

Key Drivers

Mandated by WHA and EB

Respond to consumer-needs

- Clinicians, Administration, Patients, families; Data-users

Keep up with new scientific knowledge

- New Diseases, Treatments, Terminology...
- Corrections: pruning and grafting, deletions
- Change in rules, guidelines, conventions.

Compatibility within the WHO-FIC members

- ICF, ICHI, ICECI, ICD-O

Creation of an improved network and dissemination

Better implementation within Health Information Systems

- Electronic Health Records, Clinical Terminologies, Medical Coding



CLASSIFICATIONS

BUILDING BLOCKS OF HEALTH INFORMATION ...

ICD Revision Process Start

17 April 2007 Press Conference

- Note Verbale DG Dr M Chan
- Press Release
- Press Conference in Tokyo

Meeting with Japanese Scientific Societies

- 29 Representative Medical Societies
- Ministry of Health Labor and Welfare



CLASSIFICATIONS

BUILDING BLOCKS OF HEALTH INFORMATION ...

ICD Revision – Key Messages

Concepts in Health Sciences have become complex and intertwined

– Genomic information ↔ Clinical manifestations ↔ Public Health

– Comparable and consistent data across HIS

• *Single person – workgroup function is not sufficient to capture and synthesize information*

• *Large scale involvement of multiple stakeholders*



CLASSIFICATIONS

BUILDING BLOCKS OF HEALTH INFORMATION ...

ICD Revision – Key Messages

Web based tools are available for:

– Enhanced communication among individuals involved in the revision process

– Knowledge management tools

– Commons-based production

• *Firmer grounding in science and research*

• *Rigorous field testing*

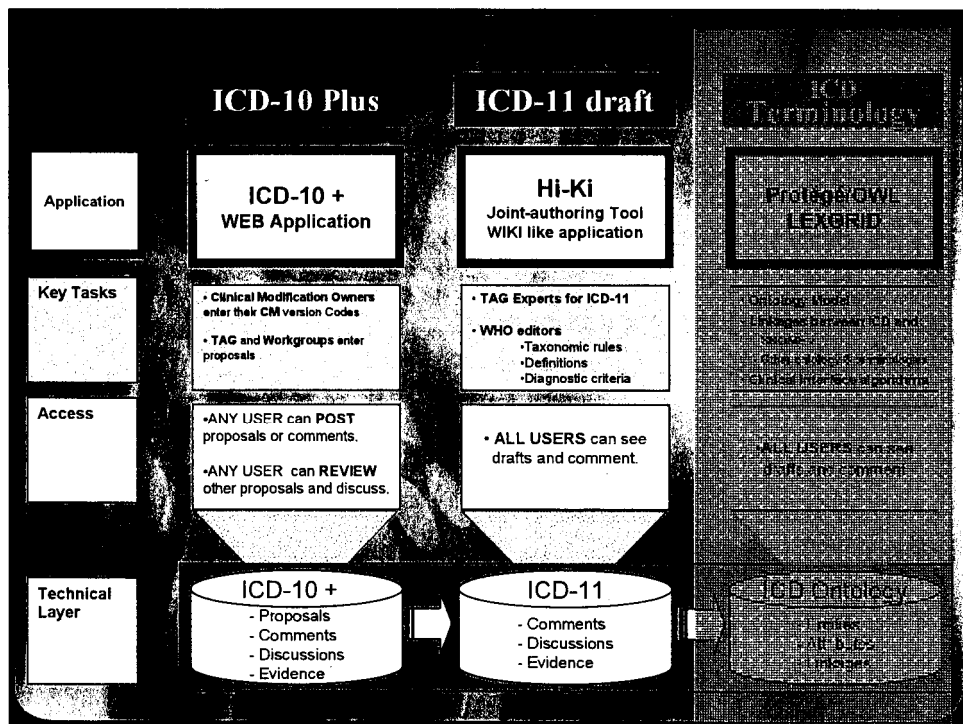
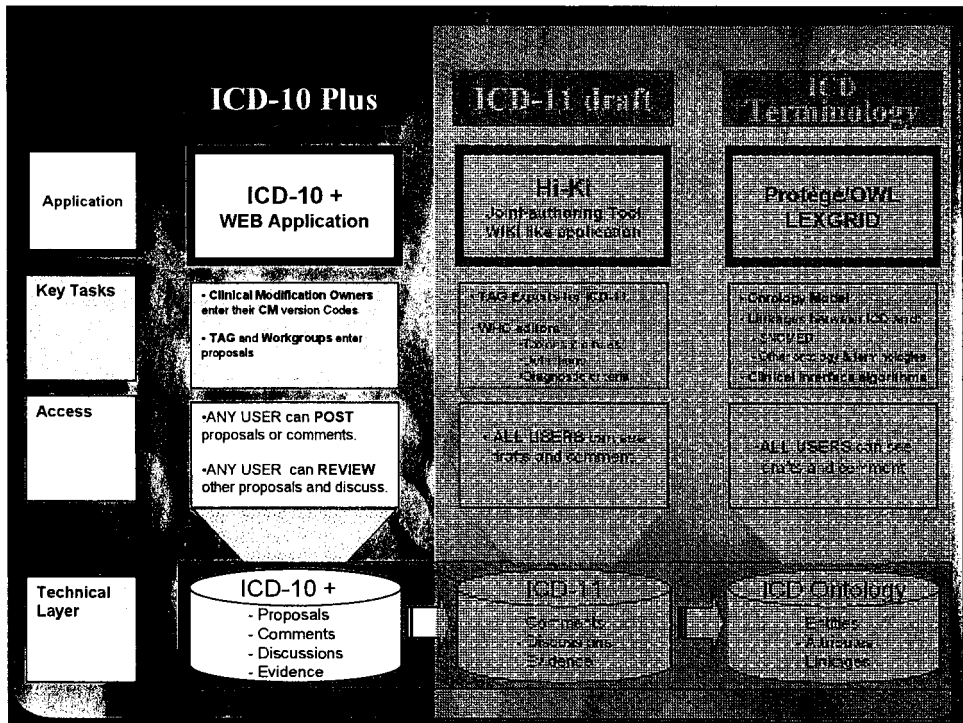
• *Increased feedback from global users*

