Occupational Health in ICD 11

Dr Anil Adisesh
Chair, WHO Working Group
“The advantages of a uniform statistical nomenclature, however imperfect, are so obvious, that it is surprising no attention has been paid to its enforcement in Bills of Mortality. Each disease has, in many instances, been denoted by three or four terms, and each term has been applied to as many different diseases: vague, inconvenient names have been employed, or complications have been registered instead of primary diseases. The nomenclature is of as much importance in this department of inquiry as weights and measures in the physical sciences, and should be settled without delay.”
ICD Revisions

- Farr/d’Espine
- Betillon
- ICD 1
- ICD 2
- ICD 3
- ICD 4
- ICD 5
- ICD 6
- ICD 7
- ICD 8
- ICD 9
- ICD-9-M
- ICD 10
- ICD-10-M

Years:
- 1853
- 1893
- 1900
- 1909
- 1920
- 1929
- 1938
- 1948
- 1955
- 1968
- 1975
- 1979
- 1993
- 1993
Construction of ICD-10:
Revision Process in the 20th Century

- 8 Annual Revision Conferences (1982 - 89)
  - 17 – 58 Countries participated
  - 1- 5 person delegations
  - mainly Health Statisticians, and some epidemiologists
- Manual curation
- Exchange of prepared lists of updates
- Index was done later
- Method of discussion: paper mail...
- Output: Paper Copy
- Work in English only
- Limited testing in the field
Construction of ICD-11:
Revision Process in the 21st Century

- **Internet-based permanent platform**
  - All year round
  - Open to all people in a structured way
  - Content experts focus

- **Digital curation**
  - Wiki enabled collaboration
  - Ontology based

- **Enhanced discussion & peer review**
  - TAGs serve as the editorial group

- **Electronic copy → print version**
- Work in multiple languages
- Planned field tests
  - Based on Use Cases
The WHO Family of International Classifications

**Related Classifications**
- International Classification of Primary Care (ICPC)
- International Classification of External Causes of Injury (ICECI)
- The Anatomical Therapeutic Chemical (ATC) classification system with Defined Daily Doses
- ISO 9999 Technical aids for persons with disabilities

**Reference Classifications**
- International Classification of Diseases (ICD)
- International Classification of Functioning Disability and Health (ICF)
- International Classification of Health Interventions (ICHI) (Under Development)

**Derived Classifications**
- International Classification of Diseases for Oncology, Third Edition (ICD-0-3)
- The ICD-10 Classification of Mental and Behavioural Disorders
- Application of the ICD to Dentistry and Stomatology Third Edition (ICD-DA)
- Application of the ICD to Neurology (ICD-10-NA)
- ICF Version for Children and Youth (ICF-CY)
ICD-11 Use–Cases

1. Mortality
2. Morbidity
3. Case Mix Groupings
4. Primary Care
5. Quality and Safety
6. Scientific agreement on clinical phenotype

Use Case Template

<table>
<thead>
<tr>
<th>Use Case</th>
<th>Use case identifier and reference number and modification history</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Goal to be achieved by use case and sources for requirement</td>
</tr>
<tr>
<td>Actors</td>
<td>List of actors involved in use case</td>
</tr>
<tr>
<td>Assumptions</td>
<td>Conditions that must be true for use case to terminate successfully</td>
</tr>
<tr>
<td>Steps</td>
<td>Interactions between actors and system that are necessary to achieve goal</td>
</tr>
<tr>
<td>Variations</td>
<td>Any variations in the steps of a use case</td>
</tr>
<tr>
<td>Non-Functionals</td>
<td>List any non-functional requirements that the use case must meet</td>
</tr>
<tr>
<td>Issues</td>
<td>List of issues that remain to be resolved</td>
</tr>
</tbody>
</table>
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 reuse data - information
      - to introduce standards to allow interoperability
Fit for use

**Input AND Output**

- Mortality
- Morbidity
- Casemix
- Quality
- Primary care
ICD-11

Multiple Settings
  Primary Care
  Clinical Services
  Research

Specialty Adaptations
  Dermatology
  Mental Health
  Musculoskeletal
  Neurology
  Paediatrics
The International Classification of Diseases 11th Revision is due by 2015

ICD is the **international standard** to measure health & health services
- Mortality statistics
- Morbidity statistics
- Health care costs
- Progress towards the Millenium Development Goals
- Research
ICD-11 Timeline

• **2011**: Alpha version (ICD 11 alpha draft)
  – +1 YR: Commentaries and consultations

• **2012**: Beta version & Field Trials Version
  – +2 YR: Field trials

• **2014**: Final version for public viewing
  – **2015**: WHA Approval

• **2015+**: implementation
All ICD entities will have definitions:
that give key descriptions and guidance on what the meaning of the entity/category is
• in human readable terms - to guide users
• All ICD entities will have a concise definition (100 words) in the print version
• More detailed definitions can be found ONLINE
• the Content Model
• Diagnostic Criteria
• across the whole classification and the versions
Content Model

The content model is a structured framework that captures the knowledge that underpins the definition of an ICD entity.

