

# nehta

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## **IHTSDO conference report**

**October 2011**

Version 1.0 – 2011-12-06

Final

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# Document management

## Document control

<b>Name of document:</b>	IHTSDO conference report October 2011
<b>Document owner:</b>	National Clinical Terminology and Information Service (NCTIS), NEHTA
Document coordinator:	NCTIS
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Document approver:	NCTIS

## Document authoring and review

<b>Version:</b>	<b>Date</b>	<b>Author</b>	<b>Status and nature of amendments</b>
1.0	2011-12-06	NCTIS	Final; suitable for external release.

## Document publication

<b>Publication:</b>	<input type="checkbox"/> Internal <input checked="" type="checkbox"/> External
<b>Published version and date:</b>	1.0/2011-12-06
<b>Date of next review and update:</b>	

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# 1 Overview

The International Health Terminology Standards Development Organisation (IHTSDO) held its biannual conference in Sydney, Australia from 10–14 October 2011. While this conference included the regular working meetings for most IHTSDO working groups, committees and so on, for the first time the conference included an implementation showcase comprising of two days of presentations, showcases and posters.

NEHTA provided significant input as well as logistical support for the organisation of this conference, which contributed to the success of this conference and enhanced NEHTA's leadership role in the international health informatics community. The conference was attended by the Australian IHTSDO Committee Representatives together with several NEHTA staff, most of whom were from the Clinical Terminologies and Information team.

This document focuses on the IHTSDO working meetings. It provides updates on Australian representation and details of the meetings attended, together with potential opportunities and recommendations for action and involvement as suggested by the attendees.

## 1.1 Election of Members to Standing Committees

The results of the election of representatives to IHTSDO Standing Committee were announced at the conference. Australia had put forward four nominees:

- Robyn Richards
- David Evans
- Dion McMurtrie (re-standing)
- Jon Patrick (re-standing)

All Australian nominees were successful and will now represent Australia on the relevant committees for 2012 and 2013.

We also have three current representatives who will not be continuing into 2012, namely:

- Donna Truran
- Heather Grain
- David Rowlands

Current Members have provided a valuable contribution to the international work programme and were acknowledged for this effort.

The full list of ongoing Australian representatives is listed below.

<b>Committee</b>	<b>Member</b>
Technical	Dion McMurtrie
Technical	Michael Lawley
Quality Assurance	David Evans
Implementation and Innovation	Jon Patrick
Implementation and Innovation	Karen Gibson
Content	Michael Osborne
Content	Robyn Richards

## 1.2 Conference highlights

### 1.2.1 General Assembly

- The General Assembly discussed progress of the IHTSDO against its workplan, and has requested closer involvement by the Management Board in overseeing the Workbench project.
- The SNOMED CT to ICD-10 mapping project was endorsed in principle, but funding from the IHTSDO's contingency reserves was not approved. Funding is to be reconsidered in December 2011 and April 2012.

### 1.2.2 Member Forum

- The IHTSDO Workbench is being used to author the January 2012 International Edition of SNOMED CT, with significant benefits demonstrated by the Chief Terminologist. Use of the IHTSDO Workbench has enabled a larger than anticipated number of outstanding content issues to be resolved.
- The Translation and Reference Set Tooling IHTSDO Workbench projects have been delayed and as a result have now been paused. Running multiple development projects on the IHTSDO Workbench has proven to be very difficult, so an architectural review has been proposed. It was suggested and accepted that this review be broadened to cover collaborative processes and governance which are also believed to impact parallel software development.
- The CEO announced that the IHTSDO is to develop a new communications strategy. The Member Forum will work with the CEO to ensure that this addresses a number of issues that have occurred with consultation on standards and policy changes.
- The Member Forum has been asked to comment on the IHTSDO 2012 workplan to assist with decision-making by the General Assembly and Management Board.

### 1.2.3 Content Committee

- There have been significant achievements in the last six months on Anatomy hierarchy re-design and re-modelling. These are likely to be large and have a positive impact on disease and procedure content Quality Assurance in future releases.
- There has been significant progress on all work items assigned to the Consultant Terminologist (intern) capacity building programme. This bodes well for the successful continuation of this 'internship' programme; Australia should consider dedicating extra resources and input which will advantage the Australian work programme and capability building.
- Building and development of content (internal to SNOMED CT) and harmonisation (with external terminologies such as LOINC, FMA, ICD, BioTop and ChEBI) is likely to slow the speed of content development because the IHTSDO is pursuing both approaches concurrently and is not fully in control of external terminologies.
- Working groups are making some (but limited) progress. The interdependency between content development tasks is one of the main factors preventing more agile and speedy developments. (All SNOMED CT content is 'connected' by its logical model, making it difficult to advance one portion without (adversely) influencing another portion.) Caution and conservatism is obvious here, as the IHTSDO community is concerned to *not* make adoption and implementation more difficult or more unstable: it's a fine balancing act.
- Content development planning has identified the critical dependencies and will prioritise work items, efforts and resources dedicated to Substance hierarchy re-design, Anatomy, Organisms (then Observable Entities, Findings etc...). Such prioritisation suits the Australian work programme (especially with regard to AMT, Pathology and PCEHR requirements. Consideration should be given to contributing extra Australian resources to these IHTSDO priority work programmes to further speed progress and build knowledge and skills in Australia.
- The Kaiser Permanente Convergent Medical Terminology (CMT) content continues to be reviewed and analysed. Progress to date reveals that the majority of this content does not meet SNOMED CT editorial or modelling requirements and is not likely to be included in SNOMED CT. The US National Library of Medicine is considering whether to, and how, this content might be managed/maintained as a national extension.
- LOINC harmonisation is progressing, with both parties positive towards initial ideas. The Regenstreif Institute has sent a proposal to IHTSDO and is awaiting a response. The contents of this proposal are as yet, unknown.

### 1.2.4 Implementation and Innovation Committee

- The new Chief Implementation and Innovation Officer, David Markwell, intends to improve the productivity and relevance of the group.
- David Markwell also indicates that this committee should also focus on strategy on Clinical Information System terminology adoption tools and strategies.
- This committee needs to produce more useable guidance that is more accessible to implementers.
- More activities will be allocated to project groups to be acted upon.

### 1.2.5 Quality Assurance Committee

- The Quality Assurance Committee will support other parts of the organisation and other organisations in developing and using relevant quality assurance metrics, which will form part of the Quality Framework.
- Processes for management of requests outside of projects are required as these are not progressing effectively at the moment.

### 1.2.6 Technical Committee

- Consensus on an approach to units of measure was achieved and needs to be progressed as a recommendation to the Management Board. This allows the Concrete Domains Specification to proceed in the standards process.
- The HL7 OID for SNOMED CT was adopted for identification of SNOMED CT and extension releases in HL7 messages. A formal statement to this effect is to be worked into the *Technical Implementation Guide*. Versioning is yet to be agreed but is likely to be based on a URI scheme for SNOMED CT presented in April 2011 in Copenhagen.
- The latest draft of the Diagramming Standard was accepted and recommended for Draft for Trial Use.
- A Request For Proposal (RFP) is to be issued for Member's IHTSDO Workbench edition. Documentation of the RFP is to be worked on by the Technical Committee in the coming months.
- An architectural review is to be commissioned on the IHTSDO Workbench to investigate difficulties in collaboration and set future direction.

### 1.2.7 Anatomy Model Project Group

Create a simplified representation of anatomy:

- Replace the current SEP (Structure, Entire, Part) model with a more intuitive model, aligned with the Foundational Model of Anatomy (FMA) and that can be partially automatically curated with rules.
- More complexity will be required for some attributes (site for findings and procedures) and more expressivity will be added with some additional computational complexity.
- Testing will be done to determine the impact and correctness.

### 1.2.8 Observable and Investigation Model Project Group

- Accessibility to the *SNOMED CT Style Guide: Observable Entities and Evaluation Procedures* should be improved.
- There was no disagreement in using the observable model for laboratory content.
- The Observable and Investigation Model Project Group will develop a plan for testing laboratory observables.
- The model as it is applied to the Function/Activity Observables needs further work. Nested relationships are the preferred option requiring templates for modelling.

## 1.2.9 Substance Hierarchy and Redesign Project Group

- The Substance Hierarchy and Redesign Project has tightened its focus to addressing the requirements of the pharmacy stakeholder groups which include the Pharmacy Special Interest Group. Particular attention will be on the biological and chemical sub-hierarchies.
- A list of use cases for substances has been produced, which are to be modelled with the proposed changes. This will ease stakeholder understanding of the redesign, and facilitate determining the acceptability of the changes.

## 1.2.10 Collaborative Editing Project Group

- The IHTSDO Content Development Process will be the mechanism for submitting requests for change and new content for SNOMED CT. The process has been drafted and will now be trialled and refined.
- Discussions on the criteria for the first ten collaborative editors of SNOMED CT content have commenced.

## 1.2.11 Request Submission Project Group

- The Request Submission Project Group is supporting the Content Development Process work through reviewing and refining the change request process. Involvement in this work will support and help refine processes for Australian requests at the national and international level.

## 1.2.12 Pharmacy Special Interest Group

### 1.2.12.1 IDMP Update

- The five Identification of Medicinal Products (IDMP) standards documents are now at the point of final draft for standard (FDIS) at ISO and are awaiting ballot. NEHTA has had significant involvement in the comment and feedback process leading up to the FDIS phase of the documents. Further NEHTA comments and feedback may be required once they are published.

### 1.2.12.2 Boundary and Scope Test Strategy Update

- NEHTA has had significant involvement in the development of the Pharmacy Boundary and Scope documents that outline the International Pharmacy Boundary Model. Continuing NCTIS involvement via the Pharmacy Special Interest Group will help to ensure alignment with NEHTA's terminology models.

### 1.2.12.3 Substance Hierarchy Redesign Project Update

- The Substance Hierarchy Redesign Project may impact on NEHTA's Australian Medicines Terminology (AMT) v3 project through possible changes made to the Australian extension of SNOMED CT. The NCTIS is monitoring the progress and is actively participating in discussion groups to shape the future plans to minimise the impact.

### 1.2.12.4 Units of Measure

- The Pharmacy Special Interest Group discussed the SNOMED CT Unit Options paper currently with the Technical Committee and the impacts it may have on the International Pharmacy Boundary Model and known drug extensions. The group felt that impacts on both representing 'clinical units' and the NHS Dictionary of Medicines and Devices were too great to use Unified Code for Units of Measure (UCUM) natively.

#### 1.2.12.5 Dose Forms Project Update

- The international Dose Form Project is an extremely significant initiative that has important relevance for AMT. NCTIS engagement is important to ensure alignment of any future AMT dose form work with the international model, and to provide professional development opportunities for NCTIS technical and content teams.
- Strong leadership with technical, content and project management support is important for the success of this international initiative.
- NEHTA/NCTIS needs to determine the level of participation and role it would like to assume in this initiative, and to determine how best to resource its commitments.

#### 1.2.13 Family Practice/General Practice Special Interest Group

- The Family Practice/General Practice RefSet and ICPC Mapping Project has high relevance to Australia's eHealth programme both in reference set development, mapping, and trial implementation/testing. It has completed Phase 1 (requirements and scoping).
- The NCTIS will provide input and support to the FMRC who are managing this project.
- The NCTIS will be releasing all resulting reference sets and mappings through the Australian release (although some conditions do apply in relation to required licences through the FMRC).

#### 1.2.14 Education Special Interest Group

- Core competencies for those working with SNOMED CT have been agreed, and it is the intention that a certification examination be prepared and available at the October meeting next year. This will come up to the Management Board, which we hope will support the concept.

#### 1.2.15 Implementation Special Interest Group

- The Implementation Special Interest Group will provide more supporting material and guidance for implementing SNOMED CT in clinical systems. Existing technical guidance, while thorough, is difficult to work with. Additional, more accessible guidance needs to be developed.

#### 1.2.16 International Pathology and Laboratory Medicine Special Interest Group

- The immediate focus of the IPaLM group will be on molecular genetics, and ensuring adequate content in SNOMED CT. The project is at an early stage with plans for development of a white paper to start planning, though no other immediate deliverables or impacts are anticipated.

#### 1.2.17 Mapping Special Interest Group

- SNOMED CT to ICD-10 mapping project has completed Phase 1: the concepts that have been mapped are out for review.
- Mapping guidelines are under development.

### **1.2.18 Nursing Special Interest Group**

- NEHTA will have nursing representation within the Nursing Special Interest Group. This will present an opportunity to engage with the Australian nursing community and to influence SNOMED CT content and development.

### **1.2.19 Workbench Advisory Group**

Refocussed workplan with priorities listed as:

- Technical:
  - Technical review.
  - Resulting list of improvements.
  - Act on these improvements.
- IHTSDO International:
  - Support current authoring (i.e. keep the College of American Pathologists (CAP) running).
  - Tender the technical services contract that CAP currently hold.
- Member community:
  - Reference sets and translation.
  - Survey to be created and undertaken to confirm priorities with Member countries.
- Implementation activities:
  - Investigate a Member nation to implement the Workbench.
  - Plan for further countries to implement successively.

### **1.2.20 Information Model Task Force**

- The Information Model Taskforce (IMTF) is determining the governance and funding model for the Clinical Information Modelling Initiative (CIMI).
- It has established a technical subgroup to evaluate and recommend to the Management Board on matters regarding CIMI modelling formalism, tooling and terminology binding requirements
- An NCTIS team member has been invited to be a member of the technical subgroup.

### **1.2.21 Clinical Information Modelling Initiative**

- CIMI modelling agenda and outcomes have an extremely high level of relevance to Australian eHealth programmes and the NCTIS modelling strategy, tooling, processes and product development.
- Engagement by the NCTIS in CIMI activities will not only improve NEHTA's/NCTIS's profile but will have tangible benefits including achieving alignment of NCTIS outputs with international models.
- Information and voluntary participation should be encouraged as a minimal level of engagement.

## 2 Governance

### 2.1 General Assembly

#### 2.1.1 Discussion points

The General Assembly held a closed forum on the morning of 10 December 2010, and met jointly with the Management Board on the afternoon of the same day. A forum that was open to public observation and participation was held on the following day (11 December 2010).

##### 2.1.1.1 Work programme

A briefing on the work of the IHTSDO over the previous year was provided by the Management Board Chair Martin Severs and IHTSDO CEO Jan-Eric Slot. The General Assembly discussed progress, risks and financial management of the work programme. Concern was raised about progress of the IHTSDO Workbench project, which led to agreement that a technical audit will be undertaken and closer supervision be applied by the Management Board. Progress will be reported to the Management Board each month, then onward to Members via the General Assembly, Member Forum and all project participants.

##### 2.1.1.2 Election of members to Standing Committees

See Section 1.1.

##### 2.1.1.3 Finance Report

The IHTSDO balance sheet was reported to the General Assembly, together with budget options for 2012 that allowed for progression of the SNOMED CT to ICD-10 mapping project. A proposal was put to the General Assembly to draw down on reserves to fund the progression of the mapping project (the IHTSDO currently holds six months of operating costs in reserve, which would allow the continuation of the IHTSDO for that period in the event that revenue was not realised within the expected timeframes).

The General Assembly did not approve the request to run a fiscal year deficit and draw down on reserves.

The recalculation of licence fees was discussed, and fees for 2013 confirmed. IHTSDO's fees for Members and Affiliate Licensees are designed on a 'fair share' basis, scaled using World Bank Gross National Income (GNI) values. The Atlas method smoothes exchange rate fluctuations by using a three year moving average, price-adjusted conversion factor. Until 2012, fees have been based on the 2005 GNI (based on 2004 data). From 2012, the fees will be set 12 months in advance using the most recent figures, such that the 2012 fees are based on the latest GNI figures (2009). The implication is that Australia's licence fee will increase, due to the relative strength of the Australian economy in the global economy. Australia's fee was \$275,000 in 2011, and will increase 37% to \$377,000 in 2012, then 0.03% to \$378,000 in 2013. This assumes no net increase in the IHTSDO fees, which is the current position of the General Assembly.

A process was also agreed on managing the access rights of any Members that do not pay their licence fee.

##### 2.1.1.4 Governance

Improvements in process and reporting were discussed and proposals considered. Comments were provided on the draft Conflict of Interest policy and the Risk Appetite statement.

## 2.1.2 Decisions

- The Management Board will be responsible for the Workbench programme and become the de facto Programme Board, with regular reporting to the General Assembly and Member Forum.
- A technical review will be undertaken on the Workbench – its detail and terms of reference to be discussed with the CEO and delivered to the General Assembly by April 2012.
- Perform a financial stock-take on the available funding for the SNOMED CT to ICD-10 mapping project in 2012 and onwards taking into consideration Member Forum Feedback.
- Establish the feasibility for a funding stream for SNOMED CT to ICD-10 mapping project and report to the General Assembly by December 2011.

## 2.1.3 Plans for new work

- While the SNOMED CT to ICD-10 mapping project was endorsed in principle, funding has not been provided at this stage. Funding will be considered out of session in December and in April.

## 2.1.4 Issues

Concerns with the progress of the Workbench project were discussed, and mitigations agreed as set out in this report.

