Terminology vs Classification
The Australian Digital Health Agency (the Agency)

Commenced operations on 1 July 2016.

Established as a statutory authority in the form of a corporate Commonwealth entity, the Agency reports to State and Territory Health Ministers through the COAG Health Council.

Leads and provides direction in developing digital health, bringing the Australian health system into the digital century.

Responsible for the national digital health strategy including the design, development, delivery and national operations, while the Commonwealth Department of Health is responsible for national digital health policy.

www.digitalhealth.gov.au
What is a Terminology

• A clinical terminology is a structured vocabulary used in clinical practice to accurately describe the care and treatment of patients

• Examples of clinical terminology include
  - SNOMED CT-AU
  - LOINC
  - RadLex
Where Does a Clinical Terminology Fit In?

Clinical terminologies enable the:

• Naming and identification of those concepts relevant to healthcare
• Creation of relationships between concepts to provide context to meaning
• Communication of information without loss of detail or change to meaning
Purpose of Clinical Terminology

• To support clinical care:
  - Recording statements about the health and health care of an **individual patient**
  - Retrieving those statements to express meaning at various levels of abstraction for clinicians, patients, researchers or organisations.

• To provide a consistent way of indexing, storing, retrieving and aggregating clinical data from structured, computerised clinical records
When should we use a terminology?

At Data Entry

- Content coverage
- Specificity
- One concept with multiple descriptions

Allows Clinicians to record what they need
# Data Entry

<table>
<thead>
<tr>
<th>SNOMED CT</th>
<th>ICD-10-AM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Five concepts</strong></td>
<td><strong>One code</strong></td>
</tr>
<tr>
<td></td>
<td>G95.1 Vascular myelopathies</td>
</tr>
<tr>
<td>29774004 Vascular myelopathy</td>
<td>Includes:</td>
</tr>
<tr>
<td>432249006 Infarction of spinal cord</td>
<td>- Acute infarction of spinal cord</td>
</tr>
<tr>
<td>39134007 Haematomyelia</td>
<td>- Haematomyelia</td>
</tr>
<tr>
<td>65605001 Oedema of spinal cord</td>
<td>- Oedema of spinal cord</td>
</tr>
<tr>
<td>83982007 Subacute necrotic myelopathy</td>
<td>- Subacute necrotic myelopathy</td>
</tr>
</tbody>
</table>
For communication

- Standard terminology across the system
- Unambiguous concept identification
- Different systems can share information
Communication

malignant tumour of kidney

renal cancer

363518003 malignant tumor of kidney (disorder)

CA Renal

renal malignant tumour
For Retrieval

- Can utilise all the terminologies features to assist with retrieval for planning, reporting, research
- Standard terminology ensures ‘apples are compared with apples’ no matter where data sourced from
Example – Viral pneumonia

ICD-10-AM
Diseases of the Respiratory System
| Influenza and Pneumonia
| J12.9 – Viral Pneumonia, NEC
| J12.9 – Viral Pneumonia, unspecified
Viral Pneumonia will return in searches relating to

<table>
<thead>
<tr>
<th>SNOMED CT-AU</th>
<th>ICD-10-AM</th>
</tr>
</thead>
<tbody>
<tr>
<td>› Disorder of respiratory system</td>
<td>› Diseases of respiratory system</td>
</tr>
<tr>
<td>› Pneumonia</td>
<td>› Influenza’s and Pneumonia</td>
</tr>
<tr>
<td>› Viral pneumonia</td>
<td>› Viral Pneumonia</td>
</tr>
<tr>
<td>› Infectious diseases</td>
<td></td>
</tr>
<tr>
<td>› Inflammatory disorders</td>
<td></td>
</tr>
<tr>
<td>› Infection by sites (lung etc.)</td>
<td></td>
</tr>
<tr>
<td>› Viral infections</td>
<td></td>
</tr>
<tr>
<td>› Respiratory conditions that have had related procedures</td>
<td></td>
</tr>
<tr>
<td>› SNOMED CT uses its hierarchies and attributes to allow retrieval queries to be written</td>
<td>› ICD was developed to quantify and fund inpatient events which it will continue to do</td>
</tr>
</tbody>
</table>
What is a Classification

• A classification is a structured way of organising information into standard groupings

• Examples include
  - International Classification of Disease (ICD)
  - International Classification of Primary Care-2 (ICPC-2)
  - International Classification for Nursing Practice (ICNP)
Where Does a Health Classification Fit In?

A health classification enables the:

• easy storage, retrieval and analysis of health information for evidenced-based decision-making

• sharing and comparing health information between hospitals, regions, settings and countries; and

• data comparisons in the same location across different time periods.
Purpose of Health Classifications

• To support clinical care:
  - Monitoring of the incidence and prevalence of a disease
  - Observing reimbursements and resource allocation trends
  - Keeping track of safety and quality guidelines
  - Retrieving those statements to express meaning at various levels of abstraction for clinicians, patients, researchers or organisations.

• To allow for immediate and longitudinal data management and retrieval across a number of different groups
When should we use a classification?

**After Initial Data Entry**

- Converting information from a patient’s medical record into alphanumerical codes according to the health classification system

  Allows HIMs and others to retrieve aggregated data to support their decisions and policies

  Provides mechanism for activity based funding

  Allows government bodies to conduct epidemiological research of health trends
# Classifications v Terminology

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>SNOMED CT</th>
<th>ICD/ACHI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>300 000</td>
<td>20 000</td>
</tr>
<tr>
<td>Scope</td>
<td>All of medicine, anatomy, substances, organisms, Dx, Px, vet</td>
<td>Diseases, problems, interventions</td>
</tr>
<tr>
<td>Used in</td>
<td>All health settings</td>
<td>Admitted inpatient only</td>
</tr>
<tr>
<td>Use cases</td>
<td>Individual longitudinal health records</td>
<td>Patient episodes and populations</td>
</tr>
<tr>
<td>Primarily suited to</td>
<td>Clinical purposes</td>
<td>Statistical purposes</td>
</tr>
<tr>
<td>Deployed in</td>
<td>CIS, eHR</td>
<td>PAS, NMDS</td>
</tr>
<tr>
<td>Applied by</td>
<td>Clinicians</td>
<td>Coders</td>
</tr>
<tr>
<td>Enables</td>
<td>Communication, messaging, decision support</td>
<td>Health trends, national statistical reporting</td>
</tr>
<tr>
<td>Structure</td>
<td>poly-hierarchical, multi-parented</td>
<td>mono-hierarchical, mutually exclusive</td>
</tr>
<tr>
<td>Logic</td>
<td>definitional, description logic - knowledge</td>
<td>statistical, categorical - counting</td>
</tr>
<tr>
<td>Granularity</td>
<td>Specific</td>
<td>Sensitive</td>
</tr>
<tr>
<td>Update cycle</td>
<td>Twice per year</td>
<td>Every two years</td>
</tr>
</tbody>
</table>
In Summary

- Terminologies and classifications have their place depending on what use cases are trying to be met.

- Classification information aggregated for public health purposes is increasingly derived from health records so accuracy and consistency of the health record through clinical terminology is crucial to ensure the quality of care and sound management of health resources.
Contact

• Phone: 1300 901 001
• Email: help@digitalhealth.gov.au