Naar implementatie van standaardterminologie in de Belgische gezondheidszorg

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23/03/2023 – The Institute

FOD VVVL – SPF SPSCAE
DG Gezondheidszorg – DG Soins de Santé
Cel Standaarden - Cellule Standards

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Inhoud

- Context
  - Actieplan e-gezondheid
  - Beleidsverklaring Minister Frank Vandenbroucke
  - Overgang naar ICD-10-BE / ICD-11
- Betekenisvol (‘meaningful’) patiëntendossier
- Implementatie van SNOMED CT
  - Minimaal maturiteitsniveau
  - Value sets en Reference Sets
  - Mapping en integratie
- Registraties en SNOMED CT
- In de pijplijn

Context: e-gezondheidsplan

- Implementatie van een standaardterminologie
  - 22/10/2012: Ronde tafel e-gezondheid
    - Resultaat: **Actieplan e-gezondheid 2013-2018**
  - 29/04/2013: Goedkeuring Actieplan e-gezondheid 2013-2018 door de Interministeriële conferentie (IMC)
    - Roadmap 1.0 en Roadmap 2.0 (Update 2015-2018)
    - 5 pijlers en 20 actiepunten
    - Actiepunt 13: realisatie van een nationaal terminologiebeleid
      - Semantische interoperabiliteit voor het Federale, Gewestelijke en Gemeenschapsniveau
      - Oprichting van een terminologiecentrum
      - SNOMED CT-terminologie
      - LOINC-terminologie
      - Progressieve mapping van codificatiesystemen

Context: e-gezondheidsplan

- Actieplan e-gezondheid 2019-2021 (Roadmap 3.0)
  - Cluster 0: de fundamenten
    - Het betekenisvol uitwisselen van gegevens tussen zorgactoren
    - Uitbreiding van de nationale release SNOMED CT: focus op de ziekenhuizen (EPD)
    - Gebruik van LOINC
- Actieplan e-gezondheid 2022-2024 (Roadmap 4.0)
  - Cluster 4 Faciliteren van de uitwisseling van gegevens over zorg en gezondheid
    - Relatie met het “Belgian Integrated Health Record” (BIHR)