## 2.1.5 Actions

Bettina McMahon is to provide specific feedback out of session on risk appetite statement.

## 2.2 Management Board

### 2.2.1 Discussion points

The Management Board Directors met on Sunday the 9th of October. The following key items were discussed amongst other IHTSDO business.

#### 2.2.1.1 New Office

The Management Board formally welcomed the new Chief Implementation and Innovation Officer, David Markwell, to the IHTSDO. David started on the 1st of October 2011.

#### 2.2.1.2 Financial Sustainability

The Management Board discussed how the IHTSDO should ensure financial sustainability. The Board agreed that the opportunities to reduce costs and increase income should be assessed and balanced against the core projects within the current and planned work programme.

#### 2.2.1.3 Annual Role Review

The Management Board annually reviews the roles and responsibilities of its Directors. The objective of this process is to ensure that all roles are filled and that Management Board Directors are not being forced to change their current roles. Current Management Board Directors are allowed to change roles, if so desired. The Management Board could have a new Chair and such appointment would be under the control of the Board. The Officers also have an opportunity to review their roles. The Management Board Chair can either address the Officer and Director roles at the same time, or review the Officer roles at a later stage.

#### 2.2.1.4 CEO Update

- Organizational Blueprint:
  - The purpose of this discussion was to present the latest version of the organizational blueprint.
- Records of Discussion:
  - The purpose of this discussion was to discuss and agree upon the specific actions regarding the Management Board records of discussion.
- Regenstrief Proposal:
  - The purpose of this discussion was to share the detailed Logical Observation Identifiers Names and Codes (LOINC) response to the Dr. Ken Lunn initiative, and to enable the Management Board and Officers to be able to comment before formulating a specific position, and to establish a process for building a response.
- Wiki SNOMED CT and IHTSDO:
  - The purpose of this discussion was to address the IHTSDO and SNOMED CT information on Wikipedia<sup>1</sup>.
- Delinquent Licences Regulation and Future Management:
  - The purpose of this discussion was to address the Regulation with regard to Delinquent Affiliate Licensees.

#### 2.2.1.5 Committee Updates

The Management Board received updates from the sub committees for:

- Quality Assurance Committee
- Technical Committee, including:
  - Chief Technical Architect report
  - Technical Committee report
  - Workbench Roadmap
  - Risk Register – IHTSDO Workbench implementation
- Content Committee
- Implementation and Innovation Committee
- Member Forum

### 2.2.2 Action Points

Action points and further details on discussions are contained within the IHTSDO Management Board meeting minutes.

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<sup>1</sup> <<http://www.wikipedia.org/>>.

# 3 Forums

## 3.1 Member Forum

### 3.1.1 Discussion points

#### 3.1.1.1 Consultation

- Consultation with the Member Forum has been so far been inconsistent, with some relevant items bypassing the Member Forum and other unnecessary items coming to the forum.
- Ian Arrowsmith presented a good spreadsheet of the various consultations and their differing approaches.
- There is much confusion regarding which consultations should go where.
- The current list of issues is:
  - IHTSDO clinical consultation process
  - Logo use policy
  - Trademark and copyright terms in SNOMED CT
  - LOINC harmonisation
  - RF2 to RF1 conversion utility
  - GS1/GTIN harmonisation
  - Mapping ICD-10
  - Interim glossaries
  - Requirements for glossaries
  - Service Level Agreements

#### 3.1.1.2 Communication strategy

- The IHTSDO CEO Jan-Eric Slot announced that he will be working on and introducing a Communication Strategy for the IHTSDO aimed at clarifying communications.
- The Member Forum welcomed this and requested involvement in early drafts of the strategy. Of particular interest was when consultation will occur on particular work items and how to determine who should be involved in that consultation.

#### 3.1.1.3 Workplan advice

- The Member Forum was requested to consult and comment upon the workplan by the Management Board, who desire a strong Member nation consensus on work items. It was suggested that if only a small number of Members desired a particular work item, this could still be done if separately funded in order to speed work in critical areas to only a few Members.
- Particular advice was requested on how to take next year's work plan forward with a balanced budget as many work items will have to be set aside.
- The Member Forum was requested to respond to the workplan to aid General Assembly and Management Board discussions in early December.

#### 3.1.1.4 Architectural review of the IHTSDO Workbench

- John Gutai discussed the planned architectural review of the IHTSDO Workbench.
  - This review is intended to be independent and cover all aspects of the IHTSDO Workbench's current state and suggest a target state (or states) and a staged approach to implementation. It is planned to be completed around the end of 2011 or early 2012, and will include an investigation of the difficulties encountered within collaborative development efforts, with multiple active projects such as Translation, Reference Set Authoring and Migration.
- There was strong support from a few nations who have tried to collaborate on the IHTSDO Workbench to review the collaboration and governance processes as well as the architecture. It was felt that the architecture is only a part of the problem and that, unless addressed, these collaborative and governance issues would still prevent meaningful progress.

#### 3.1.1.5 Chief Implementation and Innovation Officer

- David Markwell, the newly appointed Chief Implementation and Innovation Officer, discussed his vision for the role with the Committee.
- The major topic of conversation was shaping the role of the Chief Implementation and Innovation Officer. David's intention is to aim largely at end-user systems and leave the Member nations to deal with adoption at a national and policy level.
- He also outlined a plan to train and accredit trainers to disseminate information.
- One issue of concern was that David intends to contact and talk to vendors and implementers around the world including in Member nations. There was concern about how notification of these activities will occur so Members are aware of any interactions within their jurisdiction.

#### 3.1.1.6 Chief Terminologist

- Kent Spackman and Member Forum committee representative Ian Arrowsmith discussed content issues with the Member Forum.
- CMT was discussed at length, particularly due to Content Committee decisions at the conference which result in approximately three quarters of the CMT content being rejected. Much of this is due to pre-coordination patterns, and may later be accepted as the Content Committee works through these patterns. Rejected content will cause a higher burden for the National Library of Medicine (NLM) and Jim Case to manage the US extension, however this was seen as better than causing unnecessary upheaval in the International Edition. Some content may even be rejected by the US extension and remain in the Kaiser Permanente extension.
- CMT will be the first use of the policy that changed the meaning of SNOMED CT Identifiers, particularly namespaces. This means that content promoted from Kaiser Permanente to the International Edition will be published with the Kaiser Permanente-issued identifier rather than a new international namespace identifier.

### 3.1.1.7 Content Projects

- The new IHTSDO workbench enabled 60 significant improvement projects to be implemented for January rather than the 25 planned. Efficiency and throughput advantages of the IHTSDO Workbench enabled these changes.
- The Family Practice/General Practice Reference Set and Mapping Project has a proposal before the Management Board to bring the project forward. Previous plans were to do a mapping between GP code sets to SNOMED CT and create a reference set from the result. The new proposal is to produce both the maps and reference set in parallel. The project is planned to take six months of development, followed by a twelve month period of implementation. The CSIRO's Snapper mapping tool will be used for development.
- Kent requested that the Member Forum comment on the content development plan to add Member nation priority.

### 3.1.1.8 Chief Technical Architect

- John Gutai and Member Forum committee representative Dion McMurtrie discussed Technical Committee issues with the Member Forum.
- Good news about the IHTSDO Workbench project:
  - Migration project delivered and as of August 1 CAP started authoring the January 2012 International Edition using the IHTSDO Workbench.
  - This project also released RF2 in May and again in July, with a planned release in January 2012.
  - A conversion utility has also been delivered to convert RF2 back to RF1 along with a backward compatibility pack.
  - Initial authoring was slow with the new IHTSDO Workbench with roughly a concept an hour, however authoring was extended beyond CAP to external authors including Kent Spackman. Kent managed to author 150 concepts in two hours including five classifications and multiple synchronisation points.
  - IHTSDO Workbench development capacity has increased significantly.
- Bad news about the IHTSDO Workbench project:
  - The Translation project has been delayed. Acceptance testing was ceased due to performance issues and defects, mainly due to changes occurring in the Migration project. Development was then ceased, however plans are being put into motion to restart development and testing now that Migration has stabilised. The translation project was seen as key by Canada, and is acknowledged as containing technical changes required by other projects such as mapping.
  - The Reference set authoring module has also experienced difficulties. The project was closed down with outstanding functional and performance issues, and workflow that is far too restrictive and brittle. A remedial project is being set up by the UK to address these issues and finalise the functionality.
- Many projects are proposed for the IHTSDO Workbench:
  - Need guidance on Members' priorities because it cannot all be done at once.

- Currently priorities are stated as:
  - Translation project
  - Reference set project
  - Architectural review
  - Migration project
  - Member's edition of the IHTSDO Workbench
- Much greater uptake of the IHTSDO Workbench:
  - Organisations using the IHTSDO Workbench for production use:
    - NEHTA
    - IHTSDO/CAP
    - Kaiser Permanente
  - Organisations currently implementing production installations:
    - US Veteran's Administration
    - UK Terminology Centre (NHS)
    - US National Library of Medicine
    - Canada Health Infoway

### 3.1.1.9 Member Nation Updates

#### **Canada**

- Work and priority on primary health reference sets.
- Working with a teaching hospital on user interface guidelines for clinical systems involving SNOMED CT.
- SNOMED CT has now been officially selected as the primary terminology for the Canadian EHR.
- Have passed on international RF2 release but local extensions are still in RF1.
- Continuing building and testing of the translation module.
- Have online resources available – SNOMED CT orientation and SNOMED CT 'fact sheet'.

#### **UK**

- Large internal change announced a year ago, still waiting on strategy to make significant progress.
- Commissioning board to be set up to allow local administrations to purchase local systems with underpinning standards.
- NPFIT to be abandoned with a move away from national centralised programmes.
- The UK Terminology Centre (UKTC) will continue to deliver terminology as this function is clearly needed.
- SNOMED CT is now an official approved standard in the UK.
  - Only terminology approved as a standard – the Read Codes were inherited but SNOMED CT had to go through this process.
  - Now means that other standards must use SNOMED CT as a standard or show good justification why not.

- Read Codes support to be ceased in 2015.
  - Will take significant effort, however a clear sunset date was required.
  - Needed to reduce the load on the UKTC maintaining SNOMED CT and Read Codes in synchrony, requiring a large national extension.
- Set up NHS Network, similar in concept to the AuCTUG, aimed at getting a community of users and experts to answer each other's questions. Some interesting and useful online resources are available.
- Implementation arm of the UKTC started up.
  - Planning to introduce training schemes.
  - Three webinars recently recorded and other online artefacts.

### **Singapore**

- Development is largely information model focused and working on acute diagnosis and problem lists. Some difficulty has been experienced separating problems, symptoms and diagnosis.
- Tools are a major problem and largely limited to spreadsheets, Microsoft Access databases and CliniClue.
- Currently using a 2009 SNOMED CT international edition as Singapore has no tools to manage versions
- Looking more at using LOINC and already has at least one user already using it.
- Environment currently consists of ICD-9, ICD-9CM and 'ICD-9CM++' (ICD-9CM with extensions in some places). Other than that free text is in wide use.
- Creating a 'standards portal' based on the UKTC TRUD system.
- Experienced issues in pilots with users not being able to find what they want from SNOMED CT content – blamed on SNOMED CT when likely a tooling/searching problem and education on the structure of SNOMED CT.
- Singapore is also grappling with how to represent content that is not and will not ever be in SNOMED CT in their messaging and record specifications.

### **United States**

- SNOMED CT and other standards are now regarded as official US government standards. Criteria have been established for meaningful use and the government will reimburse based on these criteria. This has and will drive adoption.
- A beta SNOMED CT content request submission system has been created to manage growing requests direct to NLM. Until this point this has been managed with spreadsheets via CAP, which is no longer scaling. A key feature of the system is that users are immediately issued an identifier they can use upon submission of their request.
- A SNOMED CT browser has been released based on the UMLS metathesaurus which allows browsing of other terminologies as well. This is an online browser and access is free.
- First US extension was created and released in March and then updated in August. However development and tools are still immature and require more work. These releases will follow the international release but there is a desire to make them more frequent.

- A number of subsets have also been developed and released by the NLM including:
  - Core problem list (6,000 – 8,000 concepts) to be updated four times a year in line with SNOMED CT and UMLS.
  - Route of administration list to be updated in September.
  - Nursing problem list.
- NLM wish to move from RF1 to RF2 and plan to do so in May 2012.

### **Sweden**

- Finished a government commission to evaluate and propose the national direction.
- Now commissioned to coordinate eHealth on a national level, including information modelling and terminology and also required to deal with planning implementation and training.
- Planning to establish a new National Release Centre organisation to do this work.
- With respect to tooling, Sweden plan to continue with their current tooling until the IHTSDO Workbench is in place. However there is currently a lack of tools and this is impeding their work, which impacts classifications as well as terminologies.
- An effort has also been started to define a new licence for end users.

### **Netherlands**

- The national programme started around 2000 with the aim of creating an indexing system capable of indexing and locating records for the population.
- Work commenced and pilots were conducted with a now functioning indexing system parallel to legislation being organised to deal with privacy laws.
- However in April 2011 these legislative changes were defeated and the indexing system must be decommissioned by 2012. Some private organisations are likely to try to keep this system in place in a restricted form, but it is unlikely to gain support as a public system for some time.
- Starting to build some terminology services to support a new model of interoperability unlikely to involve any centralised government systems.

### **Denmark**

- The Danish National Board of Health is working with a vendor on an intensive care solution for use in Denmark. This was based on a system that used ICD-10, and a map to SNOMED CT has been created with assistance of end users of the system. Clinicians are interested in using SNOMED CT because of the greater expressivity it provides.
- Denmark is creating a national microbiology database (MiBa) to standardise results reporting.
- Funding is being arranged for Denmark to create its own national medicines extension. Primary use cases being drug-drug interactions and disease related uses for medications.
- Ongoing maintenance work to manage the Danish translation for SNOMED CT.

## **3.1.2 Issues**

Problems with current consultation processes are having the effect that some irrelevant issues are being forwarded to the Member Forum while other relevant issues are not being passed on to the Member Forum.

### **3.1.3 Opportunities**

An opportunity exists to influence the IHTSDO workplan from a Member nation perspective.

### **3.1.4 Actions**

- All Members to provide list of architectural issues to John Gutai for the IHTSDO Workbench review.
- All Members to review and respond to workplan.

## **3.2 Affiliate Forum**

This forum provided a good opportunity to understand what international terminology vendors' thoughts on SNOMED CT were. Items highlighted were:

- The need to product information on SNOMED CT – why is there only an IHTSDO site, and not a SNOMED CT website?
- Greater support and information for implementation of specifications – not just how to build. For example, RF2 specs.
- Business benefits/drivers for vendors implementing SNOMED CT.
- Product material to give to potential customers on SNOMED CT, including value/benefits. For example, it is currently difficult to find information on pricing for non-Member countries.
- The opportunity to showcase vendor products on a marketplace website.

All the vendors found the conference/showcase of high business value, especially considering they travelled such a distance for two days. All said they would do it again.

# 4 Committees

## 4.1 Content Committee

### 4.1.1 Discussion points

The Content Committee met for two half days, with a very extensive agenda. Time and availability constraints meant that most reports were brief. Further information is available on the Content Committee portal of TeamForge<sup>2</sup>, including background documents, PowerPoint presentations and minutes.

Monday's agenda included reports from all Working Groups for which the Content Committee takes responsibility.

### 4.1.2 Working group reports

#### 4.1.2.1 Pharmacy Special Interest Group

A major area of work for this group the boundary between pharmaceutical and biologic hierarchy:

- Test project Jan 2012 – Sept 2012 with a plan to report back to October 2012 conference.
- Produce data for testing.
- Require review of the documents supplied.

#### 4.1.2.2 Observable and Investigation Model Project Group

The group will be testing the developed model. Timeframes have not been set and they are not following a structured waterfall approach. A more iterative development approach has been taken because it can be broken up into chunks of development.

#### 4.1.2.3 Substance Hierarchy Redesign Project Group

The group has been re-invigorated and is progressing. The *Substance hierarchy* is a key hierarchy which serves many use cases. Work in this area has been prioritised for 2012.

#### 4.1.2.4 Event Condition and Episode model Project Group

The progress is slow and consensus on the model has not yet reached. Proposals for re-modelling were actively discussed.

#### 4.1.2.5 Glossary Steering Group

The group has completed as much work as possible on base documents. The policy document has been developed and needs approval for immediate implementation. Funding is required to develop an options paper and do the work.

#### 4.1.2.6 Anatomy Model Project Group

- The anatomy model can be simplified significantly by moving to a new model.
- The SEPs have been inconsistently modelled, which is difficult to navigate. This should be simplified by getting rid of 'structure' and 'entire' concepts.
- Take the layers (e.g. skin and parts of anatomy) and put these in a template creating patterns which can be used to support consistency in modelling.

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<sup>2</sup> <[https://csfe.aceworkspace.net/sf/projects/content\\_committee](https://csfe.aceworkspace.net/sf/projects/content_committee)>.

- Harmonisation with FMA was considered, but it also has some modelling flaws. 8,000 items have been mapped, 2,000 items are not mappable, and 7,000 are still to be determined.
- Timeline: there is a tooling dependency because the work requires nesting etcetera. The workbench can be enhanced. An 'aggressive timeline' for a preview release in July 2012 was considered.
- Kent Spackman feels that this addresses the 'feet in pelvis' modelling problem.