Content Model Parameters
1. ICD Entity Title
2. Classification Properties
3. Textual Definitions
4. Terms
5. Body System/Structure Description
6. Temporal Properties
7. Severity of Subtypes Properties
8. Manifestation Properties
9. Causal Properties
10. Functioning Properties
11. Specific Condition Properties
12. Treatment Properties
13. Diagnostic Criteria
Occupational Diseases in ICD-11

Map the ILO list of diseases and definitions to the appropriate ICD-10 codes, diseases and definitions

Review the ILO List of Occupational Diseases for ICD-11 inclusion

Identify and prioritise diseases from ICD-10 that may be considered for inclusion in ICD-11

Welcome contribution from stakeholders to support the appropriate inclusion of occupational diseases in ICD-11
Entrapment of the median nerve in the carpal tunnel, which is formed by the flexor retinaculum and the carpal bones. This syndrome may be associated with repetitive occupational trauma, wrist injuries, amyloid neuropathies, rheumatoid arthritis, acromegaly, pregnancy, and other conditions. Symptoms include burning pain and paresthesia involving the ventral surface of the hand and fingers which may radiate proximally; impairment of sensation in the distribution of the median nerve and flexor muscle atrophy may occur.
### Details for G56.0 Carpal tunnel syndrome

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disease</td>
<td>Disorder/Syndrome</td>
</tr>
<tr>
<td>Injuries</td>
<td>Exposure to External Causes</td>
</tr>
<tr>
<td>Signs/Symptom</td>
<td>Reason for Encounter</td>
</tr>
<tr>
<td>Unspecified</td>
<td></td>
</tr>
</tbody>
</table>

#### Use

<table>
<thead>
<tr>
<th>Linearization</th>
<th>Is part of?</th>
<th>Is grouping?</th>
<th>Sorting label</th>
<th>Linearization Parent</th>
</tr>
</thead>
<tbody>
<tr>
<td>01. Mortality</td>
<td>✔</td>
<td></td>
<td></td>
<td>G56 Mononeuropathies of arm</td>
</tr>
<tr>
<td>02. Mortality</td>
<td></td>
<td>✔</td>
<td></td>
<td>G56 Mononeuropathies of arm</td>
</tr>
<tr>
<td>03. Primary Care</td>
<td>✔</td>
<td></td>
<td></td>
<td>G56 Mononeuropathies of arm</td>
</tr>
<tr>
<td>04. Research</td>
<td>✔</td>
<td></td>
<td></td>
<td>G56 Mononeuropathies of arm</td>
</tr>
<tr>
<td>05. Spec. Adapt. Mental Health</td>
<td>✔</td>
<td></td>
<td></td>
<td>G56 Mononeuropathies of arm</td>
</tr>
<tr>
<td>06. Spec. Adapt. Dermatology</td>
<td>✔</td>
<td></td>
<td></td>
<td>G56 Mononeuropathies of arm</td>
</tr>
<tr>
<td>07. Spec. Adapt. Musculoskeletal</td>
<td>✔</td>
<td></td>
<td></td>
<td>G56 Mononeuropathies of arm</td>
</tr>
<tr>
<td>08. Spec. Adapt. Neurology</td>
<td>✔</td>
<td></td>
<td></td>
<td>G56 Mononeuropathies of arm</td>
</tr>
<tr>
<td>09. Spec. Adapt. Paediatrics</td>
<td>✔</td>
<td></td>
<td></td>
<td>G56 Mononeuropathies of arm</td>
</tr>
<tr>
<td>10. Spec. Adapt. Occupational Health</td>
<td>✔</td>
<td></td>
<td></td>
<td>G56 Mononeuropathies of arm</td>
</tr>
</tbody>
</table>
Field Tests
Multiple Languages

Multilingual Representation, not a Translation. The aim is to represent equivalent concepts rather than word-by-word translation.

The priority will be on 6 Official United Nations Languages:

- English
- French
- Spanish
- Russian
- Chinese
- Arabic

And two WHO Regional Official languages:

- German
- Portuguese

Other languages will be at the request of WHO Collaborating Centers in different language areas <indicate your interest here>
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ICD is the international standard to measure health & health services
- Mortality statistics
- Morbidity statistics
- Health care costs
- Progress towards the Millennium Development Goals
- Research

The alpha-draft can be viewed online at: ICD-11 alpha browser
- Alpha draft is updated daily as the work progresses

Caveats
- Read more on what to expect in the ICD-11 Alpha Draft

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

Electronic Health Record
Occupational Health in ICD-11

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