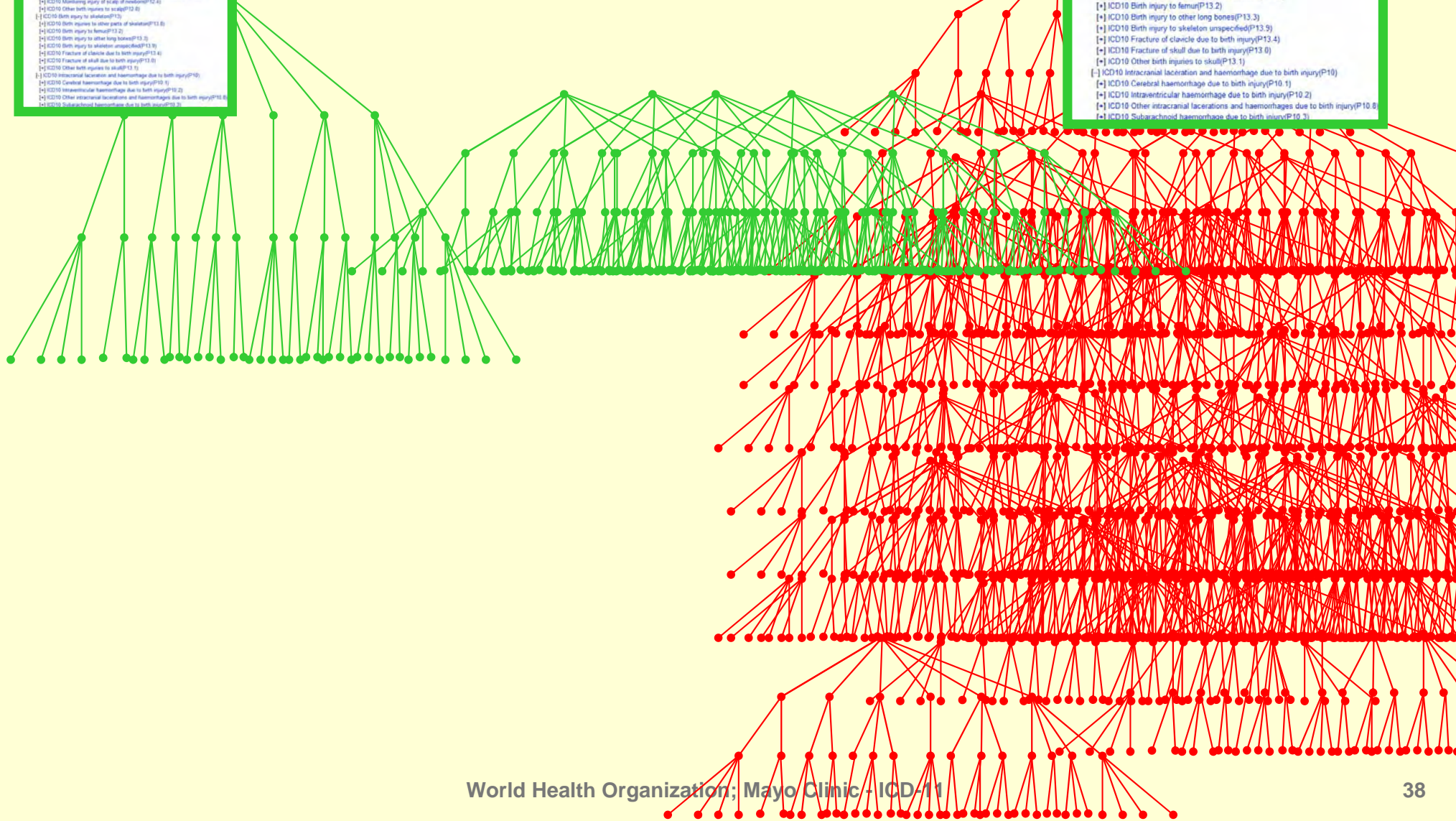
Effort

SNO

ICD10WHO
 [-] ICD10 Certain conditions originating in the perinatal period (CHAPTER XVI(P00-P96))
 [-] ICD10 Birth trauma(P10-P15)
 [-] ICD10 Birth injury to peripheral nervous system(P14)
 [-] ICD10 Birth injuries to other parts of peripheral nervous system(P14.8)
 [-] ICD10 Birth injury to peripheral nervous system unspecified(P14.9)
 [-] ICD10 Erb's paralysis due to birth injury(P14.1)
 [-] ICD10 Klumpke's paralysis due to birth injury(P14.1)
 [-] ICD10 Other brachial plexus birth injuries(P14.3)
 [-] ICD10 Phrenic nerve paralysis due to birth injury(P14.2)
 [-] ICD10 Birth injury to scalp(P12)
 [-] ICD10 Birth injury to scalp unspecified(P12.9)
 [-] ICD10 Bruising of scalp due to birth injury(P12.0)
 [-] ICD10 Cephalhaematoma due to birth injury(P12.0)
 [-] ICD10 Chignon due to birth injury(P12.1)
 [-] ICD10 Epicranial subaponeurotic haemorrhage due to birth injury(P12.2)
 [-] ICD10 Monitoring injury of scalp of newborn(P12.4)
 [-] ICD10 Other birth injuries to scalp(P12.8)
 [-] ICD10 Birth injury to skeleton(P13)
 [-] ICD10 Birth injuries to other parts of skeleton(P13.8)
 [-] ICD10 Birth injury to femur(P13.2)
 [-] ICD10 Birth injury to other long bones(P13.3)
 [-] ICD10 Birth injury to skeleton unspecified(P13.9)
 [-] ICD10 Fracture of clavicle due to birth injury(P13.4)
 [-] ICD10 Fracture of skull due to birth injury(P13.0)
 [-] ICD10 Other birth injuries to skull(P13.1)
 [-] ICD10 Intracranial laceration and haemorrhage due to birth injury(P10)
 [-] ICD10 Intraventricular haemorrhage due to birth injury(P10.2)
 [-] ICD10 Other intracranial lacerations and haemorrhages due to birth injury(P10.8)
 [-] ICD10 Subarachnoid haemorrhage due to birth injury(P10.3)

-11

ICD10WHO
 [-] ICD10 Certain conditions originating in the perinatal period (CHAPTER XVI(P00-P96))
 [-] ICD10 Birth trauma(P10-P15)
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 [-] ICD10 Birth injuries to other parts of peripheral nervous system(P14.8)
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 [-] ICD10 Phrenic nerve paralysis due to birth injury(P14.2)
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 [-] ICD10 Intracranial laceration and haemorrhage due to birth injury(P10)
