SNOMED CT and emerging international standards

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My self

- Daniel Karlsson

"Terminology"

- The terminology terminology is the worst of them all!
  - One cannot assume a shared understanding of terminology terms
- Most "terminology-like things" are hybrids and/or can be used for different purposes
- Some properties of "terminology-like things"

  - Terms, synonyms
  - Codes
  - (Generic) hierarchy
  - Relationships

  - Computable
  - Extensibility
  - Maintenance process, history
  - Quality, reusability
  - License, ownership
  - …

Terminology services

- Services which allow you to work with terminologies
    - Maintenance, authoring
    - Online use in health information systems
- Proprietary and open interfaces
- E.g. snowstorm

Terminology binding

- Creating an association between a concept or a set of concepts in a terminology and a part of an information model

bodySite   0..1 ◄—————————— Value set binding ————►

Anatomical or acquired body structure (body structure)
  Acquired body structure (body structure)
  Anatomical structure (body structure)
    Anatomical junction (body structure)
    Anatomical space structure (body structure)
    Body organ structure (body structure)
    Body region structure (body structure)
    Body system structure (body structure)
    Body tissue structure (body structure)
    Body wall structure (body structure)
    Cell structure (cell structure)
    Developmental body structure (body structure)
    Entire physical anatomical entity (body structure)
    Gland structure (body structure)
    Intercellular anatomical structure (body structure)

Terminology binding

- The space of possible terminology bindings is enormous

code	Σ	1..1		Diagnose?
value[x]	Σ I	0..1		All diagnoses

⋮

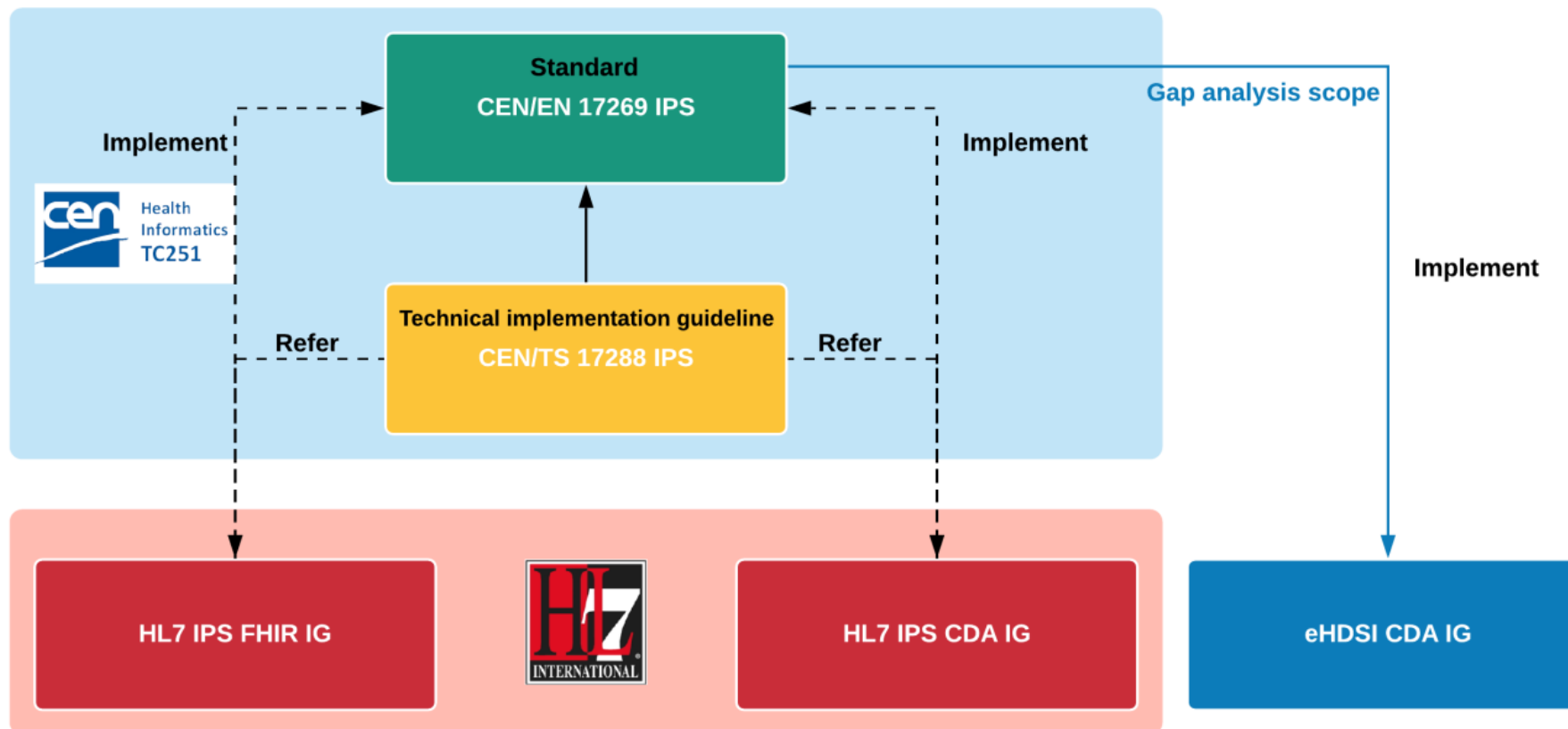|				
code	Σ	1..1		Pre-existing type 2 diabetes mellitus in pregnancy?
value[x]	Σ I	0..1		Yes or No