#### 4.1.2.7 SNOMED CT Medical Devices Content Development Project Group

- Global Medical Devices Nomenclature (GMDN) has been proposed as a potential source of harmonious content for medical device content in SNOMED CT. Some early feedback on GMDN has been received.
- Ian Arrowsmith (UKTC) has advised that Phase 2 of this project is going to be huge and difficult.

#### 4.1.2.8 Family Practice/General Practice reference set and ICPC mapping Project

This is a funded project being run by Graeme Miller and Julie O'Halloran from the Family Medicine Research Centre. The plan is to create a reference set of GP terms and map to ICPC-2. The map will only be released to those with both licences – SNOMED CT and ICPC. The reference set will only be released to those with affiliate licences.

### 4.1.3 Other reports

#### 4.1.3.1 Pre-coordination roadmap

- There is a need to raise awareness that this project is happening.
- The group plans to develop implementation guidance on how to post-coordinate in order to make decisions around what to and what not to pre-coordinate.

#### 4.1.3.2 Content modelling

Note: Most of this section is derived from a handout distributed at the Content Committee meeting. This handout is reproduced in full in Appendix B:.

Projects are categorized according to lifecycle phase (Inception, Elaboration, Construction, and Transition), and according to a rough estimate of the size of the project (small, medium, large). The following tables summarize the number of open projects/issues in the tracker, by size and lifecycle phase.

	Oct 2011			
	I	E	C	T
Small	185	79	34	0
Medium	107	37	17	1
Large	87	42	11	0

In addition, issues are tagged according to the source that identified the issue (external to IHTSDO, or internal). The following table gives a breakdown of the October statistics. We have focused on the external sources, which are mainly the

SNOMED CT quality review<sup>3</sup> and Rector et al paper<sup>4</sup> relating to the problem list use case. From content issues identified by these sources, there were 31 small, four medium, and two large content issues/projects moved into the construction phase for the January 2012 release.

	Oct 2011 – external/internal			
	I	E	C	T
<b>Small</b>	91/94	66/13	31/3	0
<b>Medium</b>	42/65	0/37	4/13	1
<b>Large</b>	37/50	1/41	2/9	0

Some high-profile issues addressed in these items for the Jan 2012 release:

1. Subdural haemorrhage/haematoma
2. Diabetes
3. Hypertension (complications)
4. Myocardial infarction/ischemic heart disease
5. Vein tributaries, and artery branches:
  - a. Eliminates errors in examples such as thrombophlebitis of breast.
  - b. Eliminates inferences that caused disorders involving arteries of the foot being classified as disorders of the pelvis.

The approach has been to repair the most high-profile errors and omissions; further work in subsequent releases will need to be done to identify and correct remaining gaps, omissions, or errors that may still remain.

Kent Spackman has been actively editing these on the workbench. The issues listed weren't all the difficult ones but they are high profile. This demonstrates that workbench modelling can achieve rapid results.

#### 4.1.3.3 Convergent Medical Terminology Project

New concept submissions:

- More than half of the 2,500 were rejected.
- More than half of cardiovascular, mental health and neurology concepts were also rejected.
- The US National Release Centre is analysing the impact on having to model all the rejected items into the US extension.

Ian Arrowsmith (UKTC) noted the UKTC applies a more liberal editorial policy than IHTSDO. The UKTC models first and then submits to IHTSDO rather than the other way around. Until the post-coordination implementation guide is released it will probably stay in this process. The UKTC would like to remove that interim step.

The US takes the same approach as the UK. That is, they put content into the extension and then submit to IHTSDO.

<sup>3</sup> See: [https://csfe.aceworkspace.net/sf/docman/do/listDocuments/projects.ihtsdo\\_quality\\_assurance\\_committ/docman.root.projects.nlm\\_core\\_problem\\_list\\_review](https://csfe.aceworkspace.net/sf/docman/do/listDocuments/projects.ihtsdo_quality_assurance_committ/docman.root.projects.nlm_core_problem_list_review).

<sup>4</sup> See: <http://science.icmcc.org/2011/07/11/getting-the-foot-out-of-the-pelvis-modeling-problems-affecting-use-of-snomed-ct-hierarchies-in-practical-applications/>.

#### 4.1.3.4 Workbench demonstration

- A demonstration was provided.
- The editor's curriculum, training, certification was covered.
- The workflow needs further development and refinement.

### 4.1.4 Consultant Terminologist assignments

Tuesday's agenda included reports from all projects undertaken by Consultant Terminologists. These workers have been engaged (as 'interns') for twelve months to undertake project-based content development work. Consultant Terminologists were each assigned work items (mostly from the Content Development tracker in Team Forge).

Most Consultant Terminologists have made considerable progress with their assignments, by following the phases of development as approved by IHTSDO: (Inception phase, Elaboration Phase, Construction Phase and Transition phase). All Consultant Terminologists have almost finished their work items through to the end of the Inception phase.

#### 4.1.4.1 Abbreviations/acronyms

**Assignee** Guillermo Reynoso

**Status** Finished to Elaboration phase, ready for Construction Phase

**Comments** Report on editing and amending Fully Specified Names. Content Committee asked to vote on five proposals which had been prepared and investigated. Guillermo Reynoso advised that the work had reached elaboration phase and could be constructed and released in the Jan 2012 version. The Content Committee voted on two of the proposals, both carried. January 2012 release will 'correct' identified abbreviations and (some) acronyms. Remaining proposals are to be further specified.

#### 4.1.4.2 Chronic renal diseases

**Assignee** Ed Cheetham

**Status** Inception Phase

**Comments**

- Consider feasibility/impact of asserting equivalence between 'old' content and 'new' content stages of Chronic Kidney Disease and existing 'renal impairment/failure' concepts and whether items are named with 'kidney' or 'renal' and how this has semantic drift.
- Diagram of semantic drift over SNOMED CT editions.
- Should 'stage'-based content be included in SNOMED CT?

- 4.1.4.3 Deficiency of X
- Assignee** Jim Case
- Status** Inception Phase
- Comments** There is significant cross-over and dependencies with other content development projects in the Event, Condition and Episode Model Project Group and Observables and Investigation Model Project Group work. Temporal aspects are to be considered. Further investigation and collaboration are required.
- 4.1.4.4 Dose form hierarchy refinement
- Assignee** Ed Cheetham
- Status** Inception Phase
- Comments**
- There are a finite number of forms that are of use for medicinal dose forms. There are concerns about their organising principles and rules for additional dose forms.
  - ISO IDMP standards: Singapore (Linda Bird) have been doing work here.
- 4.1.4.5 Items with the words 'failed'
- Assignee** Jim Case
- Status** Inception Phase
- Comments** There is significant cross-over and dependencies with other content development projects in procedure and regime/therapy; further investigation and collaboration are required.
- 4.1.4.6 Microorganisms
- Assignee** Jim Case
- Status** Inception Phase
- Comments** Considerable background work has already been achieved. A new model has been proposed and needs to be tested. It should progress through elaboration before coming back to the Content Committee.
- 4.1.4.7 Naming conventions to clearly distinguish repeated applications of procedures
- Assignee** Ed Cheetham
- Status** Inception Phase
- Comments** There is little consistency in whether a concept appears in the procedure hierarchy or the regime/therapy sub-hierarchy.

- 4.1.4.8 Occupations/roles – in relation to Nursing
- Assignee** Anne Casey
- Status** Inception Phase
- Comments** SNOMED CT contains unsuitable items as an occupation, e.g. different types of nurses. Jeremy Rogers queried if whole hierarchy/sub-hierarchy should be retired and to use an internationally accepted list of occupations. Kent Spackman logged it in the tracker for further consideration.
- 4.1.4.9 Physician services (procedure)
- Assignee** Bruce Goldberg
- Status** Inception Phase
- Comments** Physician services (procedure) and healthcare services (qualifier) sub-hierarchies have content that seems to be the same. Query the need to consolidate these hierarchies.
- 4.1.4.10 Reference sets for navigational concepts
- Assignee** Jeremy Rogers
- Status** Inception Phase
- Comments**
- There are 637 navigational concepts, intended for use in reference sets. They can be described as Disjunction, negation, arbitrary groupers and originate from ICD and CTV3. They are intended for use in navigational subsets and are meaningless outside of these subsets.
  - IHTSDO releases include two navigational reference sets. Neither are maintained and both are broken (e.g. orphans, redundancy, cycles, and missing content).
  - A successful Navigational reference set requires:
    - A concept hierarchy for external terminology in order to identify relevant concepts.
    - A map from the external source to SNOMED CT.
    - And a map from SNOMED CT to the external source.
  - Proposal: the two sets in the international release should be removed, and the concepts put into a subset.

**4.1.4.11** Sequela**Assignee** Bruce Goldberg**Status** Inception Phase

- Comments**
- Definitions using late effect and sequela as synonyms are in question.
  - Modelling X with Y and X due to Y ... consistent modelling guidelines are needed.

**4.1.4.12** Update cancer/tumour grade and stage concepts**Assignee** Jeremy Rogers**Status** Inception Phase

- Comments**
- Based on *American Joint Committee on Cancer (AJCC) 7th edition*.<sup>5</sup>
  - The IHTSDO has received requests from SNOMED CT users asking for more pre-coordinated content, but all will be possible through post-coordination. However there is the question of whether users are technically ready for this?

**4.1.5 Content Committee Sub Group Meeting**

A sub-group of Content Committee members met out of session for two hours on Friday. In attendance were Kent Spackman (IHTSDO, Chief Terminologist), Jennifer Garvin (Veteran's Affairs/National Library of Medicine, USA); Stefan Schulz (ontologist, Germany/Austria); Donna Truran (outgoing representative, Australia), and Robyn Richards (incoming Content Committee representative, NEHTA, Australia).

This out-of-session meeting was held to advance the Content Committee agenda item which was not addressed during the scheduled meeting, primarily concerned with:

- content development planning;
- prioritisation of work items and assignments to be included in resource planning submission to Management Board; and
- Consultant Terminologist programme and next steps.

**4.1.6 Decisions****4.1.6.1** In Committee session

- Support Guillermo Reynoso's proposal to amend abbreviations and acronyms in fully specified names in the 2012 January release (Content Tracker artefact number 6228). The Content Committee is to consider remaining proposals for completion of this work assignment post January 2012.
- Continued support for Consultant Terminologists to progress project assignments as far as possible to complete the Inception Phase of development, and to bring back to Content Committee for Elaboration Phase approval.

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<sup>5</sup> <<http://www.cancerstaging.org/products/ajccproducts.html>>.

- Continued support for Working Groups to progress with their work assignments.
- #### 4.1.6.2 Out-of-session
- Explore options for intensive week long training programme for the next cohort of Consultant Terminologists including:
    - hands-on, worked exercises in description logic;
    - modelling with IHTSDO tools (Workbench);
    - training in programme management techniques, policies and procedures of the IHTSDO.
  - There are plans to prioritise all working groups and project assignments related to Substances, Anatomy and Organisms as these are the foundational hierarchies upon which most other content development initiatives depend. It was acknowledged that many of the high-priority use cases (such as public health and problem lists) are implicated in the re-design and Quality Assurance of Substances, Anatomy and Organisms (extensive and immediate gains possible here).
  - Resource requirements will be required, perhaps disproportionately, to achieve timely outcomes and allow other work assignments and groups to progress unimpeded (e.g. Observables, Findings, Event Condition Episode etc).
  - Evaluate the first round of the Consultant Terminologist programme.
  - Seek further in-kind support of this programme from Member nations to assist them in building their own national capacity and capability.
  - Consider whether Consultant Terminologists can be allocated to established working groups to take a content development leadership role (not a secretariat role) and add some greater input to working groups.
  - Kent Spackman is to finalise recommendations and outcomes from this out of session meeting and report back to future Content Committee.

#### 4.1.7 Plans for new work

There are few plans or proposals for 'new' work items because:

- IHTSDO has been concentrating on change-over of their tooling platform (which has imposed a more modest approach to content development and modelling while workflows are stabilised).
- Resource constraints (both funds and expertise) are scarce.
- There is already an extensive list of work items already logged and (somewhat) specified which cannot be adequately progressed under prevailing resource constraints.
- Many IHTSDO Members are suffering under Global Financial Crisis conditions, and funding from Member nations is not predictable.

#### 4.1.8 Issues

A number of key content development issues were discussed and prioritised. These include *Substance hierarchy* re-design, Anatomy, Organisms, Observable Entities.

#### 4.1.8.1.1 *Build and harmonise*

It would appear that these initiatives are complicated. All involve not only design, re-design or remodelling of existing SNOMED CT content to meet user requirements and demands, but also there are concerted attempts to 'harmonise' these efforts with other terminologies and ontologies such as FMA, BioTop, LOINC, ICD, ICPC and ChEBI.

That is, the IHTSDO is attempting to do two things simultaneously:

1. build (internally, given the SNOMED CT model, tools, use cases and Member nation requirements); and
2. harmonise (externally) with other instruments, custodians, owners, and experts.

Under these approaches we can expect that the nature of the work is doubly difficult, prone to many and varied competing requirements, and in some instances impeded by IP, ownership or licensing factors. We might realistically expect that achievement of these priority work programmes will proceed more slowly than we would otherwise hope.

#### 4.1.8.1.2 *Resourcing and expertise*

It was apparent that the IHTSDO community has the ability to accurately identify terminology issues which need to be addressed, and can describe these in relation to use cases, implementation approaches, as well as editorial and maintenance issues.

However, it is also evident that the IHTSDO community has a significant lack of experts who can design and develop solutions to those issues.

Key barriers to 'problem-solving' appear to be:

- Little shared understanding of description logic or expressivity.
- Little or no resource to develop proposed models to support design or re-design requirements (even 'straw-man' proposals).
- Little or no understanding that increasing logical expressivity has a cost and cross-impacts on all other portions of SNOMED CT and its implementability.
- Little or no ability to weigh the cost/benefits of new proposed or different logical models.
- A lack of a unified, shared, collaborative tooling platform to allow development and sharing of such proposals out of session; all progress is restricted to what can be presented, explained and agreed to in an eight-hour meeting.

#### **4.1.9 Opportunities**

- Consideration should be given to nominating and dedicating NEHTA or Australian resources (with sponsorship funding) to IHTSDO Consultant Terminologist programme, for upcoming next cohort of recruits. Advantages: IHTSDO may provide greater training opportunities and recognition/certification of Australian personnel as internationally competent content developers.
- The prioritisation of the work programme suits Australian interests (Substances, Organisms, Observables, Anatomy) – and greater involvement here could potentially influence outcomes and achieve timely results for the Australian work programme, including AMT and Pathology.

- Out of session conversations with Ian Green (NHS) indicated that substantial work is being undertaken in the UK with regard to content development in the Observable Entities hierarchy. Australian personnel could review and seek to re-use the achievements of that NHS work programme to advantage. Such early work might decrease the need for Australian extension development to serve Pathology terminology and standardisation.
- Continue to support high priority Australian efforts in *Substance hierarchy* re-design and Observables.
- Dedicate additional resources to the Anatomy project. Large scale redesign and modelling efforts already under way here present a great opportunity for Australian terminology analysts to learn basic (and some advanced) skills in terminology modelling, testing, analysis; skills are transferable and generalisable. The project is led and supported by Kent Spackman.

## 4.2 Implementation and Innovation Committee

### 4.2.1 Discussion points

- The new CIIO, David Markwell, presented his vision for his future role and objectives.<sup>6</sup> He sees the committee's role as supporting him to achieve these objectives.
- The committee is in broad agreement with David's goals. Key points to note:
  - There was some discussion around documentation, focusing on accessibility. The first action should be to ensure that documents are more openly available (on the IHTSDO website).
  - There is a need to ensure that language is accessible. The *Technical Implementation Guide* is currently very detailed and very long. Providing FAQs, breaking into components, and using simple language would all assist in this respect.
  - Stakeholder analysis required – Jon Patrick raised a few ideas. Karen Gibson also tabled some suggestions.
- The 2012 Workplan was discussed. It has not yet been streamed to align with objectives, and requires further work/consideration at next teleconference. (Note: David Markwell is likely to further refine this now that he is in the role of CIIO and also likely to be influenced by new Chair, Don Sweete).
- Reports from Nursing and Education Special Interest Group were tabled.
- Reviewed the *Technical Implementation Guide* proposal:
  - Points from the previous day were reiterated, in particular that various levels of the guide are required. It needs to step through from novice to advanced.
- David Markwell tabled the idea that he wanted to establish positions similar to the Terminologist consultant programme that Kent Spackman has started – so that people could work more closely with him to improve their skills in implementation issues. Working together on the *Technical Implementation Guide* was seen as first step.
- Benefits work was tabled:
  - David Rowlands and Monica Jones have worked on a benefits dependency network

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<sup>6</sup> Those with access to the Implementation and Innovation Committee workgroup can view this presentation at the following URL:  
[https://csfe.aceworkspace.net/sf/docman/do/downloadDocument/projects.implementation.and.innovation.co/docman.root.committee.meetings.2011.2011\\_10\\_oct/doc4712](https://csfe.aceworkspace.net/sf/docman/do/downloadDocument/projects.implementation.and.innovation.co/docman.root.committee.meetings.2011.2011_10_oct/doc4712).