 [-] ICD10 Intraventricular haemorrhage due to birth injury(P10.2)
 [-] ICD10 Other intracranial lacerations and haemorrhages due to birth injury(P10.8)
 [-] ICD10 Subarachnoid haemorrhage due to birth injury(P10.3)



Advantages to Collaboration

- Both organizations avoid “Ghost” emulations
- Both organizations leverage expertise and content
 - More resources brought to the table
- Both organizations retain independent intellectual property and derivatives (e.g. Linear formats of ICD-11)
- Mappings become moot
 - Aggregation of SNOMED is definitional to ICD

Caveat

ICD and IHTSDO

- No agreements have been finalized
- Intellectual property sharing is expected
- Shared tooling is being discussed
- Harmonization Board has been proposed

WHO and NCHS statement April 2007

WHO has announced the beginning of the process to develop the 11th Revision of the International Classification of Diseases – ICD-11 – expected to be completed in 2015. The NCHS, maintainers of the ICD-9-CM and producers of the ICD-10-CM, welcome this new initiative, and agreed with the leadership of the ICD-11 revision on the implications for ICD-10-CM introduction in the United States.

ICD-11 and ICD-10CM – 1 of 2

- ICD-11 will be built upon a robust ontological framework, with definitional linkages to underlying terminologies such as SNOMED CT.
- ICD-10-CM development will migrate to the technical platform used in the development of ICD-11, benefiting from the state-of-the-art informatics environment.
- The new ICD-11 Revision will be informed by the clinical modifications of WHO Collaborating Center members, including ICD-10-CM.

ICD-11 and ICD-10CM – 2 of 2

- NCHS will work closely with the ICD-11 Revision Committee to ensure the gradual evolution of ICD-10-CM to ICD-11 content through the regular updating of ICD-10-CM; this will avoid a disruptive transition to ICD-11 some time after 2015.
- Transitioning to ICD-10-CM will provide a mechanism for tightening the linkages between classification and their applications in electronic medical records, with broad implications for improving patient quality, safety, public health surveillance, and the adoptions of clinical best practices