IHTSDO Quality Framework
Sharing practice across the community

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Purpose of session

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In the beginning . . . Brisbane 2007
First meeting of the quality assurance committee

Discussion on the approach the IHTSDO should take to ensure quality and to provide assurance

Decision to adopt a quality framework approach

Quality Assurance framework - structured inventory of roles, rules, procedures and supporting infrastructure (the ‘components’) that the Quality Assurance committee would wish to see in place, along with quality criteria for each.
9.8.1 There will be a Quality Assurance Committee, with members who meet the Association standard for an acceptable level of expertise and experience in the risk management area.

9.8.2 With a view towards managing and lowering the risks of the Association, the Quality Assurance Committee shall have responsibility for the development and quality assurance of SNOMED CT and its related standards and the Association's other Terminology Products in harmony with proper respect to external standards.
Why the quality framework?

- To embed quality and assurance in all activities undertaken on behalf of the IHTSDO
- To enable a structured approach to be taken when considering quality matters
- To provide assurance by the production of metrics when activities are undertaken
- To use metrics to provide evidence and assurance of quality improvement
DETAIL OF THE QUALITY ASSURANCE FRAMEWORK
Quality assurance framework

- **IHTSDO Quality Assurance Framework**
  - Version 1.2
  - Date: December 12, 2008
  - Editor: Ed Cheetham
General quality assurance framework for integration into IHTSDO activities

Activity

Component 1

Component n

Structure

Process

Outcome

Characteristics

Quality

• Metrics
• Targets
Call center services to manage customer inquiries

**Activity**

**Component 1**

- **Number of call center staff**
- **How licensing inquiries are processed**

**Component 2**

- **Define and set targets**
- **Quality**
  - Metrics
- **Target**
- **Standardization**
- **Characteristics**
  - Process
Quality assurance framework at a glance
Origins of the quality framework

- IEEE software definitions
- ISO terminology definitions

ISO/IEC 9126 software quality characteristics
(A few) Definitions

- **IHTSDO Quality**
  - *The degree to which the IHTSDO meets its specified objectives, in terms of its organisational and product development processes, as well as the services and products it provides.*

- **IHTSDO Quality Assurance**
  - *A planned and systematic pattern of actions necessary to provide adequate confidence that the IHTSDO meets its specified objectives, in terms of its organisational and product development processes, as well as the services and products it provides.*
Definitions (cont.)

- Quality Metrics
  - Agreed methods and means for measuring the Quality Characteristics of Components
- Quality Targets
  - Agreed levels of achievement, performance or conformance of a Component for any given Quality Characteristic
Scope of the quality framework

- All (any) identifiable aspects of IHTSDO activity
- Standing committees, Special Interest Groups (SIG’s), Project Groups, Central functions
  - Organisational processes and support
  - Data products (terminology reference data, mappings, translations, subsets)
  - Documentation
  - IHTSDO-responsible services and tooling provision
Framework overview

- IHTSDO stated objectives and purposes are the motivating principles for IHTSDO activities *(Why we are here)*

- IHTSDO activities act as the organising principle for quality framework components *(Gives structure to being here)*

- IHTSDO activities should be shown to be effective to support openness and transparency *(What we do when we are here, and how we can show we are being effective)*
Introduction to implementation of the framework

- Where is the framework applied
  - Anywhere where you are undertaking a project or specific work item, particularly where you will be required to show the outcome of that piece of work

- How is the framework applied
  - Quality Assurance Framework, Framework Toolkit, Framework template

- Results of implementation
  - Quality Assurance Committee
Applying the quality framework

- General quality assurance requirement
  - Set targets and demonstrate quality standards for all IHTSDO projects and services

- The IHTSDO quality framework
  - Does not say what these standards are . . .
  - . . . but . . .
    - Provides a consistent mechanism and framework for identifying project or service components
    - Specifies the quality characteristics/attributes of each component
    - Sets standards or targets for each characteristic
    - Identifies a realistic mechanism for measuring (and demonstrating) whether such standards are achieved
Framework  Detailed example