- Karen Gibson noted that it seemed to be evaluating the benefits of the IHTSDO – (i.e. outcome is use of SNOMED CT; and IHTSDO is the enabler).
- Suggested it should focus on benefits of SNOMED CT (i.e. outcome/drivers – better health care and health outcomes for global citizens; SNOMED CT is then the enabler).
- Benefits Dependency Network is then the path between the two – market uptake, usability, quality etc.
- Functional use cases for SNOMED CT were tabled:
  - This provoked a lot of discussion around the focus of group and links to information modelling work.
  - This tied back to 2011 workplan – use cases, requirements for SNOMED CT in an EHR (need for RFP specification for organisations wishing to implement SNOMED CT and procurement clauses etc.).
  - Need for API's – and links to HL7 CTS2 work. Agreed that we need to be more involved in this work.
  - Opportunity for open source development – API's and widgets to help implementers (e.g. Microsoft CUI work).
- Requirements for an EHR system which uses SNOMED CT:
  - Karen Gibson noted that the Implementation and Innovation Committee had requested the Members Forum to provide exemplar clauses and RFP requirements.
  - Only UK had responded – and the document loaded to the Collaborative site was an edited version of that document (Note: Karen Gibson loaded this into 2012 workplan area – rather than 2011 as intended).
  - Agreed this was a starting point only – first draft.
  - Seek for review/input from affiliates and members of the Implementation and Innovation Committee.
- Requirements for Refset/Mapping tools:
  - Karen Gibson noted that the Implementation and Innovation Committee had also requested the Members Forum to provide reference set/mapping requirements for implementers.
  - Only Infoway and Queensland Health had responded. This document was also loaded to 2012 workplan area.
  - It was noted that these requirements may differ from those developed previously by Technical Committee – as the latter were focussed on requirements of National Release Centres. Implementer requirements may be similar – but often simpler (e.g. mapping to SNOMED CT from legacy term/codeset – not mapping from SNOMED CT to ICD-10).
  - As above, it was agreed this was a first draft. Feedback review is required.
- Use Case review:
  - A quick review of work to date on these key use cases.
  - Requires editorial review by one person to improve consistency (David Markwell to act on this).
  - May be able to collapse some of the use cases.

### 4.2.2 Decisions

The following actions were agreed at the meeting:

- Feedback and discussion on which specific actions the Committee should take and how to contribute and improve towards a common strategy.
- The Education Special Interest Group tabled a Strategic plan for Education initiatives and Development of case certification for Members to review. Members will review this document and provide feedback by the end of October.
- Further review of *Technical Implementation Guide* is required. Some resources were volunteered, but more are sought.
- Additional work is required on the SNOMED CT benefits documentation. This document will be divided into the three target audiences – vendors, end-users and governments.
- The list of 'Common User Requirements for SNOMED CT' gathered by Karen Gibson will be circulated amongst the Affiliate Forum for consideration and to provide feedback to the Implementation and Innovation Committee.
- The use cases developed will be prioritised for comprehensive development and eventual publication. Additional use cases will continue to be considered including those particular to EHR vendors.

### 4.2.3 Plans for new work

All work from this group has been ongoing, and no new activities are planned other than those already outlined above.

### 4.2.4 Issues

This group does not yet have sufficient sub-committees feeding work through – and the workplan is progressing very slowly. Implementation is seen as top priority for all Members, however requests to the Member Forum for input have not been well supported.

The new Implementation and Innovation officer should add much needed impetus – but further consideration of objectives and stakeholder analysis is required. Some members expressed concerns that the focus is on technical aspects of implementation – experience from the AuCTUG workshops indicates that the training needs of vendors versus the training needs of organisations and jurisdictions trying to implement are very different.

### 4.2.5 Opportunities

- 2012 Workplan – It is suggested that NEHTA review and provide feedback prior to next meeting of the Implementation and Innovation Committee.
- The proposal to revise the *Technical Implementation Guide* could be an opportunity to more appropriately focus sections of the document on key audiences (from stakeholder analysis). FAQ's from the AuCTUG meetings may be a useful starting point to focus discussion.
- The Consultant Implementation and Innovation Officer positions may provide an opportunity to work more closely with the CIIO. This is an opportunity to improve the skills of NEHTA staff and bring back expertise to share with the Australian community.
- There is also an opportunity for Australian vendors to contribute to SNOMED CT use cases.

## 4.3 Quality Assurance Committee

### 4.3.1 Discussion points

#### 4.3.1.1 Report from Management Board

A full Management Board meeting was held the day before committees started to meet and the agenda was not as long as it normally would be. This allowed for fuller discussion than we would normally be able to have.

The current Chair of Quality Assurance is stepping down and the committee await the Management Board decision on the next Chair, which we were told will be determined shortly and announced this week.<sup>7</sup>

The organisational structure has been reviewed and will be discussed further at this meeting. Some of the need for change comes out of budgetary issues and also the ability to deliver results on big projects. There are concerns about the workbench which were openly discussed and the need for a more in-depth review.

#### 4.3.1.2 Testing Strategy for Pharmacy – Review

Background: In 2007 within the pharmacy domain the IHTSDO set a strategic direction for medicines terminology within SNOMED CT. The purpose was to address issues within the current hierarchy, which is less than useful and needs to be upgraded to be useful and consistent.

The objective of this project was stated as:

- To define the scope of content for this hierarchy.
- To update the current editorial policy for these concepts (this dates back to 2004 and has not been updated since; the update needed to reflect learning and improve quality).
- To produce consistent, usable content.
- To facilitate collaborative updating of pharmaceutical data to support international and national use.

UK, Australia, Singapore and the Netherlands have been major contributors to this review. Currently this work is at the consensus stage, beginning quality assurance.

There will be a small project to test suggested modifications and developments of this hierarchy. Furthermore, this project will:

- Confirm that the proposals are sound and extensible.
- Confirm editorial policy proposals.
- Ensure Member nations' understanding of the implications of proposals, through examples of changes required.
- Further quantify the proposed changes.

High-level timelines are to start testing in January 2012 and should be completed in nine to twelve months. Deliverables proposed include: sample data, a template for data submission test data, and a review of findings.

##### 4.3.1.2.1 Purpose of the testing

The purpose of the testing is to show that the movements are sound. This means that at the end the Quality Assurance Committee will not necessarily know if the whole concept model is now complete.

This testing will not examine whether the new concept model will help achieve the objectives of improved consistency.

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<sup>7</sup> Kathy Farndon has since been announced as the Quality Assurance Committee chair.

#### 4.3.1.2.2 *Testing protocols*

The Member nations will provide content for testing (using a template) but not be asked to actually do the testing, as this will be undertaken by the project team (yet to be determined). Member nations will be asked to provide examples of each 'type of known break' rather than multiple examples of each known break.

Jane Millar reported that the documents have not yet gone out for public consultation. The release of these documents is contingent upon gaining some understanding of what is required, and this requires the test data. This process is about preparing to go out for consultation. The consultation request needs to make clear exactly what type of feedback is useful and how it relates to the objectives.

#### 4.3.1.2.3 *Consultation*

The open consultation process of the Pharmacy Special Interest Group will include asking vendors and third-party providers to contribute to the test data collection. Jane Millar stated that many of the third parties and vendors of pharmacy-related products (including 1st Databank) have been involved, and are at the meetings. If Australia would like to have additional organisations involved we should contact Jane Millar at IHTSDO.

#### 4.3.1.2.4 *Quality framework*

It is intended that the quality framework will be integral into the testing process and used in this project. The framework needs to be considered across all elements of the project. There are a number of aspects to this project which should include quality measurement and processes. The Quality Assurance Committee should assist in this project for quality processes.

#### 4.3.1.2.5 *GS1 involvement*

There are UK links with GS1, but internationally the information is at too high a level to have an impact upon GS1.

#### 4.3.1.2.6 *Migration*

Migration from one version of SNOMED CT to the new workbench and relevant SNOMED CT structural changes will need to be considered as a major practical issue. The project time scale cuts across a number of active implementations, so movement to the new workbench structures may impact upon the testing time. An evaluation of the impact upon testing processes will need to be included. This will not impact requirements nor the ability of those involved and the public to provide feedback.

Testing needs to include real-world products to identify issues related to the changes made.

The content development process is now looking at a model needing to go through the 'standards for standards process', but there is also a need for more testing to ensure utility.

Observable model modifications are on trial with LOINC, which has been successful, but there is still a need to identify what type of tests and how much testing is necessary to ensure a quality approach and reduce later changes. A standard testing procedure should be identified for new concept model developments or modifications.

There is a need to incorporate the testing strategy itself in the standards for standards process and ensure that these processes are followed by all IHTSDO projects. The issue is not the standards for standards process, but the application of the process. The content committee is also involved in these considerations.

### 4.3.1.3 Application of the Quality Framework, developing specific sets of metrics

The objective is to increase the use of the quality framework. Should we do more examples of sets that people could use to assist in identifying quality measures?

#### 4.3.1.3.1 *Concept model approach*

Reviews of Observables, Anatomy and Pharmacy are currently in play and will use quality metrics and consider an appropriate level of metrics. The SNOMED CT concept model is a set of rules that determine the permitted sets of relationships between particular types of concepts. The concept model is stated in the *Editorial Guide*, the *Technical Implementation Guide* and in the Machine Readable Concept Model.

Content development is the process in which entities of a domain of interest are represented as pre-coordinated SNOMED CT concepts.

- Use of metrics versus other assessments:
  - Content depends on the understanding of the concept model, both of which are partly formalised.
  - The concept model depends on our current understanding of the world. Thus, concept model quality is inherently hard to measure. There is a need for other methods of assess characteristics.
- Concept model characteristics:
  - Content quality is partly dependent on concept model quality (and vice versa) e.g. applicability of the concept model.
  - Process of concept model application (measure of time to process and volume of throughput).
  - Training and skills of developers required.
  - Characteristics of the domain.
- Concept model quality characteristics and metrics in the literature:
  - Categories include:
    - Structure of the concept model and structure of documents, which potentially include:
      - The degree to which the concept model is formally represented in (e.g. MRCM).
      - Meta-ontology analysis (e.g. OntoClean) which can be used to evaluate ontologies.
      - Compatibility with or ability to map to other ontologies.
    - However it is not always clear that these metrics are appropriate. Possibly a set of quality-based approaches could be applied and may be more effective.
    - Document quality could include clarity of style guides at various levels of understanding for all users for different purposes. This relates to the scope identified in the document.
    - Development process descriptions.
  - Usability
    - Consider the compatibility with applications including information models, usefulness in specific scenarios.
    - Consider compatibility with domains, such as procedure model which is currently slightly slanted towards surgery, while observables' draft in non-laboratory domain will need to be investigated.

- Operability – what is needed to make the concept model work in applications?
  - Performance issues may also be considered including reasoning service performance. The reasoning service may be impacted if the concept model is too complex.
- Reliability
  - Reproducibility of the concept model: For example the concept model application in the ICD-10 mapping project, has identified utility and issues with the model and is useful to compare results when mapping. This would support a qualitative as well as a quantitative review. It is proposed that a review of reliability be included in the observables project
- Maintainability
  - Maturity of the model could be measured by the number of change requests and number of actual changes performed. Today there are few change requests targeting the concept model despite known issues so this may not necessarily be an effective measure.
- Portability – identification of compatibility with new domains, such as in the pharmacy boundary work.

If the concept model does not describe the purpose of the concept then that concept is of no use, even if it is beautiful. For example: does the concept model for allergies provide the required attributes to ensure allergies are being appropriately described? This was considered a usability issue. It was decided that scenarios include an additional point to include this issue.

#### 4.3.1.4 Metrics for content development

Content development is the process in which entities of a domain of interest are represented as pre-coordinated SNOMED CT concepts. Questions include whether post-coordinated concepts are part of the development? This needs to be explored. Bob Dolin's report<sup>8</sup> includes too many metrics, though their principles are sound. The meeting considered that the metrics should be reviewed to identify both those that are likely to be highly indicative of quality and those that are pragmatically achievable at this point.

##### 4.3.1.4.1 Automation of metrics

It may be worthwhile to differentiate between those metrics which can be automated as these could be more easily adopted. This will be considered in the analysis for the next meeting. Correctness is largely qualitative and will need to be considered according to what is achievable and repeatable in process.

The consistency between the concept and the content model needs to be considered and included. As a new content is brought in there may be a set of metrics used for new concepts that include the manual review process while maintenance of existing content might use more of the automated content quality review.

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<sup>8</sup> *A review and options appraisal for the development of Quality Improvement Metrics related to SNOMED CT content: Summary Report*, available at: <http://gforge.hl7.org/gf/download/docmanfileversion/5942/7697/IHTSDOQualityMetricsSummaryReport.doc>.

#### 4.3.1.5 Communications metrics

All reporters in this area have indicated that establishing metrics proves a very difficult issue.

Potential communication metrics include:

- The IHTSDO website (static web pages) needs to be up and running and the service should be monitored. Heather Grain has been actively involved in this review and in some of the recent fixes.
- That the website has redundancy.
- Amount and frequency of downtime (if any) is planned and announced in advance.
- Analytics on traffic for the various parts of the website (produced and sent to Quality Assurance Committee).
- Additional suggestions include:
  - Identification of the target audience and suitability to each audience.
  - Publication deadlines.
  - Removal of information deadlines.
- IHTSDO newsletter:
  - Publication deadlines are met (periodicity).
  - Target audience is reached (distribution list).
  - Review of new people signing up.
  - Impact of the newsletter is assessed, e.g. on the evaluation form, survey?
- IHTSDO annual report:
  - Publication deadlines are met (periodicity).
  - Target audience is reached (distribution list).
  - Published on the web site in a timely fashion.
- IHTSDO conferences and working meetings:
  - Showcase audience is monitored to support advertising and advancement.
  - Attendance targets of the conferences and working meetings. Those who would or should attend for each event are different.
  - Main showcase is well advertised.
  - Opportunities for basic training, implementation training etc are maximised.
  - Opportunities for feedback are provided (to individuals and groups).
- IHTSDO teleconferences:
  - Audience is monitored (same as above).
- Tutorials, webinars.
- Handouts from presentations.
  - These should be properly archived and available – related to the education library.
- Academic journals:
  - Communication about SNOMED CT in academic circles is monitored (e.g. studies about coverage and quality reports of implementation).
  - Articles praising SNOMED CT are highlighted in IHTSDO communication.

- Articles reporting issues are analysed, the issues addressed and a response published.
- Wikipedia pages:
  - What are we trying to communicate?
  - What is the objective of the communication?

There are issues with the current internet hosting service. (The report on these issues has not been published.) The issues identified should be considered in the requirements development.

#### 4.3.1.6 Objectives of communication

- Provide information to Members (organisations) and users (product) and community.
- Information for each group of stakeholders is appropriately identified and easily discoverable.
- Stakeholder engagement:
  - A schedule for regular dissemination of information is defined.
  - Information is provided to stakeholders on a regular basis (meets periodicity requirements).
  - Feedback from the community of practice is encouraged (directly or through existing channels, such as the Member Forum).
  - Direct communication among users – monitored or not – is encouraged (e.g. for exchanging experience with implementation; through mailing lists, wikis, social media, etc).
- Institutional presences:
  - Communication ensures institutional presence (e.g. for prospective Members, other SDOs).
- Dialogue with partners (e.g. other SDOs).
  - Communication features relationships with sister SDOs.

#### 4.3.1.7 Types of information metrics

- About the product:
  - The website needs to make it easy for users to get SNOMED CT (even if access is provided through Member countries).
  - The website makes it easy for users to request access to specific components (e.g. list of all terms and codes for 'common good', specific value sets).
- About the organisation:
  - The website needs to help publicise institutional communication (annual report, newsletters).
  - Website needs to provides an archive of past communication materials.
- Website needs to clearly segregate the two types of information – product and organisation.

#### 4.3.1.8 Metrics for Education

- In this case, the term Education relates to tutorials and similar education provided by IHTSDO, usually at our conferences. The suggested metrics include:
  - no. of students graduated
  - no. of courses

- no. of courses at different levels
- no. and types of tutorials
- no. of webinars
- Level of courses offered:
  - beginner
  - intermediate
  - advanced
  - other configuration
- User satisfaction.
- To progress to a more quality-based education approach it was agreed that we need to support the clear development of:
  - Courses which identify competencies/objectives achieved.
  - Role priorities of employers – the courses needed by the community.
  - Courses designed to support these roles.
  - Evaluation of instructors and ensuring the competence of educators.
  - Coverage of courses.
  - Users of materials provided (downloads).
  - Courses in the community which are built to meet our competency specifications.
- Consider metrics for the showcase, and whether an academic element of papers would be welcome and valued.

The issues discussed are rudimentary: consideration and discussion of this issue is still evolving. Further discussion and active engagement is necessary.

#### *4.3.1.8.1 General comment*

It needs to be clear that the Quality Assurance Committee is not responsible for doing the metrics but is there to support other parts of the organisation and Member organisations in developing and using relevant metrics.