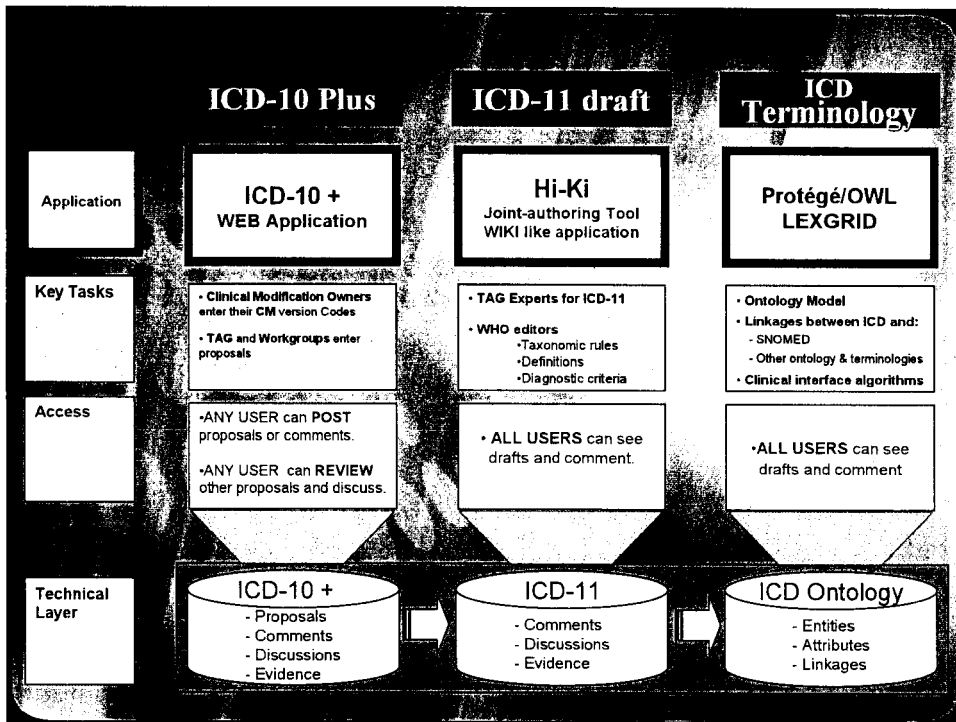
• *Use digital tools (Ontologies) to build classifications*



CLASSIFICATIONS

BUILDING BLOCKS OF HEALTH INFORMATION ...





Some Conclusions

ICD Revision cannot ignore linkages to Terminologies

- SNOMED CT and others

Joint use of classifications and terminologies is the key

- enables all Reuse and Secondary Uses of Patient Data

- Use of a common ontology model is essential to integrate with:

- Gene ontology
- Molecular biology
- Clinical information systems



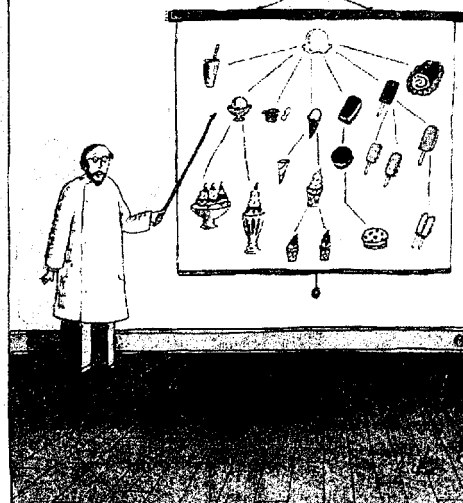
CLASSIFICATIONS

BUILDING BLOCKS OF HEALTH INFORMATION

Aug. 4, 1986

THE NEW YORKER

Price \$1.50



What is Ontology?