2027

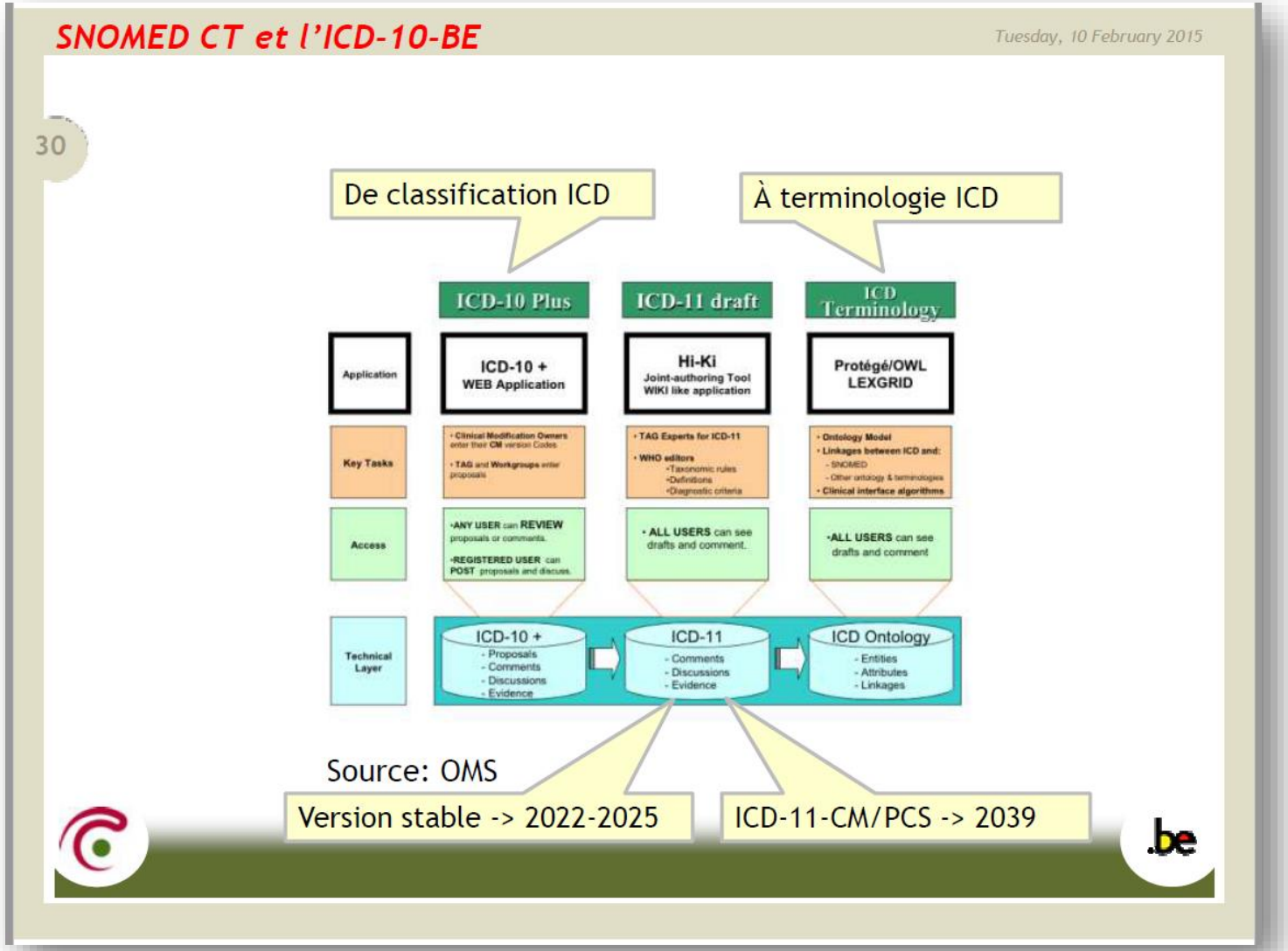
Punt op de horizon

De informatiestandaarden betreffende de **classificatiesystemen** (ICD, ICPC, DSM), de groepeersystemen (APR-DRG en NRG), de terminologiestandaarden (SNOMED CT, LOINC) en de communicatiestandaarden (HL7/FHIR) ondersteunen eenduidigheid van informatie en een efficiënte en veilige zorg. In 2022 wordt de overgang van ICD-10 naar ICD-11, via SNOMED CT, verdergezet om te realiseren in 2027. De studie m.b.t. de zorgzwaarte bij verpleegkundige gegevens loopt verder. En tenslotte wordt de uitrol van SNOMED CT in België voortgezet.

Het deel van de middelen van het Belgische Herstelplan zal gebruikt worden voor het project “Elektronisch patiëntendossier voor zorgverleners”. Ook zal het project “Terminologie” door deze middelen een versnelling krijgen zodat structurering en codering van gezondheidsgegevens met internationaal gestandaardiseerde systemen zoals SNOMED CT en ICD-11 kan gebeuren.

Vandenbroucke, F. (2021) Beleidsnota Volksgezondheid 2022. Belgische Kamer van Volksvertegenwoordigers. 2294/003 DOC 55.
Vandenbroucke, F. (2022) Beleidsnota Volksgezondheid 2023. Belgische Kamer van Volksvertegenwoordigers. 2934/012 DOC 55.

Context : evolutie naar standaardterminologie



D'Havé, A. (2015). ICD-10-BE in een breder kader. Van SNOMED CT naar ICD-10-BE. FOD VVVL. https://www.health.belgium.be/sites/default/files/uploads/fields/fpshealth_theme_file/icd10be_studiedag_20150210_nl.zip