Where a matrix is proven difficult to get these should come back to the Quality Assurance Committee to identify priority and practicality. Usability, practicality, relevance are potential priority areas. Some metrics may be very important and usable but extremely difficult to get and we need to make sure that usability and practicality are not considered in isolation of the difficulty and cost of collection and monitoring.

## **4.4 Technical Committee**

### **4.4.1 Discussion points**

#### 4.4.1.1 New committee chair

- Ted Cizadlo (current Technical Committee Chair and Management Board representative from New Zealand) is changing career and stepping back from the IHTSDO. He will therefore no longer be on the Management Board and hence no longer Chair of the Technical Committee.
- David Bunker (Australian member of the IHTSDO Management Board) will become chair of the Technical Committee as of January 2012.

#### 4.4.1.2 Extensions and modules

- John Gutai (IHTSDO Chief Technical Architect) and Gwen Smith led a discussion on the relationship between components, modules, namespaces and extensions in SNOMED CT.
- The expressed problem was that modules are not clearly understood, and their potential overlap in meaning with namespaces made it unclear what the composition of an extension was.
- The proposed solution was to state that each module is necessarily associated with a namespace, and that namespace is associated with a single extension or a release.
- However this implies that a namespace may appear in one and only one extension/release, which is no longer the case with the recent change to meaning of the SNOMED CT identifier. This is also currently not true of the Australian and UK releases, which split content from the same namespace across releases (e.g. SNOMED CT-AU and AMT releases share the same namespace).
- A counter-proposal was made to describe an extension/release as a collection of modules grouped and released for a particular purpose. It was further proposed that namespaces be used for only two purposes – to avoid identifier allocation collision in a decentralised allocation model, and to represent the original author of a component.
- This proposal was discussed and generally agreed within the committee although further documentation is required. Michael Lawley and Dion McMurtrie agreed to document this proposal as part of the URI scheme for SNOMED CT.

#### 4.4.1.3 IHTSDO Workbench release for Members

- The IHTSDO will be issuing an RFP for creation of an IHTSDO Member's edition of the IHTSDO Workbench. This will be an open tender.
- This is likely to be supplied via virtual desktop or similar to work around large download sizes and client hardware requirements.
- Key characteristics of the successful bid must be:
  - Configuration must be possible by non-technical people.
  - Members should not affect each other's work.
  - Multiple users from a Member nation should be able to connect and use the system concurrently.
  - A view of the international release work in progress should be available.
  - Promotion and demotion of content according to IHTSDO rules should be possible.
  - Simple import, export and configuration supporting RF2 and later other formats.
  - Integrated quality assurance and machine readable concept model rules.
  - Each Member nation will need multiple environments: User Acceptance Testing and Production at a minimum.
  - Ability to have public and private content development for Members.

#### 4.4.1.4 Technical workplan

- The migration project is now in production use for authoring the January 2012 SNOMED CT International Edition. It started with two editors only, working at a rate of 50 minutes per concept. It has now been extended to three CAP staff and two external editors, including Kent Spackman (IHTSDO). Kent has now achieved authoring of 150 concepts in two hours, including five full classifications and multiple synchronisation points.

#### 4.4.1.5 RF2 to RF1 conversion utility

- This tool was delivered with the RF2 release in July 2011 and will be used to generate RF1 SNOMED CT International releases and provided as open source until RF1 releases have ceased. This tool has finished its development and Quality Assurance phases and is now considered to be in a maintenance phase.
- Concerns were raised regarding how long maintenance will be performed. This was acknowledged as a bigger issue that needs resolution – when will RF1 be officially deprecated? It was felt that if Members required this tool beyond the date of deprecation of RF1, then those Members should pay for the cost of this continued maintenance.

#### 4.4.1.6 Information Model Task Force

- The Information Model Task Force has delivered a report to the IHTSDO on the current landscape.
- The task force has contact with and will monitor two information model harmonisation efforts – CIMI and Semantic Health Net – and will support and monitor both efforts.

#### 4.4.1.7 Translation module

- The Translation module is an IHTSDO Workbench module being developed by TermMed after winning an RFP bid issued by the IHTSDO. The module is aimed at providing functionality to efficiently translate SNOMED CT into multiple languages.
- The translation module suffered performance issues and defects attempting to remain in synchronisation with the IHTSDO Workbench trunk used for the Migration project development.
- Due to these issues, User Acceptance Testing was abandoned, and development ceased, effectively pausing the project.
- Meetings at this conference have explored ways to restart the project now that the Migration project has been delivered and major development stopped.
- Translation features for workflows are a key dependency for the mapping project development. Therefore completion of the translation project is viewed as important beyond the scope of translation use cases.

#### 4.4.1.8 Workbench development plan

- A module for the workbench was discussed to simplify import of terminologies into the IHTSDO Workbench, initially for simple code sets and classifications and later more complex terminologies.
- Guillermo Reynoso suggested that before major further development it was important to get agreement on core services within the IHTSDO Workbench and stabilise these. This was agreed by many, however a tension exists to create sufficient functionality to make the tool widely useful before greater refactoring.

- A question was raised as to who agrees and signs off scope for the IHTSDO Workbench, which was clarified to be produced by the Workbench Advisory Group with input from the Technical Committee and the Implementation and Innovation Committee. However the Management Board are the approval authority.
- Mapping functionality was discussed and is under way between the UKTC and NLM, based on the functionality from the prototype developed by the UKTC.
- Although the Reference Set Authoring Project has now ended, a number of issues existed at closing of this project, therefore a new project is being started called the 'Reference Set Remedial Work' aimed at resolving the final issues from the original project.
- A proposal exists to develop 'patterns' which are based on post-coordinated expression templates that contain empty slots that may be defined to create new concepts. This approach would be implemented into the IHTSDO Workbench to speed authoring of new content.
- Support for GCIs (general concept inclusion axioms) was also proposed and discussed as a potential enhancement to SNOMED CT description logic and hence Workbench support. This would permit multiple sufficient definitions of concepts, however it does affect the simple structural subsumption used by many at present. This proposal needs further consideration.
- Nesting was also considered as an enhancement to SNOMED CT's description logic support. It was felt that this may replace role groups by some, however this was not considered possible by others. However this was considered a useful feature, but not well supported by RF1 or RF2.
- A further development request was to consider asynchronous projects that may be worked on in parallel to releases and released more or less frequently than main terminology releases. This type of functionality has already been implemented at NEHTA, however would require non-trivial merging to the IHTSDO Workbench trunk.
- CMT code submissions from Kaiser Permanente were also discussed. Current plans are to take these donations on a six-monthly or yearly basis. However there are considerable concerns that parallel development is already creating considerable issues at present and these donations, though well intended, may cause considerable further problems.
- Finally the Migration project release schedule was presented. A merge back in to the trunk is planned this year with monthly releases for the next three to four months then reducing to a six-monthly release cycle.

#### 4.4.1.9 Diagramming standard

- The latest version of the diagramming standard was shown and discussed.
- Latest changes deal explicitly with equivalence versus expression representation and clearly show conjunctions.
- The notation is very flexible, and will be extensible to other axioms like GCI's if required in the future.
- The committee approved the diagramming standard to be updated and go directly into committee consultation and approval as Draft For Trial Use.

#### 4.4.1.10 SNOMED CT representation of units of measure

- SNOMED CT expresses units currently using a hierarchy of concepts in the qualifier hierarchy.
- The Concrete Domain Specification as proposed uses these concepts, however use in the International Edition of SNOMED CT of these concepts is relatively limited.

- As a result the progress of the Concrete Domain Specification was halted to determine if we wish to use these unit concepts or use an external system like UCUM. UCUM was the favoured choice due to high levels of Member nation HL7 adoption, where UCUM is heavily used.
- However there are significant issues referring directly to UCUM from within SNOMED CT, as the current tools and release formats do not support it. The UK drug extension is also dependent upon SNOMED CT unit concepts, so the costs involved in removing them and using UCUM in their place is very high. There is also the issue of 'clinical units' that are not true scientific units of measure and out of scope for UCUM that are still necessary as concepts for SNOMED CT.
- Therefore the committee resolved that the proposal to put forward was that the SNOMED CT unit concepts should remain, however a harmonisation agreement should be pursued with the UCUM Organization and Regenstrief Institute to publish and maintain a SNOMED CT to UCUM map. This map has already been developed in 2005 and its maintenance is considered to be low-cost as the content is very stable and has not changed in six years.

#### 4.4.1.11 Concrete domains and representation of numbers

- Little progress has been made with the standards process due to the discussion and investigation around units of measure.
- However work has continued in AMT v3 to implement concrete domains as defining characteristics as part of trial use.
- B2i (authors of SnowOwl) have also taken v2 AMT data and created concrete domain attributes by parsing AMT descriptions in order to trial classification and reasoning times. Classification using FACT++ took roughly 20 minutes on the AMT's 100,000 concepts, however using ELK the time was cut to 35 seconds on a laptop. This is encouraging that classification with concrete domains is scalable.

#### 4.4.1.12 SNOMED CT OID and versioning in HL7 messages

- A presentation was delivered to the committee on the need to define a standardised way to represent SNOMED CT and extensions in HL7 messages – specifically the code system OID and code system version fields.
- The proposed use of HL7 OID 2.16.840.1.113883.6.96 for SNOMED CT and all extensions was accepted.
- This necessitates a method to differentiate SNOMED CT extensions/editions which must be carried in the version.
- A URI-based version scheme was discussed at length and dovetails well into the CTS2 and terminology server needs.
- While not approved during the meeting, the proposal was well-received and will be worked into more detail and discussed at the next committee meeting.

#### 4.4.1.13 Work items on the Technical Committee's plan

- Units of measure (Dion McMurtrie):
  - Resolved way forward in Sydney – to be completed this year.
- Concrete domains (Dion McMurtrie):
  - About to enter formal Draft For Trial Use status and being trialled in AMT v3.
- Representation of numbers (Dion McMurtrie):
  - Part of concrete domains and progressing in step.
- OIDs and versioning of SNOMED CT in HL7 (Dion McMurtrie):
  - Discussed in Sydney and progressing.

- URI scheme for SNOMED CT (Michael Lawley):
  - Part of the HL7 versioning scheme, but also needed to support CTS2 and terminology servers more generally.
- File naming rules review:
  - Conventions have been in use for some time now by NEHTA and CAP and in the next six to twelve months the Technical Committee plan to review these rules.
- Review of RF2:
  - A plan to review RF2 was discussed now that RF2 has been implemented by NEHTA and CAP, and consumed by some vendors.
  - Concern was expressed over whether to review now, or later. Doing so now provides an opportunity to catch issues before major adoption, however it sends a message that the standard is unstable just before the IHTSDO commits strongly to it.
  - Planned to review later, probably 2013 and draw on real-world experience.
- Patterns in SNOMED CT:
  - This topic is intended to create post-coordination patterns with empty 'slots' that can be filled from existing SNOMED CT concepts to ease post-coordination and speed content authoring and submissions.
  - Intended for integration into the IHTSDO Workbench but more generally specified so it can be used elsewhere.
  - Planned to be a stated form for distribution between editors rather than distribution form.
- General Concept Inclusion axiom:
  - Simply this feature allows concepts to be defined more than one way by allowing the author to define multiple sets of sufficient conditions.
  - This has implications for the structural subsumption calculation used currently by many and increases complexity, however is very useful for content definition.
- Nesting:
  - This is again a description logic feature useful in defining content.
  - Not currently supported by RF1/RF2 and could be a big impact.
  - Some believe this could replace role grouping, however this is not universally accepted.
- CTS2 harmonisation:
  - Work is required to evaluate the CTS2 specification (now at beta status) to provide feedback on advanced terminology features that may be required.
  - A sub-group was defined at the last meeting, however other than a terms of reference little has been done.
- Query language for SNOMED CT:
  - SNOMED CT intensional reference sets are defined based on a query, yet currently there are many tools with differing query languages and no common serialised form. This topic is to tackle a standardised serialised form queries in SNOMED CT.

- Compositional grammar review:
  - The compositional grammar specification was created in 2008 and has been in use for some time. It is now in need of review to take into account this period and revise.
- Natural Language Processing:
  - Natural language processing and speech recognition has been a subject to discuss on the technical committee for some time, however has been pushed back to fit more pressing items into the agenda.
  - It was decided at the meeting that this topic should be pushed out behind all other items on the work plan.
- References to external classifications and terminologies:
  - Given the current discussion of UCUM and units of measure at the committee, the broader topic of how SNOMED CT should deal with referencing external ontologies/terminologies/coding systems and classifications where needed was brought up to define a general policy.
- Representation and distribution of the Machine Readable Concept Model:
  - The Machine Readable Concept Model is now in use in the Migration edition of the IHTSDO Workbench in use by CAP to author the International Edition of SNOMED CT.
  - However since its creation it has had a relational form and an XML form and no definitive distribution source exists.
  - This topic is of importance to define and distribute a standard for the Machine Readable Concept Model.

#### 4.4.2 Decisions

- SNOMED CT HL7 OID 2.16.840.1.113883.6.96 is to be used for SNOMED CT International and all other extensions in HL7 messages. The *Technical Implementation Guide* is to be updated accordingly.
- A proposal for a URI scheme for SNOMED CT to be drawn up based on the presentation at the conference.
- SNOMED CT unit concepts are to remain and a harmonisation agreement and official map to UCUM is to be published. The proposal is to be put to the management board.
- Concrete domain specification to progress to Draft For Trial Use if the unit of measure proposal is accepted by the management board.
- Policy on deprecating RF1 and other products and standards to be drafted and worked through with the Quality Assurance Committee.
- Natural Language Processing and Speech Recognition are to be pushed to the back of the work item list for the committee.
- The diagramming standard is to be recommended for Draft For Trial Use status.

#### 4.4.3 Plans for new work

- OID and version guidance for SNOMED CT in HL7 will be worked on and resolved through the committee.
- An architectural review of the IHTSDO Workbench will be commissioned.
- An RFP is to be issued for the Member's Implementable IHTSDO Workbench.

#### 4.4.4 Issues

Due to the use of SNOMED CT in CDA implementation guides for PCEHR, there is a risk that these will not match the final guidance the IHTSDO will issue regarding code system and code system version for SNOMED CT over the next few months. However timing leaves NEHTA no option but to use the most likely approach the IHTSDO will take at this time.

#### 4.4.5 Opportunities

- An opportunity exists to influence the Member's Implementable Workbench RFP and be involved in the evaluation.
- An opportunity exists to take an active role in the architectural review of the IHTSDO Workbench.

#### 4.4.6 Actions

- Dion McMurtrie and Michael Lawley to draft a paper on RF2 modules and their relationship to extensions, namespaces and components.
- Dion McMurtrie is to draft a proposal to submit to the management board to:
  - continue use of SNOMED CT unit concepts; and
  - to pursue a harmonisation agreement with UCUM and Regenstrief to publish a SNOMED CT to UCUM map.
- Dion McMurtrie is to update the Diagramming Standard with latest enhancements developed with Michael Lawley.
- Dion McMurtrie and Michael Lawley are to draw up a formal proposal for the SNOMED CT URI scheme based on the presentation given at the conference.

# 5 Project Groups

## 5.1 Anatomy Model Project Group

### 5.1.1 Discussion points

The project group discussed the revision of the anatomy model to improve usability and correctness. Some of the problems that exist and need to be solved are:

- Post-coordination of FINDING SITE and LATERALITY is one of the most common requirements of users, but anatomy names are confusing and the organisation appears awkward and duplicative.
- The hierarchies in clinical findings and procedures depend on anatomy to determine their structure, but anatomy contains many errors, omissions and inconsistencies. Maintenance is also difficult and error-prone and therefore costly.
- It is unclear how to coordinate with 'outside' resources (e.g. FMA).
- The current SEP (Structure, Entire, Part) model was adopted due to the merging of anatomy concepts from CTV3 and SNOMED RT.
- Currently most nodes in the hierarchy are primitive and most IS A relationships must be individually modelled. With the right description logic the Structure and Part constructs can be sufficiently defined.
- Another solution proposed was to eliminate 'Structure' and 'Part' and drop 'Entire' from the names. This has the potential for major improvement in post-coordination ability, but requires some systematic substitution changes like new attributes in the definitions of clinical findings, procedures, events and specimens.
- Currently there are many pre-coordinated concepts for the various skin-covered regions and their many layers. A proposal was made to create content definition substitution patterns for concepts of the same type, with one or more variables that are substituted into the pattern to define individual concepts. This technique has the potential to be used anywhere in SNOMED CT.
- The curation and maintenance burden is very large without a systematic approach.

### 5.1.2 Decisions

- A simplified model of anatomy requires development of the SEP table and within this table regions are to be classified as lateralisable (yes/no).
- When defining clinical findings, procedures, events and specimens, there will be a requirement to create some new, more complex attributes.
- Development a systematic pattern for each layer of skin to be applied algorithmically (no curation required, all inferences will be automatic).
- Inferences should be reliable and consistent. They should infer correct IS A and PART OF relationships and should include inferences of sub-layers and laterality.
- The capabilities of an EL classifier should be made use of.
- FMA's partonomy properties should be adopted.
- Preview release of the revised model is scheduled for July 2012.