- Tooling and Technology
  - Request Submission Technical Solution

<table>
<thead>
<tr>
<th>Component</th>
<th>Characteristic and Description</th>
<th>Example target</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical solution</td>
<td></td>
<td></td>
<td>Request submission availability using standard measures</td>
</tr>
<tr>
<td>function/structure</td>
<td>Char: Reliability</td>
<td>99.99%</td>
<td>system availability time</td>
</tr>
<tr>
<td></td>
<td>Descr: Request submission</td>
<td></td>
<td>System able to support editor workflow practices</td>
</tr>
<tr>
<td></td>
<td>system availability time</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>Technical solution</td>
<td>Char: Efficient</td>
<td></td>
<td>Probably a simple ‘does/doesn’t’ against stated requirement, but may</td>
</tr>
<tr>
<td>process</td>
<td>Descr: System able to support</td>
<td></td>
<td>be possible to identify the proportion of requests that cannot be</td>
</tr>
<tr>
<td></td>
<td>editor workflow practices</td>
<td></td>
<td>coerced into standard workflow.</td>
</tr>
</tbody>
</table>
Metrics

- Agreed methods and means for measuring the agreed levels of achievement, performance or conformance of a component-characteristic
  - **Description**: What is to be measured and how this is believed to demonstrate the quality of the associated component-characteristic
  - **Target**: Agreed levels of achievement, performance or conformance of a component-characteristic that would be felt to demonstrate adequate quality
  - **Plan**: Description of how measurement is to be carried out
  - **Level achieved**: Agreed reporting format for the metric once measured (units, timescale)
  - **Response**: Agreed response steps to follow when this metric is reported (in particular if targets are not achieved) or when a target is revised
Example of metrics

- Data production and publication
  - Schema and relational integrity conformance tests
    - Conformance metrics
- Change request management
  - Infrastructure and procedure for responding to change request
    - Change request response time metrics
- Editorial rule adherence
  - Editorial rules and their implementation
    - Degree of compliance with the editorial rules
Framework application 3 stages

- Design and development stages
- Conduct stages - measurement
- Post-measurement stages
Framework application Design

- Design and development stages
  - What needs to be done?
  - Who needs to do it?
  - How is it to be done?
    - Specific
    - Meaningful
    - Achievable
    - Realistic
    - Timely
Framework application  Measurement

- Conduct stages - measurement
  - What needs to be done
    - How do we measure success
    - What measurements are proof of success
  - Who needs to do it?
    - Central / local
  - How is it to be done?
    - manual / automated
Framework application  After

- Post-measurement stages
  - What needs to be done
    - Existing measures
      - Archive (if targets met)
      - Modify (if targets not met)
    - New measures identified in the course of the investigation
  - Who needs to do it?
  - How is it to be done?
    - Modify structure/process as necessary
    - Develop new measures if necessary
Component/Characteristic
- Metric template

- *Project, product or service name* – this will allow cross-referencing to identify
- *Responsible owner* – this is the name of the project, product or service lead
- *Component name* – this may be the whole name of the project, product or service, or may be a component/part of the
  - Component type – structure, process or outcome
- *Quality characteristic name* – short working name for the thing being measured (probably most easily framed as “characteristic of component” (such as “accuracy of SCT-ICD-10 cross maps”)
  - Quality characteristic type – the characteristic category from the Quality Framework
  - Quality characteristic description – a description and justification for the characteristic
- *Quality metric name* – short working name for the metric (there may be several metrics for each quality characteristic, so these will need to be distinguished)
  - *Date of agreement*
  - *Description* – a description and justification for the metric
  - *Target* – the target to be achieved.
  - *Measurement plan* – a description of
    - how the metric will be generated and collected
    - by whom
    - timing in relation to project/service
    - publication schedule
    - review timetable
  - *Planned response if target not achieved*

- Outcomes would not routinely form part of a metric register, but fields to collect would be:

- *Outcome*
  - *Date of measure*
  - *Level achieved* – the measure achieved
  - *Remedial/additional steps taken* – if required
Examples of Quality work based on IHTSDO Framework
Translation Quality Assessment
IHTSDO Corporate Metrics
Development of corporate metrics

- **Quality**
  - Product
  - Tools
  - Processes

- **Customer Satisfaction**
  - Customer Survey
  - Requests for Change
  - Communications

- **HR/Stakeholders**
  - Employees Performance
  - Conferences Participation
  - Committee Effectiveness

- **Finance**
  - GA to determine
  - GA to determine
  - GA to determine
SNOMED CT related quality

- Penni Hernandez, IHTSDO Senior Terminologist
Establishing a ‘Quality Framework User Group’