Context : evolutie naar standaardterminologie

Foundation Component & Tabular Lists of ICD–11

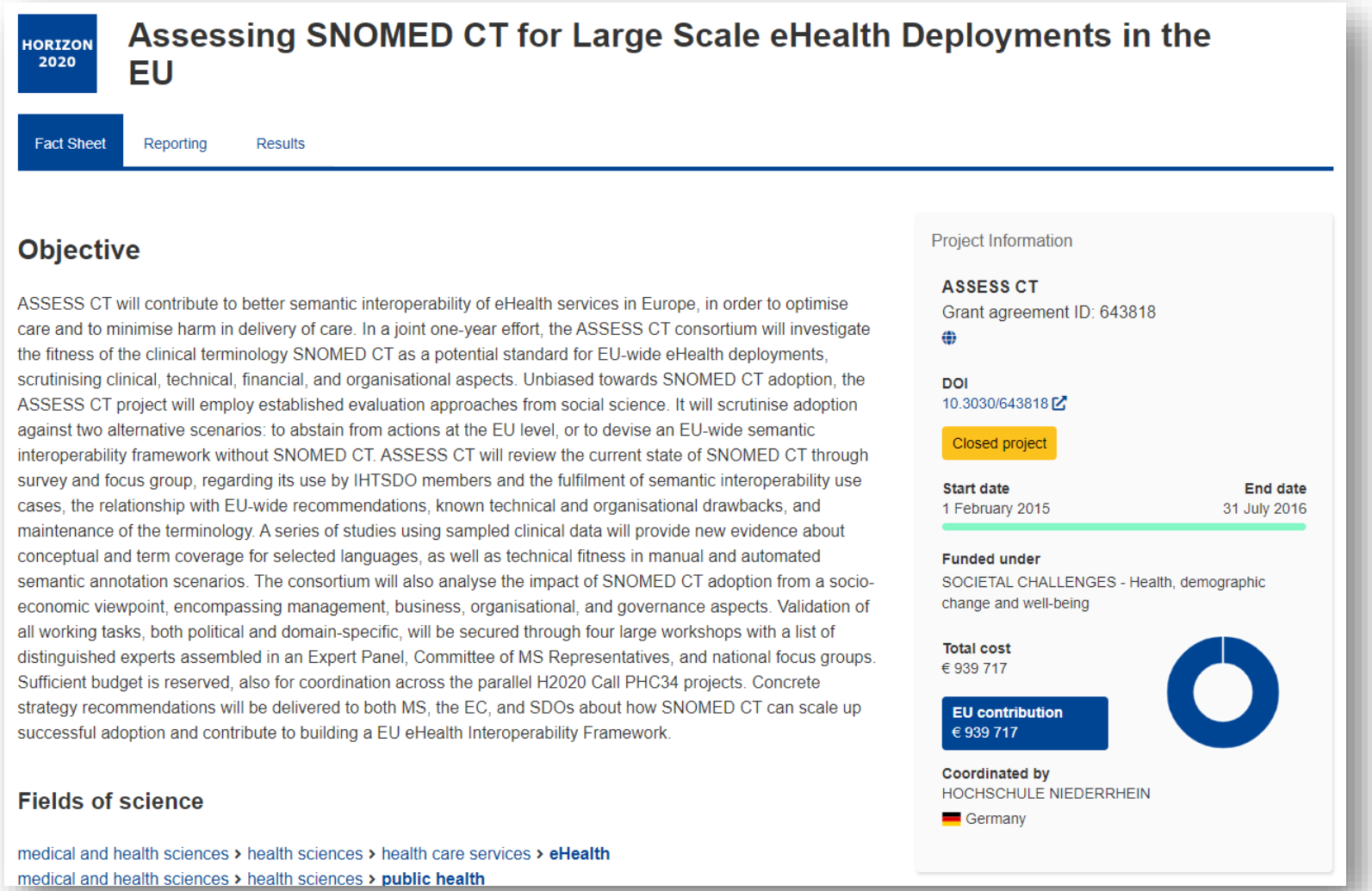
The **Foundation Component**

- is a multidimensional **collection of all ICD entities**.
- Entities can be **diseases, disorders, injuries, external causes, signs and symptoms**. Some entities may be very broad e.g. 'injury of the arm', others are more detailed, e.g. 'laceration of the skin of the thumb.
- has the necessary **information** to use the entities to **build a tabular list** (a mono hierarchy in the style of a traditional statistical classification). E.g. includes information on where and how a certain entity is represented in a tabular list, whether it becomes a grouping, a category with a stem code, or whether it is mentioned as an inclusion term in a particular category.