### 5.1.3 Plans for new work

The project group will:

- Complete mapping to FMA and compare IS A relationships.
- Create a draft editorial guide for the object properties and patterns used for the alpha version.
- Comparison of the hierarchies of the alpha version and official anatomy.
- Look at aligning object properties with RO (relation ontology).
- Comparison of the effect of introducing alpha anatomy as a substitute for 'official' anatomy (i.e. impact analysis).
- Development of tooling strategy.
- Define patterns.
- Revision of RF2 implementation for this purpose.

#### 5.1.3.1 Opportunities

An opportunity exists to become involved in the model redesign project through participation on the discussion forum on CollabNet and the IHTSDO telephone conferences.

## 5.2 Event Condition and Episode Model Project Group

### 5.2.1 Discussion points

The focus of this meeting was a discussion on the proposed allergy model. There is a need to distinguish between conditions that persist and those that are episodic in nature: this model can support work in this area.

Modelling of combined clinical entities e.g. 'x with y', 'x without y' was also covered. Australian representation was not present during this discussion.

### 5.2.2 Decisions

The proposed allergy model will be tested using current allergy content.

### 5.2.3 Actions

This project will be monitored at present.

## 5.3 Observable and Investigation Model Project Group

### 5.3.1 Discussion points

- Some background information was presented:
  - The project began in 2008.
  - *SNOMED CT Style Guide: Observable Entities and Evaluation Procedures (Laboratory)* Draft Standard produced in 2009.
  - Laboratory trials were completed in April 2009.
  - NPU trial was completed in 2010.
  - LOINC completed an automap of 700 observables.
- The Observables model bridge to BioTop is to clarify the semantics of the Observables model.

- The draft standard of the *SNOMED CT Style Guide: Observable Entities and Evaluation Procedures (Laboratory)* was reviewed.
- The concept model has many allowable attributes and is quite complicated. This level of complexity is due to the necessity to represent concepts from two different ontologies (LOINC and NPU) and express the differences between them.
- It was raised that rewriting of the concept model should be considered due to its complexity.
- Existing content in SNOMED CT is to be modelled according to the standard.
- Some functional tests from the WHO International Classification of Functioning, Disability and Health (ICF) were discussed in relation to how they fit the new model as it applies to Function/Activity Observables. The group was of the opinion that the model was difficult to understand. Although also difficult, it was believed nested relationships were preferred compared with role groups and there would be a need for modelling templates that could be followed when creating content.
- Progression of LOINC harmonisation is optimistic with both parties seeing value in the relationship. LOINC has sent a proposal to IHTSDO and are awaiting a response.

### **5.3.2 Decisions**

- The *SNOMED CT Style Guide: Observable Entities and Evaluation Procedures (Laboratory)* is to be made less confusing and more accessible.
- A trial will be conducted to test the reliability of the concept model on Laboratory Observables.

### **5.3.3 Plans for new work**

- Details of the reliability study are to be finalised. Initial parameters are:
  - To involve a small number of use cases (about 30) and their corresponding observables.
  - To use reliability metrics. Measurement of concordance (e.g. Cohen's Kappa or Krippendorff's Alpha) is to be decided.
  - Additional qualitative analysis of differences to be conducted, which will test the ability of volunteers to apply the concept model and to show the variability in the way it is applied.
- Beta testing of Laboratory Observables to be conducted in July 2013.
- More design needs to be done on the Function/Activity Observables model. Alpha version of the revised model to be available by July 2012.

### **5.3.4 Opportunities**

- An opportunity exists to become involved in the Observable and Investigation Model project through participation on the discussion forum on CollabNet and the IHTSDO telephone conferences.

## 5.4 Substance Hierarchy and Redesign Project Group

### 5.4.1 Discussion points

Participants at the meeting were almost exclusively representative of the pharmacy stakeholders. This included representatives from AMT, the Singapore Drug dictionary as well as IHTSDO Pharmacy representatives. Consensus was that dependencies from these representatives should be addressed as priority so their projects can progress. These were:

- Functional categorisation of substance:
  - Both the Substances and Pharmacy groups have a need to 'remove' what are considered non-defining concepts that represent abstract therapeutic roles, and not actual substances or products. Both parties also acknowledge that such concepts are still important and used within SNOMED CT, for example, substances like 'skin agent' or 'pesticide' from the *Biological substance hierarchy*.
- Kent Spackman provided some detail on remodelling the several top-level hierarchies to be subsumed as 'Material entities'. The distinction between products and substances becomes less distinct.
- Other examples:
  - Overlap issue: e.g. glycerine versus glycerol, which have multiple parent concepts.
  - Grouping issue: e.g. antidepressants or beta-blockers require review against use cases to define and consolidate the scope.
- Relationships between substances:
  - The pharmacy stakeholders reinforced a hard dependency on the substance redesign for representing certain relationships between substances. In particular base, salt and hydrated forms. These are important for dose modelling and allergy inferences. The link to ChEBI through reference sets was explained. The current proposal describes a link between the non-bound substance and its granular (molecular) parts. ChEBI is currently under review and there are issues with SNOMED CT becoming dependent on external ontology.
- Modelling of different substance forms:
  - The need for representation of different forms of a substance was also highlighted, e.g. micronised, and liposomal derivatives. Again this information is important for dosage.
- Modelling of allergens:
  - The proposal to clean up the existing allergy class was also raised. The current allergen class is not adequately defined.

### 5.4.2 Decisions

- Therapeutic classes or roles:
  - The group tentatively agreed with the revised upper-level remodel, but several clear examples of how the changes would look will be required. Both to assess the impacts, and ensure requirements are met. The proposal is to be demonstrated in OWL format for distribution.
- Relationship between substances and Substance forms:
  - The ChEBI link was accepted to be suitable for some use cases. Doubts were raised though around suitability for dosage and allergy requirements. The current proposal is likely to be a barrier to implementation.

- Specific use case substances were agreed: Insulin, Amoxicillin, Calcium carbonate, Co-amoxiclav, aqueous cream, Heparin, Econazole Nitrate (micronized) and Amphotericin B (liposomal).
- Clear examples (OWL) demonstrating how to handle these concepts are required for further decisions and will be produced by the group.

#### 5.4.2.1 Allergens

- Several issues have been identified in the Allergen class sub-hierarchy. Mostly the issues relate to non-defining aggregations, such as Drug allergens. The aggregations are likely a legacy artefact created for convenience. However the subsumed concepts are somewhat arbitrary, being simultaneously incomplete and excessively inclusive. Removal of the existing allergen structure was agreed to in principle and that additional analysis, documentation and proposal is required to determine remodelling impacts.
- Further remodelling priorities:
  - It was also agreed that the Biological and chemical substances should be the immediate priorities of the project. Concepts subsumed by these classes are heavily within SNOMED CT and the pharmacy models.

#### 5.4.3 Plans for new work

- Planned work items are not necessarily new, but renew the focus of the group to pharmacy requirements.
- Short term plans (one to two months) are clear, succinct examples of the remodelling proposal, using the list 'use case' substances. This will help facilitate wider understanding of the changes, and associated implications.

#### 5.4.4 Issues

- No new issues result from this meeting.
- The AMT model does ultimately have a dependency on SNOMED CT substances.

#### 5.4.5 Opportunities

- The NCTIS is currently quite active in this project providing a resource (Matt Cordell) to co-chair this project, as well as being monitored by both AMT and SNOMED CT-AU terminology analysts. Continued participation at this level ensures that the requirements of AMT are considered and any changes that bring additional benefits to Australian users (of both terminologies) are able to be taken advantage of.
- The redesign also provides the opportunity to introduce desired benefits. Any interested stakeholders are encouraged to submit requirements for consideration.
- There is an opportunity to develop a simplified and user-friendly substance hierarchy for clinical use.

#### 5.4.6 Actions

Matt Cordell and Kent Spackman will produce clear examples of how the use case substances will be handled. This will be produced in OWL format, and provided (with some documentation) in the coming months.

## 5.5 Collaborative Editing Project Group

### 5.5.1 Discussion points

#### 5.5.1.1 Content Development Process project

- The background on the project was presented and discussed. The process is a framework which will support changes and development in relation to SNOMED CT. There are four main phases in this process:
  - a. **Inception** (Evaluation of the proposed change.)
  - b. **Elaboration** (Identification of prerequisites, impact assessment and commitment to develop.)
  - c. **Construction** (Solution creation, content development and feedback with changes as appropriate.)
  - d. **Transition** (Notification and publication of changes.)
- The process includes the ability to fast-track items; discussion occurred on the need for criteria regarding what would be fast tracked.
- The process is currently in draft and the group discussed how to proceed with refining it, with the decision made to put the process through a pilot.
- Ian Green from the UKTC has been contracted by the IHTSDO for two days a week for the next three months to progress work on the process.

#### 5.5.1.2 Collaborative Editing

There were brief initial discussions on criteria for the first ten collaborative editors with plans to seek input from Kent Spackman and look at the work in the Education Special Interest Group. Organisations such as NEHTA are also welcome to provide input.

#### 5.5.1.3 General

There was a decision that Jane Millar, Ian Green and Kent Spackman would meet within two weeks of this meeting to further plan the next steps for both areas of work.

### 5.5.2 Decisions

- The Content Development Process will be put through a pilot phase and iteratively refined. This will be managed by a small steering group with input from the broader group. The senior and consultant terminologists will use the process in the pilot.
- The Collaborative Editing Group will now refocus on its collaborative editing work.

### 5.5.3 Opportunities

- Editing work is still in its infancy in Australia. Involvement in collaborative editing will support skill and knowledge development in this area.
- Content requests for Australia can often be applicable internationally and are therefore submitted to this level. Being part of international content development will support Australian requirements for content.

### 5.5.4 Actions

NEHTA currently has a representative on the Collaborative Editing group and this will be maintained.

## **5.6 Request Submission Project Group**

### **5.6.1 Discussion points**

The current focus of this group's work will be supporting the Content Development Process relating to the requests which are fed into the process. The group reviewed at an overview level the areas necessary to support this work. The data requirements for a change request were discussed in detail and documented.

### **5.6.2 Opportunities**

- As SNOMED CT-AU uptake continues there will be an increase in the number of requests for changes and additions to content. While decisions would be made on a case-by-case basis it is envisaged that a large number of these requests will be escalated to the international level. Contribution to the review and refinement of the request submission requirements and process will support Australian requests.
- This group includes staff from National Release Centres who have been managing a much greater volume of requests for a longer period of time than our own National Release Centre. The opportunity to gather knowledge and experience from these Members will support refinement of our own processes.

### **5.6.3 Actions**

An NCTIS staff member will be actively involved in this project group.

# 6 Special Interest Groups

## 6.1 Pharmacy Special Interest Group

### 6.1.1 Discussion points

#### 6.1.1.1 IDMP update

- Leonora Grandia (Netherlands) provided an update on the five Identification of Medicinal Products (IDMP) standards.
- The five IDMP standards (11238, 11239, 11240 11616 and 11615) are now final draft international standards (FDIS) but not yet published. The International Standards Organisation (ISO) is waiting for approval to publish these for ballot.
- There will be a two-month period for comment once the IDMP standards have been published as FDIS. All comments will go back to Leonora who will collate and send them onto Jane Millar.
- IDMP 11238 substances – all editorial comments were adopted.
- IDMP 11239 dose forms and route of admin – no comments received.
- IDMP 11240 units of measure – comments received about the use of mL, L and IU (instead of U). Comments rejected as wide range of possibilities leaving this as implementation issue.
- IDMP 11616 pharmaceutical products – comparable to SNOMED CT product concepts. Specified substances (includes manufacturing process etc), devices, ranges and investigational products remain included. Strength per unit to be represented as in Summary Product Characteristics (SPC) and this differs to how it is represented in SNOMED CT. Strength will be represented as authorised by registration body.
- IDMP 11615 medicinal products – minor comments that were accepted.
- A 'registration authority' outside of ISO will be designated for maintenance of the data.

#### 6.1.1.2 Boundary and Scope Test Strategy update

- Emma Melhuish (NHS) provided an update on the Boundary and Scope documents for the International Pharmacy Boundary Model as well as the next steps for the test strategy.
- The Boundary and Scope document is now a draft international standard (DIS).
- A test strategy has been drafted and which has been submitted to the Quality Assurance Committee and Content Committee for discussion.
- The next step will be submission of the test strategy to the Management Board with a request for funding.
- If agreement is reached by the Management Board, then testing begins with creating test data in January 2012 (approximately 1000 test concepts including data to be retired). It is then anticipated that the entire testing process will be completed by the end of October 2012.

### 6.1.1.3 Substance Hierarchy Redesign Project update

- Linda Bird (MOH Holdings, Singapore) provided an update on the Substance Hierarchy Redesign Project.
- A new proposal for the Substance Hierarchy Redesign Project is now available for review. The focus is on chemical and biological terms as these are most relevant to the area of pharmacy.
- Plan for ChEBI will be used to define chemical and biological substances but is currently under review. Decision around inclusion of qualifiers like 'micronised' is required for the work to progress to testing phase.
- Further information is available by following the Substance Hierarchy Redesign Project on the collaborative website<sup>9</sup>.

### 6.1.1.4 Units of Measure

- The unit of measure debate at the technical committee was presented to the Pharmacy Special Interest Group by Dion McMurtrie (NEHTA).
- The Pharmacy Special Interest Group already had an earlier version of the SNOMED CT Unit Options paper and updates were discussed.
- Options condense to two options: use SNOMED CT unit concepts directly or remove these concepts in favour of native use of UCUM.
- The SNOMED CT unit concepts permit representation of 'clinical units' that are outside UCUM's scope, however they do not represent relationships between various units – i.e. that 1000 milligrams = 1 gram.
- In order to provide required factors between units using SNOMED CT unit concepts, these factors would need to be modelled in SNOMED CT or a map to UCUM created and maintained.
- Native use of UCUM provides considerable information regarding the relationship between units and also provides a source of unit codes that the IHTSDO would not need to maintain.
- However, while simple for use in datatype properties, use of UCUM natively has significant issues when used as SNOMED CT concept object properties as there is no way to represent this without significant changes to SNOMED CT release formats and tools.
- Retiring SNOMED CT unit concepts would also significantly impact the UK, whose drug extension is dependent upon these international SNOMED CT unit concepts.
- Julie James suggested that ISO 21090 should be considered and mentioned as another alternative.
- The main decision being worked through the Technical Committee is whether to maintain SNOMED CT unit concepts or use an external unit coding system.
- Units of measure require resolution in order to make progress with concrete domains in order to support the International Pharmacy Boundary Model.
- The Pharmacy Special Interest Group was polled for their preference for SNOMED CT unit concepts versus native UCUM – four members voted for SNOMED CT unit concepts, two for native UCUM.

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<sup>9</sup> <[https://csfe.aceworkspace.net/sf/projects/substance\\_hierarchy\\_redesign\\_pro](https://csfe.aceworkspace.net/sf/projects/substance_hierarchy_redesign_pro)>.

#### 6.1.1.5 Dose Forms Project update

- Linda Bird (MOH Holdings, Singapore) provided an overview of the proposed IHTSDO Dose Forms Project and shared with the Pharmacy Special Interest Group members Singapore's Dose Forms Model work
- The Dose Forms Project was proposed in November 2010 by Paul Frosdick with an undertaking that NEHTA would act as project manager. The proposal was approved by the IHTSDO and a Terminologist from the IHTSDO Consultant Terminologist Programme has been assigned. NEHTA is yet to determine its level and role of participation in this project.
- Singapore began to develop a dose form model for its national use in 2011. This model is informed by works done by UK NHS and by the ISO IDMP (identification of medicinal product) work.
- Singapore's use cases for their Dose Forms Model were discussed with the view to have feedback from Pharmacy Special Interest Group members on the possible relevance to the IHTSDO Dose Forms Project.
- Singapore is willing to offer their Dose Forms Model but preliminary investigation will be required to determine whether assumptions that make the model suitable for Singapore's use cases will be relevant for the international dose forms model.

### 6.1.2 Decisions

#### 6.1.2.1 Dose Forms Project Update

- Discussion will continue in the next regular Pharmacy Special Interest Group meeting to review how much of Singapore's Dose Forms Model is suitable for the international model.
- Detailed analysis on the difference between the Singapore model and a similar model produced by UK NHS needs to be performed to determine the justification for moving to a different model. The use cases that underpin the Singapore model need to be carefully examined. Singapore has agreed to put together a set of use cases for review by NEHTA.

### 6.1.3 Plans for new work

#### 6.1.3.1 Units of Measure

SNOMED CT and UCUM mapping.

#### 6.1.3.2 Dose Forms Project Update

- Determine levels of commitment and resources required.

### 6.1.4 Issues

#### 6.1.4.1.1 IDMP update

NEHTA to monitor publication of documents and review as needed.

#### 6.1.4.1.2 Units of Measure

- Moving to UCUM for SNOMED CT has a smaller impact on AMT than dm+d as AMT uses its own unit concepts, which will need to be mapped in order to merge AMT into SNOMED CT-AU at a later date. However UCUM does pose the issue of representing 'clinical units' for AMT once merged into SNOMED CT-AU. Therefore this issue does need to be monitored regarding impact to AMT.
- SNOMED CT may become dependent on UCUM if native use is adopted in SNOMED CT.