- **Ontology (philosophy)**
 - the Organization of Reality ☺ !!!
- **Ontology (computer science)**
 - the explicit - operational description of the conceptualization of a domain:
 - Concepts: **entity** and **quality** (properties and attributes)
- An ontology defines:
 - a **common vocabulary** → a shared understanding/exchange:
 - among people
 - among software agents
 - between people and software
 - to reduce data duplication
 - to improve standards for all
 - interoperability



CLASSIFICATIONS

BUILDING BLOCKS OF HEALTH INFORMATION ...

Each entity in ICD is to be defined with the following attributes

1. **IS a:** disease, disorder, syndrome, injury, sign, symptom...
2. **Function/Dysfunction_of:** Body functions
3. **Site:** body structure (either use ICF or FMA...)
4. **Has_signs_of:** Manifestations, Signs, Symptoms
5. **Caused by:**
 - External (Injury, Trauma, Pathogenic...)
 - Internal (Genes, Autoimmune process, embryogenic development...)
6. **Temporal Relations**
 - Onset (Acute, subacute, chronic...); offset; course: (Episodic, relapsing, recurring...)
7. **Extent (severity):** Progress, Spread, level
8. **Impact/limitations:** (activity limitations; participation restrictions)
9. **Related interventions for:**
 - Investigation (Lab, diagnostic examination...)
 - Treatment (drugs/medications, intervention: Surgical, mental, other)
10. **Used in:**
 - Primary Care, Clinical Care, Research,
 - Special indices (e.g. Public health indices or resource databases)



CLASSIFICATIONS

BUILDING BLOCKS OF HEALTH INFORMATION ...

Rewriting ICD Using SNOMED

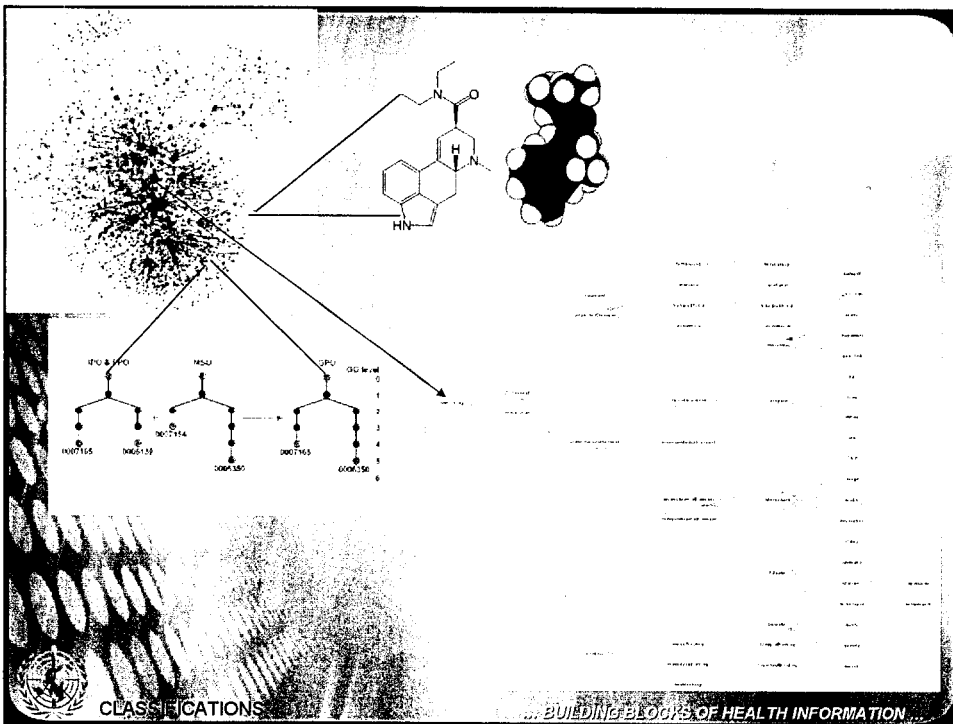
example of Depressive Disorder F32.0

- A. Low mood {41006004}
- Loss of interest {417523004}
- Low energy {248274002}
- B. 1. Appetite (decrease, increase) {64379006, 72405004}
- 2. Body weight (decrease, increase) {89362005, 8943002}
- 3. Sleep (decrease, increase) {59050008, 77692006}
- 4. Psychomotor (decrease, increase) {398991009, 47295007}
- 5. Libido loss {8357008}
- 6. Low self-esteem {286647002, 162220005}
- 7. Guilt, self-blame {7571003}
- 8. Thoughts of death
- 9. Suicide ideation {102911000, 6471006}