The International Patient Summary

health summary record

health record extract comprising a standardized collection of clinical and contextual information (retrospective, concurrent, prospective) that provides a snapshot in time of a subject of care's health information and healthcare [ISO/TR 12773-1]

The International Patient Summary

- Short history
  - epSoS, EXPAND, eHDSI, eHMSEG
  - EU-US MoU, Trillium Bridge Project(s)
  - eHN Patient Summary Guidelines (being revised)
  - CEN standards process – EN and draft IS

The International Patient Summary

The International Patient Summary

- Terminology binding to SNOMED CT in many IPS value sets
- The IPS reference set
  - SNOMED CT subset with 8 279 members (current July 2019)
  - Included in the GPS…

The SNOMED CT Global Patient Set (GPS)

- GPS is SNOMED CT content available for use without a SNOMED license
  - GPS license is CC-BY 4.0
- GPS is a set of reference sets
  - FP/GP reference set
  - Nursing
  - DICOM
  - Renal
  - …

The SNOMED CT Global Patient Set (GPS)

- GPS contains
  - Concept Id:s
  - Fully specified name (English)
  - Preferred term (English)
  - Active-inactive flag

- GPS does **not** contain
  - Other synonyms (English)
  - Relationships
  - Content history

- GPS and translation?
  - Is allowed, but not recommended based only on GPS
  - GPS concepts can be translated into any SNOMED language

The SNOMED CT Global Patient Set (GPS)

- Why the GPS?

  – SNOMED countries collaborating with non-SNOMED countries

  – International Patient Summary (and particularly the European patient summary)

  – Being forced to use other terminologies (when SNOMED CT is a good, realistic alternative) devalues the country's SNOMED investments

  – How SNOMED CT can be used with non-meber countries needs (some) clarification and (a lot of) discussion, e.g. is SNOMED CT FAIR?

Personal perspective!

The SNOMED CT Global Patient Set (GPS)

- Discuss a GPS strategy!
  - GPS is not carved in stone – you can influence the SNOMED International business model
  - You (as a member country) pay for the whole of SNOMED CT
  - Cross-border sharing of health data is still a relatively small part
  - Choose GPS content when there are alternatives

Personal perspective!

SNOMED and HL7 FHIR

- HL7 FHIR is a (post-) emerging information model standard
- FHIR can be used with many terminologies
  - …but needs one
- SNOMED can be used with many information model standards
  - …but needs one

SNOMED and HL7 FHIR

- HL7 keeps a large(?) set of fairly generic clinical "resources"
  - E.g. Observation, Condition
  - E.g. AllergyIntolerance
  - There is often (at least) a proposed terminology binding to SNOMED CT
- HL7 has a terminology services specification
  - CodeSystem, ValueSet, ConceptMap

SNOMED on FHIR

- Project started on member forum initiative in Oct 2016
- HL7 and SNOMED International joint project
- Tuesday at 20.00 UTC
- Two streams
  - Terminology services
  - Terminology binding
- SNOMED on FHIR Implementation Guide

https://confluence.ihtsdotools.org/display/FHIR/SNOMED+on+FHIR

SNOMED on FHIR – Terminology services

- Use of SNOMED CT with the HL7 FHIR terminology services specification

- Discuss terminology server implementation issues
  - Consistency in implementations!

- Refine and QA the SNOMED CT specification pages of the FHIR implementation guide

SNOMED on FHIR – Terminology binding

- Use of SNOMED CT with HL7 FHIR resources and profiles
- Discuss terminology binding issues
- Publish a set of SNOMED on FHIR profiles

The SNOMED Community

- SNOMED International and its member countries maintains a rich community

- Advisory groups, Clinical Reference Groups, Project Groups
  - Open for participation and/or observation
  - Only time is needed!

- Get involved
  - Register for a SNOMED Confluence account https://confluence.ihtsdotools.org/
  - Find your favourite groups

Discussion

SNOMED CT and Nursing

- ICN and SNOMED Interntional have signed a 5 year agreement
  - ICN will own and be responsible for the content of ICNP
  - SNOMED International will provide services, distribution of ICNP
- Swedish NRC will collaborate with the Swedish nursing society (swenurse.se) in translating and meeting Swedish needs

SNOMED CT work and resources

- The NRC has national government funding for maintaining SNOMED CT and to support users

  – Currently employs 8, but not 100 % SNOMED work

  – 70-80 % of funding is fixed, rest is project-based

- Most development is through national projects

- Regions implementing new healthcare information systems employ 100s

  – E.g. the Västra Götaland region has more Authoring Level 1 graduates than the NRC

SNOMED CT and pathology

- Collaboration between regional cancer centers (RCCs), the Swedish pathology society (svfp.se), and the NRC
  - RCCs are the drivers
- Synoptic pathology reporting
  - Working with SNOMED International project and University of Nebraska MC

Kiitos!

Mer information finns på:
www.socialstyrelsen.se