- Licensing agreements with Regenstrief over use of UCUM need to be addressed regardless of approach (native or mapped).
- UK and Singapore expressed their preference to use SNOMED CT only.

## **6.1.5 Opportunities**

### *6.1.5.1.1 Dose Forms Project update*

- This is a good professional development opportunity for NCTIS content team members.
- This is an important opportunity as any future AMT dose form modelling will benefit from being aligned with international standards.
- The NCTIS has the opportunity to demonstrate technical and content leadership at an international level.

## **6.1.6 Actions**

### *6.1.6.1 IDMP update*

The final draft international standard version of each of the IDMP documents will be published and immediately followed by three weeks for comments and feedback. Any comments or feedback must be submitted within this period as per the standard process.

### *6.1.6.2 Substance Hierarchy Redesign Project update*

Monitor possible changes to the structure of substance hierarchy which may impact on the Australian extension of SNOMED CT.

### *6.1.6.3 Units of Measure*

- Dion McMurtrie will supply the latest SNOMED CT Unit Options paper to the Pharmacy Special Interest Group.
- Dion McMurtrie will supply limited example concrete domain data to the Pharmacy Special Interest Group from AMT v3.

### *6.1.6.4 Dose Forms Project Update*

The NCTIS is to urgently determine/confirm the level of project management support for this project by submitting a Project Mandate to NEHTA management for approval (or not).

## **6.1.7 CTIRG Involvement**

### *6.1.7.1 Dose Forms Project update*

#### *6.1.7.1.1 Engaging subject matter experts from CTIRG*

- This international initiative will benefit from pharmacist experts who are on CTIRG.
- Gail Easterbrook has broad and deep knowledge in drug dose form and will be a very valuable asset to add to the NCTIS team on this international initiative.

## 6.2 Family Practice/General Practice Special Interest Group

Two years ago the Family Practice/General Practice Special Interest Group decided to form a joint working group with WONCA to work on clinical contents of family practice. Member nations include Australia, UK, USA, NZ, the Netherlands and others. The objective is to develop the *FP/GP reference set* (SNOMED CT contents) with ICPC mapping.

### 6.2.1 Discussion points

The *FP/GP reference set* development and ICPC mapping consists of three phases:

- **Phase 1** (duration: Month 1 to Month 9) is to develop a project framework which defines the scope of the reference set, the methodology, processes and tooling. This phase of the project is completed and has produced a scoping document, a requirement document and a design document.
- **Phase 2** (duration: Month 9 to Month 15) is to construct the *FP/GP reference set* and mapping to ICPC-2. The reference set will include reasons for encounter and health issues terms. It is anticipated that country specific extensions and new concepts will be required to be added. This phase of the project is expected to begin in December 2011
- **Phase 3** (duration: Month 16 to Month 21) is to finalise the reference set and to conduct field testing. Final outputs of this phase will include:
  - final reference set with ICPC-2 mapping ready for implementation;
  - implementation guide;
  - final project report including field test results, recommendation arising from field test; and
  - maintenance cycle recommendations.

### 6.2.2 Decisions

NEHTA/NCTIS to consider the level of involvement or contribution it would want to commit to this international initiative.

### 6.2.3 Plans for new work

- Phase 2 of this project will likely to be most relevant to NEHTA/NCTIS.

### 6.2.4 Issues

Resourcing will need to be addressed if a decision is made to contribute to Phase 2 of this project.

### 6.2.5 Opportunities

- Phase 3 of this project presents a very good opportunity for Australia's health care and IT industries to test and validate the reference set.
- NCTIS clinical leads may want to participate in review of clinical models developed by this international initiative.

## 6.3 Education Special Interest Group

The Education Special Interest Group has taken several significant steps at this meeting, as detailed in the following subsections.

### 6.3.1.1 Core competencies

- Development and agreement on the core competencies for those working with SNOMED CT.
  - It was agreed with the implementation Special Interest Group that these be tested and form the basis for the additional specification of implementation related roles and competencies.
  - This work has been done in a manner consistent with Australian DEEWR specifications. This gives Australia an opportunity to leverage existing educational infrastructure to support educators in course development and provision.

### 6.3.1.2 Quality Assurance plans

- Review of testing strategy for Pharmacy.
  - The application of the standards for standards process needs to be applied to this work, and utility of quality metrics assessed and reviewed.
  - Will take comments received and seek Management Board endorsement of the project (to begin in January).
  - Application of the quality framework.
  - Inclusion of the purpose of the concept and use of scenarios.
- Metrics:
  - The Quality Assurance Committee will work with the Education Special Interest Group to advance educational metrics, requirements and quality processes (developed by Heather Grain of Australia and which meet the requirements of DEEWR in Australia).
  - Corporate metrics to be developed.
  - Existing proposals (including Bob Dolan's report) will be considered to identify what metrics should be used to quality assure SNOMED CT content and structure.

### 6.3.1.3 Education Quality Assurance plans

- Agreement to finalise and forward the specifications for core SNOMED CT competencies to Implementation Committee to forward for community review as soon as possible. Heather Grain is the leader of this work item.
- The education strategy is awaiting feedback from the Management Board, but the Special Interest Group has agreed to progress with work in the absence of that feedback.
- Agreement that once finalised the Education Special Interest Group will develop certification examination(s) to test for competence in the core, and to prepare the first certification examination to be given in October conference next year. The initial testing will be limited largely to Education Special Interest Group members as a quality test of the process. This will require establishment of a costing structure etcetera for charging for certification.
- Agreement that the implementer's group of roles and competencies will be developed next to follow on from the core competencies.
- Agreement that the mapper competencies will be converted into the format required to represent competencies and develop certification examinations.

#### 6.3.1.4 Plans for new work

- Corporate metrics.
- Education metrics.
- Education Special Interest Group: develop certification examination(s) and associated process.

### 6.3.2 Issues

- Logging and acting upon requests for SNOMED CT content
  - There was considerable discussion about the need to more effectively manage the concept requests received. The Canadian National Release Centre has many requests outstanding and has no idea how far through the system these requests have progressed. It was identified that there are conflicts between the project-based work – which is processed through the tracker systems and the individual requests from countries etc.
- There have been a number of requests from the broader community which have not yet received responses.

### 6.3.3 Opportunities

- Determine how Australia will leverage the work being done by the Education Special Interest Group.

### 6.3.4 Actions

- Determine how Australia can more effectively manage the request processes within Australia and the relationship of these to the international process.
- Identify how the Australian education system might leverage the education work at IHTSDO.
- Develop and publicise an Australian communication strategy related to SNOMED CT, including opportunities for educators and vendors and implementers to provide information to the community.

### 6.3.5 CTIRG Involvement

- Identify education initiatives in Australia, and provide information for the community.
- Consider how we build knowledge in the community of the projects and quality improvement processes being undertaken in order to build confidence in SNOMED CT.

## 6.4 Implementation Special Interest Group

### 6.4.1 Discussion points

This meeting was somewhat an extension of the Implementation and Innovation Committee. Most of the discussion was associated with planned activities to support SNOMED CT adoption, as discussed in the Implementation and Innovation Committee.

Update on the group's activities for the year:

- Monthly webinars covering:
  - Query and retrieval of SNOMED CT-encoded data.
  - Understanding and implementing reference sets.

- Kaiser Permanente – convergent medical terminology.
- Common Terminology Services 2.
- Snofyre, technical architecture and vision.
- Inactive content, UK substitutions table.
- Migration pathway for implementing SNOMED CT.
- Implementers' curriculum
- Post-coordination implementation challenges project.
- Discussions on implementation perspective on documents that are out for review.

### 6.4.2 Decisions

David Markwell went over some of his expectations of the group and what it might aim to achieve in the coming year. The general intent is to motivate and enable implementation through:

- Improved documentation – *Technical Implementation Guide*, FAQs, general enhancements.
- Cultivating a sustainable, scalable implementation.
- Addressing questions and issues raised by implementers.
- Maintaining and increasing SNOMED CT's implementability.

There are four marks of success that the group can aspire to:

1. Criteria to determine success of an implementation:
  - a. Used in operational CIS.
  - b. Used in clinical/experimental research.
  - c. Mapping to other terminologies.
2. Clear indication (with descriptions/demonstrations) of sites which have successfully implemented SNOMED CT.
3. Implementers' curriculum and syllabi.
4. Demonstrators for advanced and proper use and reuse beyond those of other terminologies.

### 6.4.3 Plans for new work

No specific work items were planned at the meeting though the following items were described as expectations of what might be delivered.

#### 6.4.3.1 Implementer queries and issues responses

- A process to deliver informative, consistent and where possible authoritative responses to implementation questions.
- Link to FAQ as a first step to new enquiries and destination of new advice to aid further similar queries. The middle bit is tricky to design in a cost-effective way.

#### 6.4.3.2 Lexical resources – support for searching

Review of requirement for additional lexical support files. Are those needed to be continued in RF2 releases?

### 6.4.3.3 Additional activities

- Identifying requirements implementation tools for mapping.
- Identifying requirements implementation tools for reference sets.
- Collaboration with standards development organisations.
- Guidance on SNOMED CT browsers, implementation benchmarks and investigation of an 'application advisory service' with independent reviews to motivate vendor adoption of SNOMED CT.
- Guidance on searching/data entry items.
- Development of a service to publish FAQs and a user guides targeting different use cases and experience levels, for implementers and Member nations. This should also facilitate exchange between implementers, vendors and Member nations.
- Development of core competencies and possible certification process, in conjunction with the Education Special Interest Group

### 6.4.4 Issues

The intent of this group is important to NEHTA in supporting Australian stakeholders in adopting SNOMED CT. However it is possible that delivery of beneficial artefacts will be delayed without NEHTA's involvement.

### 6.4.5 Opportunities

The items that this group is considering developing are aligned with what the NCTIS has been considering and in demand by NEHTA stakeholders. Continued participation in both the Implementation Special Interest Group and Implementation and Innovation Committee will ensure that effort isn't duplicated, and that work items can be collaboratively developed with wider expertise.

Continued participation in the webinars will also reveal opportunities. A list of topics proposed for consideration over the coming year included:

- Post-coordination migration.
- Reference set development, maintenance and sharing.
- Migration paths, implementation stories.
- Lexicon. Spell checker tool for spelling and Quality Assurance (UK).
- How can we help people to procure systems?
- User interaction in SNOMED CT-enabled systems.
- Machine readable concept model in practice.
- Scope of applicability of workbench.
- Localisation.
- How to use subsumption e.g. for decision support; what is the relationship with transitive closure; use of OWL; structural comparison.
- October Showcase presentations as topics for webinar.
- Use cases from the Implementation and Innovation Committee. Find groups that can demonstrate ability to retrieve, analytics, decision support and natural language.
- Review or demonstration of how someone has implemented the Common User Interface.

### 6.4.6 Actions

No work items have been agreed for delivery just yet, but it is likely that Australian representatives (including within NEHTA) will be interested in contributing to the development and using the final products.

## 6.5 International Pathology and Laboratory Medicine Special Interest Group

### 6.5.1 Discussion points

The new chair of this group Alexis Carter (a genetic pathologist) was introduced to the group. The IPaLM Special Interest Group has been quiet the past 12 months, and from this meeting the group is expected to take off again. The points discussed were:

- Representation of molecular genetics:
  - This topic dominated the meeting. Alexis Carter expressed the view that that SNOMED CT does not currently appear to provide suitable content for molecular genetic diseases, orders, methodologies, description of sequence variations and larger genetic alterations
- Existing Genetic terminology/nomenclature resources:
  - Human Gene Nomenclature Committee (HUGO/HGNC) currently curates approximately 33,000 gene names – and growing. How this information can be leveraged was discussed – i.e. remodelling and linkages.
  - It was noted that existing there are issues with existing LIS vendors handling SNOMED CT and current information models.
  - The demand of SNOMED CT in the field of molecular genetics is driven by expectations set by the US's Office of the National Coordinator for Health Information Technology (ONC). The ONC has requirements for SNOMED CT and LOINC to be used in pathology – though it was raised that this doesn't necessarily involve molecular pathology.
- Other issues with pathology in SNOMED CT:
  - In particular, it was acknowledged that there are issues relating to consistent naming conventions, modelling and pre-coordination requirements.
- International collaboration for Cancer and Cervical reporting.
  - Australia's interest in using SNOMED CT for cancer reporting and possible international collaboration to reduce duplication of effort was raised and acknowledged.

### 6.5.2 Decisions

Molecular methodologies (techniques) as SNOMED CT concepts are to be incorporated into SNOMED CT.

### 6.5.3 Plans for new work

- IPaLM will meet every two months via conference call.
- A series of white papers will be developed outlining use cases with the intention of helping vendors to improve their implementations.

### 6.5.4 Issues

- The focus of this group has severely narrowed to molecular genetics, almost to the exclusion of other areas for development. Whilst this area does need work, the current priorities for Australia are likely elsewhere. Collaboration with other Members should continue, but is unlikely to be within the interest of IPaLM.
- The decision for representing Molecular methodologies and techniques within SNOMED CT should be monitored, as Pathology in general has similar requirements which should align.

### 6.5.5 Opportunities

The Pathology Units and Terminology Standardisation (PUTS) project is currently gaining momentum in Australia, and should continue to be supported by NEHTA. NEHTA can also facilitate communication between the project group and international efforts.

### 6.5.6 Actions

NEHTA should continue to monitor this group to ensure that development does not diverge or conflict with Australian efforts. However significant involvement is not expected to be required or necessary for NEHTA's interest.

## 6.6 Mapping Special Interest Group

### 6.6.1 Discussion points

- Update on the current status – Phase 1 of SNOMED CT to ICD-10 mapping project. 5,000 mapped concepts in preview publication and will have 20,000 by January 2012.
- Guidelines for mapping under development – discussed five map types and issues due to overlapping types or cases.
- Content validation – comparison between the baseline map (internal dual-independent reviewed) and a small set of samples chosen for test map (assign experienced terminologist to map approximately 300 concepts).
- Maintenance – concept deprecation of deleted items and re-mapping of new concepts appear to be relatively straightforward task. More problematic ones include changes in hierarchy tree position or FSN status etc. which require decision from editorial board.
- Tooling enhancement – Members submitted requests for new or improved functions in the Workbench.

### 6.6.2 Decisions

- Guidelines for mapping – Examples of each mapping types requested. NLM has agreed to supply these. Discussion on the guidelines to continue in the next meeting.
- Tooling enhancement – upgrade requests to be prioritised by voting and forwarded to tooling developers.

### 6.6.3 Plans for new work

- Quality assessment – validation against use cases for efficiency and accuracy.
- Source terminology (i.e. SNOMED CT and ICD-10) to be selected from UK, Botswana or Nordic nations.
  - Validate the correctness of SNOMED CT IDs and also the language variability.
  - Prepare a subset suitable for testing and map the selections. Compare the results against the previously completed baseline mapping.

### 6.6.4 Actions

Monitor the progress of the mapping guidelines and identify any new piece of mapping work in the core SNOMED CT which will impact on the Australian extension.

## 6.7 Nursing Special Interest Group

**Mission:** The IHTSDO Nursing Special Interest Group is a community of practice for the nursing profession, supporting worldwide nursing participation in the development, validation, uptake, implementation and correct use of SNOMED CT and related products.

### 6.7.1 Discussion points

- Actions from previous meeting were reviewed.
  - The main discussion areas focussed on the US 'Diagnosis/Problem list' review work to date. The technical report is currently in production, and will be shared with the Implementation and Innovation Committee. A decision needs to be made regarding the maintenance of this content as the next step in the project: the Nursing Special Interest Group will be taking responsibility for this maintenance.
  - There is an issue for this content: as there will be two versions, the content in SNOMED CT and the UMLS. UMLS owners will need to update terminologies to the NLM through nursing terminologies.
  - The decision was taken not to update the UMLS. Maps between the two terminologies do not exist.
- Recognition of the nursing contributions on quality assurance to the Quality Assurance Committee.
- Skin and Wound assessment – the internal review was not completed as planned, noted international research material is available and will be reviewed.
- Canadian Health Outcomes for Better Information and Care (C\_HOBIC) project was discussed.
- Occupations and Roles Project – needs clarity of purpose. For example, UK question regarding whether the usage is for the patient's occupation or to identify whether the patient is a health professional within the record. Note that the need to ensure SNOMED CT is patient-centric not physician-centric. This will be monitored in the Content Committee.
- Review of projects against the Special Interest Group mission which was an evaluation of objectives of the group and achievements to date. This review concluded that there is a need to increase strategic input for engagement in Member countries. An opportunity to leverage International Council for Nurse's harmonisation project activity was noted.

### **6.7.2 Decisions**

International 'Diagnosis/Problem List' scope and next steps – focus on use case agreement. Use case and business case to be produced.

### **6.7.3 Plans for new work**

Priority – IHTSDO website review in the next two to three months to ensure that requirements are linked and align with Nursing Special Interest Group priorities.

### **6.7.4 Issues**

There was limited representation of Member countries on the Nursing Special Interest Group. UK, and North America dominate representation in the group.