15 ICD-11 | Belgian Terminology Day | 28 March 2018 World Health Organization

Kostansjek, N. (2018) ICD11: New features, tooling environment, APIs, testing & implementation arrangements and linkages with SNOMED CT. WHO https://www.health.belgium.be/sites/default/files/uploads/fields/fpshealth_theme_file/nrc-be_04_icd11_sct_nenadkostanjsek_20180328.pdf

Europese Unie



HORIZON 2020

Assessing SNOMED CT for Large Scale eHealth Deployments in the EU

Fact Sheet | Reporting | Results

Objective

ASSESS CT will contribute to better semantic interoperability of eHealth services in Europe, in order to optimise care and to minimise harm in delivery of care. In a joint one-year effort, the ASSESS CT consortium will investigate the fitness of the clinical terminology SNOMED CT as a potential standard for EU-wide eHealth deployments, scrutinising clinical, technical, financial, and organisational aspects. Unbiased towards SNOMED CT adoption, the ASSESS CT project will employ established evaluation approaches from social science. It will scrutinise adoption against two alternative scenarios: to abstain from actions at the EU level, or to devise an EU-wide semantic interoperability framework without SNOMED CT. ASSESS CT will review the current state of SNOMED CT through survey and focus group, regarding its use by IHTSDO members and the fulfilment of semantic interoperability use cases, the relationship with EU-wide recommendations, known technical and organisational drawbacks, and maintenance of the terminology. A series of studies using sampled clinical data will provide new evidence about conceptual and term coverage for selected languages, as well as technical fitness in manual and automated semantic annotation scenarios. The consortium will also analyse the impact of SNOMED CT adoption from a socio-economic viewpoint, encompassing management, business, organisational, and governance aspects. Validation of all working tasks, both political and domain-specific, will be secured through four large workshops with a list of distinguished experts assembled in an Expert Panel, Committee of MS Representatives, and national focus groups. Sufficient budget is reserved, also for coordination across the parallel H2020 Call PHC34 projects. Concrete strategy recommendations will be delivered to both MS, the EC, and SDOs about how SNOMED CT can scale up successful adoption and contribute to building a EU eHealth Interoperability Framework.

Fields of science

medical and health sciences › health sciences › health care services › **eHealth**
medical and health sciences › health sciences › **public health**

Project Information

ASSESS CT
Grant agreement ID: 643818

DOI
10.3030/643818

Closed project

Start date 1 February 2015
End date 31 July 2016

Funded under
SOCIETAL CHALLENGES - Health, demographic change and well-being

Total cost
€ 939 717

EU contribution
€ 939 717

Coordinated by
HOCHSCHULE NIEDERRHEIN
Germany

https://cordis.europa.eu/project/id/643818

Europese Unie

European Union drives use of standardized terminology in Member States with funding for SNOMED CT

NEWS PROVIDED BY
SNOMED International
March 02, 2022, 14:00 GMT

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The EU will provide its Member States with 60 per cent funding towards SNOMED CT membership until 2027, via the European Health and Digital Executive Agency.

LONDON, UNITED KINGDOM, March 2, 2022 /EINPresswire.com/ -- At the end of 2021, the European Health and Digital Executive Agency took a firm step towards increasing the semantic interoperability, re-use and the cross border exchange of health data. The European Union will provide its Member States with 60 per cent funding towards SNOMED International membership until 2027, via the European Health and Digital Executive Agency (HaDEA). The goal of this initiative is to allow the residents of participating member states to easily access and share their own health data in their own language with healthcare providers as they travel in the European Union.