CLASSIFICATIONS

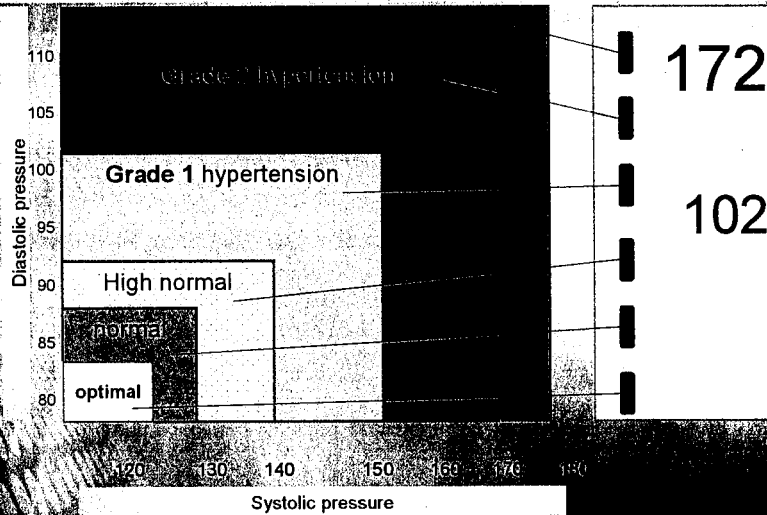
BUILDING BLOCKS OF HEALTH INFORMATION



CLASSIFICATIONS

BUILDING BLOCKS OF HEALTH INFORMATION

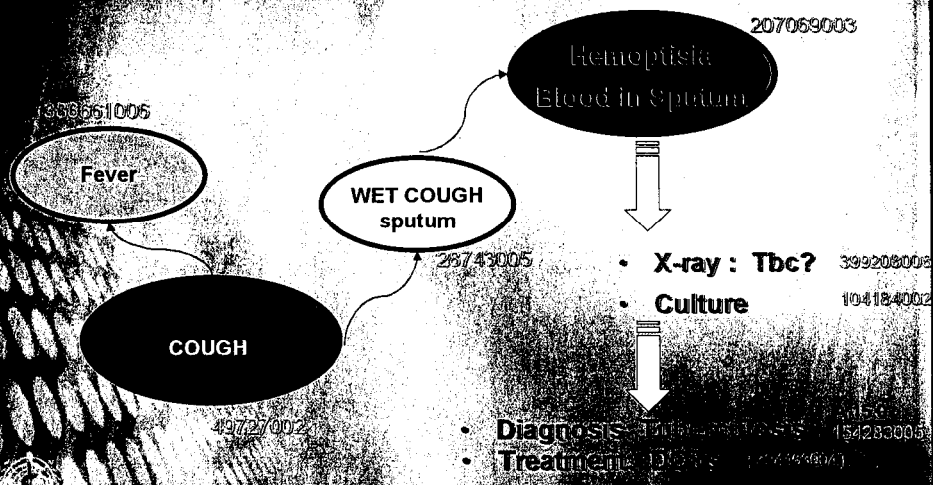
Knowledge Representation



CLASSIFICATIONS

BUILDING BLOCKS OF HEALTH INFORMATION ...

Exploration of Cough



CLASSIFICATIONS

BUILDING BLOCKS OF HEALTH INFORMATION ...

Health Information Granularity

Casemix
Groups

Classifications

TERMINOLOGIES

- ~ 700 groups
- Economic classification
- ICD 12,000 categories
- Higher order abstraction
- e.g. SNOMED 400,000 concepts
- Identification of clinical picture and activities



CLASSIFICATIONS

BUILDING BLOCKS OF HEALTH INFORMATION

Tentative Timeline

2010 : Alpha version (ICD 10+ → ICD 11draft)

- +1 YR : Commentaries and consultations

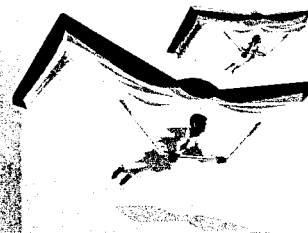
2011 : Beta version & Field Trials Version

- +2 YR : Field trials

2013 : Final version for public viewing

- 2014 : WHA Approval

2015+ implementation



CLASSIFICATIONS

BUILDING BLOCKS OF HEALTH INFORMATION