### **6.7.5 Opportunities**

- Increase visibility of nursing leadership and influence nursing-related content in international terminologies.
- Opportunity for ongoing nursing representation on this Special Interest Group with the appointment of registered nurses within NEHTA.

### **6.7.6 CTIRG Involvement**

- Liaison with Nursing Special Interest Group representation within NEHTA.
- Content and project issues to be understood in relation to priorities for Australian eHealth agenda.

# 7 Other

## 7.1 Workbench Advisory Group

### 7.1.1 Updates from Member countries

#### UK

- The number of resources working on the WorkBench is about six in total.
- UK Arena has SNOMED CT, Read and ICD-10 loaded into it. It's a challenge getting Read Codes and ICD into the Workbench because of its flatter structure.
- Phase 1 of the GMDN project is underway which includes some technical aspects.
- Mapping functionality (i.e. the prototype) has been built, and is being used for the Family Practice/General Practice RefSet and ICPC Mapping Project.
- Developed ICD functionality.
- Can technically author ICD.
- Plan for next round of work: editing Read Codes, pharmacy and UK procedure classification in the Workbench.

#### USA

- Learning how to load the 6-monthly data and to technically distinguish between the core and Local US content.
- Need the reference set content.
- Will be releasing in RF2 after next International release.
- Working with the UK to get the mapping functionality.
- Request submission project up and running and want to integrate that into the workbench somehow.

#### Australia

- Still operating on a branch that is fairly divergent from the current trunk.
- Have plans to go back to the trunk once stabilised.
- IHTSDO Workbench update (John Gutai).
- Reference sets: Some bugs and limited workflow means improvements are required.
- Authoring is on track and editing productively. Approximately 20 minutes per concept which is down from an initial 50 minutes. Kent Spackman recently edited 120 concepts in two hours which included multiple classifications and synchronisations.
- Workbench requires 64-bit machines which should be noted by any Member nations planning to participate in collaborative editing.
- There are issues with the workbench: there is a need for a technical review covering a number of modules that are all interrelated.
- An API exists but there is no accompanying documentation and it is not currently stable, nor is there backwards compatibility.
- Poor persistence issues. Subversion is not a database and is not stable enough to synchronise and share with other users effectively.
- Presentation of the workbench is very 'busy'. Considering a web interface showing what functionality is required, versus a 'thick workbench' which has all the screen real estate etcetera.

- Issues with adding new modules. Each time developers do this, they run out of memory which leads to more development required for efficiency improvements. The back-end infrastructure does not scale well.
- Need to make recommendations regarding the translation group.
- Need to get the workbench out to a Member nation for use in editing.
- The development team started as one person but is now extended across many Member nations. Capacity is still very limited.
- There are many projects in the pipeline with interdependencies.
- Suggest the work is limited to agreed focus areas (i.e. reduce work planned).

### **7.1.2 Decisions**

Strawman proposal for priorities:

- Technical:
  - Technical review.
  - Resulting list of improvements.
  - Act on these improvements.
  - IHTSDO International SNOMED CT edition releases.
  - Support current authoring (i.e. keep CAP running).
  - Tender the technical services contract that CAP currently hold.
- Member community:
  - Reference sets and translation.
  - Survey to be created and undertaken to confirm priorities with Member countries.
- Implementation activities:
  - Investigate a Member nation to implement the workbench.
  - Plan further countries to implement successively.
- Projects to be parked:
  - Member version.
  - Support for prototype mapping tool.
  - Not sure about WorkBench mapping.
  - Development and support for GMDN – might be part of authoring from 'Implementation activities' above. Phase 1 requires minimal support so this may be done; however Phase 2 is parked.
  - Patterns, GCI's, Nesting.
- Support for projects:
  - CMT tooling submission.

This list may be tweaked based on outcomes of the survey.

### **7.1.3 Plans for new work**

- No new work planned. Scaling back of work planned.

### **7.1.4 Issues**

The Workbench requires 64-bit machines to run. This needs to be factored this into the hardware request for NCTIS terminology analysts given we would be aiming to participate in collaborative editing.

### **7.1.5 Opportunities**

IHTSDO is looking for a Member nation to implement the Workbench. This presents an opportunity to use it as part of collaborative editing (separate from the NCTIS releases).

### **7.1.6 Actions**

Changes to planned activities are to be communicated to the representatives from the Member Forum, Management and General Assembly representatives by the next meeting.

## **7.2 Clinical Information Modelling Initiative**

The Clinical Information Modelling Initiative (CIMI) is an international initiative that has membership including USA, UK, Canada, Australia, Singapore and the Netherlands. It is formed to provide a forum for international stakeholders to discuss and develop a set of standardised, reusable clinical information components (models) to support clinical documentation and information exchanges.

### **7.2.1 Discussion points**

CIMI met over two days (Saturday 8 October and Sunday 9 October) in Sydney.

- The group reviewed presentations on modelling formalisms and tools including UML, OWL, openEHR archetype and editors, etc. It was agreed that the formalism chosen and other requirements, e.g. constraints would determine the tools. The question of a single formalism continues to be discussed on conference calls and IHTSDO Collabnet discussion list.
- Other technical considerations which will also continue to be discussed include data types and reference model.
- Governance and quality framework will also continue to be discussed.
- Two face-to-face meetings have been scheduled: November 20 to December 1 to be held in Europe; January 12-14 to be held in US (immediately preceding HL7 International meeting).

### **7.2.2 Decisions**

- The level of NEHTA/NCTIS participation will need to be considered.
- Two models of engagement: formal engagement as NEHTA/NCTIS endorsed activities; or informal participation on voluntary basis.

### **7.2.3 Issues**

- NCTIS subject matter experts' participation at voluntary basis require personal commitment, but also require funding support from NCTIS, at least in reimbursement of conference call costs.
- Formal participation will require approval by the Head of Policy and Information Services. A certain level of personal commitment by a nominated delegate is still required.
- More effective engagement will include attending face-to-face meetings which will require funding commitment from NEHTA.
- Given the resources constraints and the importance of this initiative to NCTIS and PCEHR programmes, informal participation on voluntary basis is the preferred option. Participation in face-to-face meetings should be encouraged when such meetings are scheduled together with other international meetings such as HL7 International workgroup meetings or IHTSDO meetings.

## 7.2.4 Opportunities

The CIMI modelling approach and intended outcome align with the NCTIS Content Development Strategy (i.e. DCM and SCS development). This is a good opportunity for NCTIS to contribute to international modelling work and also to ensure NCTIS models are aligned with international outputs.

## 7.2.5 NCTIS Clinical Leads' involvement

NCTIS clinical leads may want to participate in a review of clinical models developed by this international initiative.

# 7.3 Information Model Task Force

The Information Modelling Taskforce (IMTF) was established by IHTSDO to provide the Management Board with recommendations on strategic direction and level of engagement by IHTSDO on CIMI. It is a closed forum with members comprising delegates from IHTSDO Member nations and IHTSDO executives, including the CEO and CTO. It is chaired by John Gutai, IHTSDO Chief Technical Officer. The IMTF meeting in Sydney was attended by delegates from Canada, UK, Australia, Sweden, Singapore, as well as IHTSDO's CEO.

## 7.3.1 Discussion points

The Information Modelling Taskforce met in Sydney and identified the following CIMI issues/matters that need to be considered and/or require decision by the IHTSDO Management Board:

- What are functional requirements of CIMI model development? (e.g. types of model transformations required; maintenance of fidelity/semantic equivalence requirement and challenges, levels of terminology binding, etc.
- What are technical requirements of CIMI model development? (including tooling and data type requirements).
- What are the reference models that need to be considered for the CIMI development
- What are the terminology and value set binding requirements/challenges?
- What is the governance framework/model?
- Which organisation should own governance? Should it be IHTSDO?
- How should the funding required for the requirements and modelling work be raised?

The taskforce elected a small subgroup (Canada, UK, Australia, Singapore, Sweden, and IHTSDO Chief Innovation and Implementation Officer) to conduct analytical research on the first four questions and to make recommendations to the Management Board. This working group has begun research work and initiated a number of discussions via email and on the Collaborative workspace. Modelling formalism, information model and terminology relationships are key topics being debated. The Taskforce will address the governance and funding questions.

## 7.3.2 Decisions

This is a short term activity requiring contributions from a nominated (by IMTF) Australian delegate. Participation will be on a voluntary basis.

## 7.3.3 Issues

- NCTIS subject matter experts' participation on a voluntary basis requires personal commitment, but also require funding support from the NCTIS, at least in the reimbursement of conference call costs.

- Formal participation will require approval by Head of Policy and Information Services. A certain level of personal commitment is still required.
- More effective engagement will include attending face-to-face meeting which will require funding commitment from NEHTA.

#### **7.3.4 Opportunities**

The CIMI modelling approach and intended outcome align with the NCTIS Content Development Strategy (i.e. DCM and SCS development). This workgroup's research and discussion outcomes will inform IHTSDO's Management Board on the technical approach for the CIMI work, the scope of work and level of IHTSDO commitment required. This is a good opportunity for the NCTIS to contribute to clinical information modelling and supporting terminology strategy development at international levels.

# Appendix A: Glossary

<b>AJCC</b>	American Joint Committee on Cancer
<b>AMT</b>	Australian Medicines Terminology
<b>API</b>	Application Programming Interface
<b>AuCTUG</b>	Australian Clinical Terminologies User Group
<b>BioTop</b>	A top-domain ontology that provides definitions for the foundational entities of biomedicine. <sup>10</sup>
<b>C_HOBIC</b>	Canadian Health Outcomes for Better Information and Care
<b>CAP</b>	College of American Pathologists
<b>CDA</b>	Clinical Document Architecture
<b>ChEBI</b>	Chemical Entities of Biological Interest (ChEBI) is a freely available dictionary of molecular entities focused on 'small' chemical compounds. <sup>11</sup>
<b>CIMI</b>	Clinical Information Modelling Initiative
<b>CIS</b>	Clinical Information System
<b>CMT</b>	Convergent Medical Terminology (Kaiser Permanente)
<b>CSIRO</b>	Commonwealth Scientific and Industrial Research Organisation (Australia)
<b>CTIRG</b>	Clinical Terminology & Information Reference Group
<b>CTS2</b>	Common Terminology Services 2
<b>CTV3</b>	Clinical Terms Version 3 – a version of the Read Coding System.
<b>CUI</b>	Common User Interface (Microsoft Health)
<b>DCM</b>	Detailed Clinical Model
<b>DEEWR</b>	Department of Education, Employment and Workplace Relations (Australia)
<b>DIS</b>	Draft International Standard
<b>dm+d</b>	Dictionary of Medicines and Devices. The dm+d is a vocabulary dictionary containing unique identifiers and associated textual descriptions for medicines and medical devices. <sup>12</sup>
<b>EHR</b>	Electronic Health Record

<sup>10</sup> <<http://www.imbi.uni-freiburg.de/ontology/biotop/>>.

<sup>11</sup> <<http://www.ebi.ac.uk/chebi/>>.

<sup>12</sup> <<http://www.dmd.nhs.uk/>>.

<b>EL</b>	A lightweight description logic profile.
<b>ELK</b>	ELK ontology reasoner
<b>FACT</b>	Fast Classification of Terminologies is a Description Logic classifier that can also be used for modal logic satisfiability testing. <sup>13</sup>
<b>FDIS</b>	Final Draft for Standard
<b>FMA</b>	Foundational Model of Anatomy
<b>FMRC</b>	Family Medicine Research Centre
<b>FSN</b>	Fully Specified Name (SNOMED CT)
<b>GCI</b>	General Concept Inclusion axiom
<b>GMDN</b>	Global Medical Devices Nomenclature
<b>GNI</b>	Gross National Income
<b>GS1</b>	The GS1 system of standards is the most widely used supply chain standards system in the world. <sup>14</sup>
<b>GTIN</b>	Global Trade Item Number
<b>HL7</b>	Health Level Seven
<b>HUGO/HGNC</b>	Human Gene Nomenclature Committee
<b>ICD, ICD-9, ICD-10</b>	International Classification of Diseases
<b>ICF</b>	International Classification of Functioning, Disability and Health (WHO)
<b>ICPC, ICPC-2</b>	International Classification of Primary Care
<b>IDMP</b>	Identification of Medicinal Products
<b>IHTSDO</b>	International Health Terminology Standards Development Organisation
<b>IMTF</b>	Information Modelling Taskforce
<b>ISO</b>	International Standards Organisation
<b>LIS</b>	Laboratory Information System
<b>LOINC</b>	Logical Observation Identifiers Names and Codes
<b>MiBa</b>	National microbiology database (Denmark)
<b>MRCM</b>	Machine Readable Concept Model

<sup>13</sup> <<http://www.cs.man.ac.uk/~horrocks/FaCT/>>.

<sup>14</sup> <<http://www.gs1.org/about/overview>>.

<b>NCTIS</b>	National Clinical Terminology Information Service
<b>NEHTA</b>	National E-Health Transition Authority
<b>NHS</b>	National Health Service (UK)
<b>NLM</b>	National Library of Medicine (US)
<b>NPfIT</b>	NHS National Programme for IT (UK)
<b>NPU</b>	Nomenclature, Properties and Units
<b>OID</b>	Object Identifier
<b>ONC</b>	Office of the National Coordinator for Health Information Technology (US)
<b>OWL</b>	Web Ontology Language
<b>PCEHR</b>	Personally Controlled Electronic Health Record
<b>PUTS</b>	Pathology Units and Terminology Standardisation
<b>RF1, RF2</b>	Release Format 1, Release Format 2 (SNOMED CT)
<b>RFP</b>	Request for proposal
<b>RO</b>	Relation Ontology
<b>SCS</b>	Structured Content Specification
<b>SDO</b>	Standards Development Organisation
<b>SEP</b>	Structure-Entire-Part (Anatomy model)
<b>SNOMED CT</b>	Systematized Nomenclature of Medicine – Clinical Terms
<b>SNOMED RT</b>	Systematized Nomenclature of Medicine – Reference Terminology
<b>SPC</b>	Summary Product Characteristics
<b>TRUD</b>	Terminology Reference-data Update Distribution (UK NHS)
<b>UCUM</b>	The Unified Code for Units of Measure is a code system intended to include all units of measures being contemporarily used in international science, engineering, and business. <sup>15</sup>
<b>UKTC</b>	UK Terminology Centre
<b>UMLS</b>	Unified Medical Language System
<b>URI</b>	Uniform Resource Identifier
<b>WHO</b>	World Health Organisation
<b>WONCA</b>	World Organization of Family Doctors

<sup>15</sup> <<http://unitsofmeasure.org/>>.

# Appendix B: Content Editing Statistics – October 2011

Note: The following material was distributed for discussion at the Content Committee meeting. The following is unaltered apart from formatting for consistency with this document.

## Content Projects – Summary Statistics

Committee members and others are encouraged to examine the Content Projects Tracker at:

[https://csfe.aceworkspace.net/sf/tracker/do/listArtifacts/projects.ihtsdo/tracker.top\\_down\\_content\\_projects](https://csfe.aceworkspace.net/sf/tracker/do/listArtifacts/projects.ihtsdo/tracker.top_down_content_projects)

Projects are categorized according to lifecycle phase (Inception, Elaboration, Construction, and Transition), and according to a rough estimate of the size of the project (small, medium, large). The following tables summarize the number of open projects/issues in the tracker, by size and lifecycle phase. :

Number of Content Projects/Issues by Lifecycle Phase:

July 2011				
	I	E	C	T
<b>Small</b>	265	13	3	0
<b>Medium</b>	126	37	13	1
<b>Large</b>	81	41	9	0

Sept 2011				
	I	E	C	T
<b>Small</b>	192	81	3	0
<b>Medium</b>	109	37	13	1
<b>Large</b>	88	41	9	0

Oct 2011				
	I	E	C	T
<b>Small</b>	185	79	34	0
<b>Medium</b>	107	37	17	1
<b>Large</b>	87	42	11	0

In addition, issues are tagged according to the source that identified the issue (external to IHTSDO, or internal). The following table gives a breakdown of the October stats. We have focused on the external sources, which are mainly the CSC quality review and Rector et al papers relating to the problem list use case. From content issues identified by these sources, there were 31 small, 4 medium, and 2 large content issues/projects moved into the construction phase for the January 2012 release.

	<b>Oct 2011 – external/internal</b>			
	<b>I</b>	<b>E</b>	<b>C</b>	<b>T</b>
<b>Small</b>	91/94	66/13	31/3	0
<b>Medium</b>	42/65	0/37	4/13	1
<b>Large</b>	37/50	1/41	2/9	0

Some high-profile issues addressed in these items for the Jan 2012 release:

1. Subdural haemorrhage/hematoma
2. Diabetes
3. Hypertension (complications)
4. Myocardial infarction/ischemic heart disease
5. Vein tributaries, and artery branches
  - a. Eliminates errors in examples such as thrombophlebitis of breast
  - b. Eliminates inferences that caused disorders involving arteries of the foot being classified as disorders of the pelvis.

The approach has been to repair the most high-profile errors and omissions; further work in subsequent releases will need to be done to identify and correct remaining gaps, omissions, or errors that may still remain.