SNOMED International Delivering SNOMED CT
SNOMED CT: The global language of healthcare

Contact

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More From This Source

New SNOMED Management Board directors offer abundance of international leadership experience and global health insights

SNOMED releases an open terminology to broaden clinical data interoperability from the International Patient Summary

SNOMED International and the International Diet Dysphagia

https://www.einnews.com/pr_news/564432299/european-union-drives-use-of-standardized-terminology-in-member-states-with-funding-for-snomed-ct

SNOMED International

- SNOMED International is een non-profitorganisatie die verantwoordelijk is voor het ontwikkelen van wereldwijde standaarden voor gezondheidsterminologie.
  - IHTSDO : International Health Terminology Standards Development Organisation
  - België werd lid in 2013

Gesitueerd aanvankelijk in Kopenhagen, vervolgens in Londen

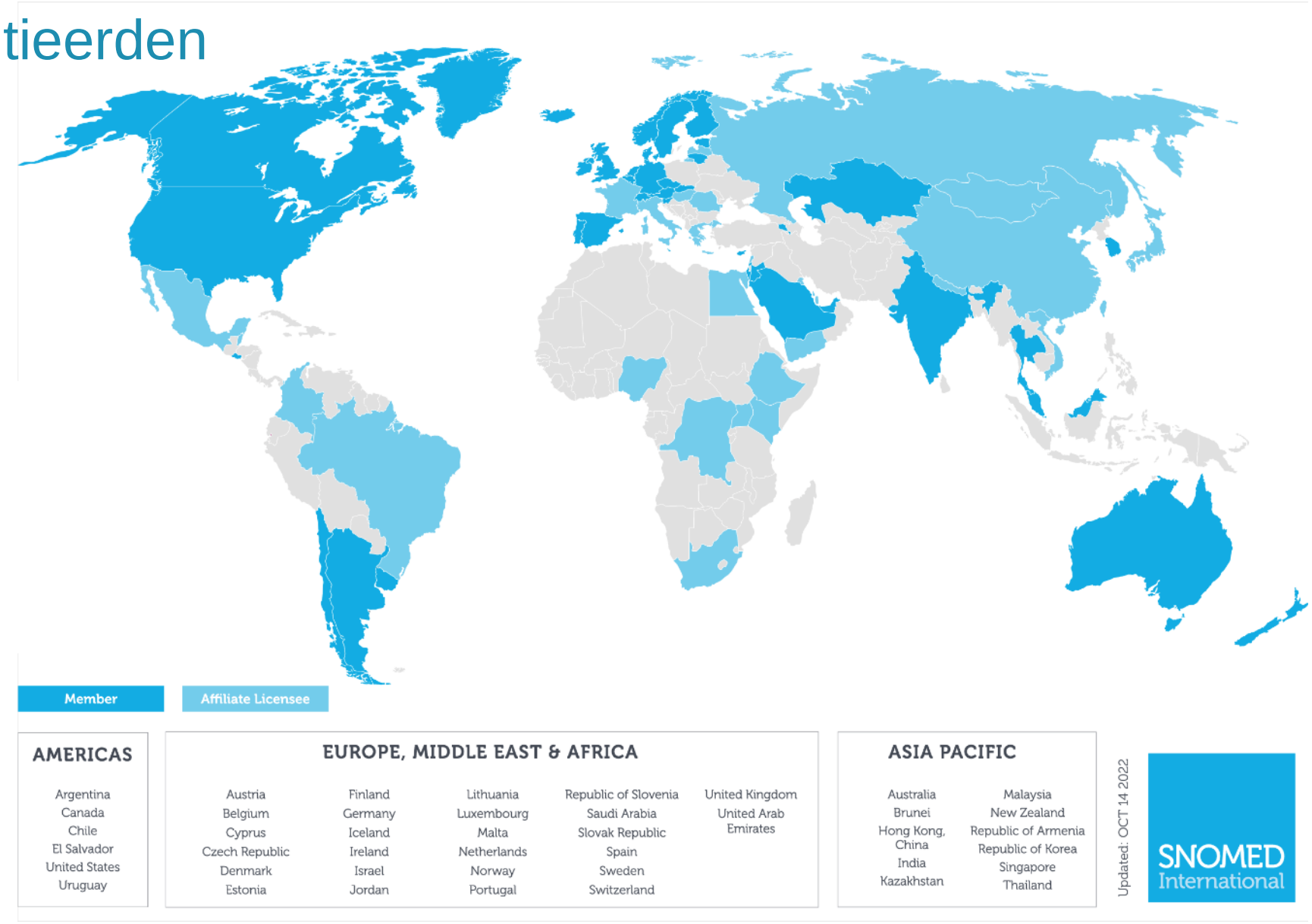
Virtuele organisatie met werknemers wereldwijd

Licentiekost gebaseerd op BNP

https://www.snomed.org/
https://www.snomed.org/member/belgium

De leden en gelicentieerden

- Leden bepalen de verdere ontwikkeling en het gebruik van SNOMED CT
- Groei van 28 leden in 2015 naar 43 in 2022
- Wereldwijd wordt SNOMED CT gebruikt in meer dan 70 landen door meer dan 32.000 organisaties.



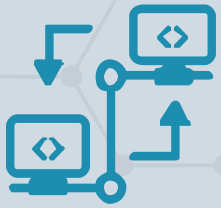
Samenwerking met andere organisaties

- SNOMED International heeft een **actief samenwerkingsprogramma** met internationale organisaties voor standaardontwikkeling, beroepsorganisaties in de gezondheidszorg, de industrie en onderwijspartners om het onderwijs en het gebruik van SNOMED CT te vergemakkelijken.

SNOMED CT–Systematized Nomenclature of Medicine Clinical Terms

- SNOMED CT is de meest uitgebreide klinische terminologie ter wereld. **Het stelt het EPD in staat klinische documentatie gestructureerd en gestandaardiseerd in de backend vast te leggen**, patiënt- en zorggegevens te delen met andere clinici en met patiënten, zowel intramuraal als transmuraal uit te wisselen, zelfs over de grenzen heen, en de resultaten van patiënten te verbeteren. Bovendien kunnen andere belanghebbenden SNOMED CT gebruiken voor klinische analyse, populatieanalyse, managementanalyse, klinisch onderzoek, toegepast onderzoek en andere onderzoeksactiviteiten om de gezondheidszorg en het -beleid te verbeteren.

Een betekenisvol (‘meaningful’) patiëntendossier



Informatiseren van patiëntendossiers

Een belangrijke stap voorwaards

Verbetering van communicatie

Verhoogde beschikbaarheid van relevante gegevens

… is maar een deel van de oplossing;

De echte uitdaging ligt in…

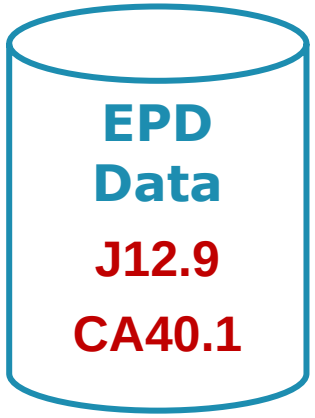
Het betekenisvol en interoperabel maken

Efficiënt zinvolle gegevens selecteren op basis van hun unieke en rijke betekenis

Gegevens uitwisselen zonder verlies of verandering van betekenis

SNOMED CT standaardiseert en maakt klinische informatie zinvol in goed ontworpen (gestructureerde) EPD’s

Een betekenisvol (‘meaningful’) patiëntendossier



J12.9 Viral pneumonia, unspecified
CA40.1 Viral pneumonia

Selecteer alle patiënten met een respiratoire aandoening?

YES: de code start met “J”

Selecteer alle patiënten met een infectieuze aandoening?

No: code start niet met “A”

Selecteer alle aandoeningen die gesitueerd zijn t.h.v. de long?

Unknown: geen eenvoudig selectiecriterium mogelijk

Selecteer alle virale aandoeningen?

Unknown: geen eenvoudig selectiecriterium mogelijk

Een betekenisvol (‘meaningful’) patiëntendossier

75570004 Viral pneumonia

Selecteer alle patiënten met een respiratoire aandoening?

YES: is-a respiratoire aandoening

Selecteer alle patiënten met een infectieuze aandoening?

YES: is-a infectieuze aandoening
YES: has-pathological process infectieus proces

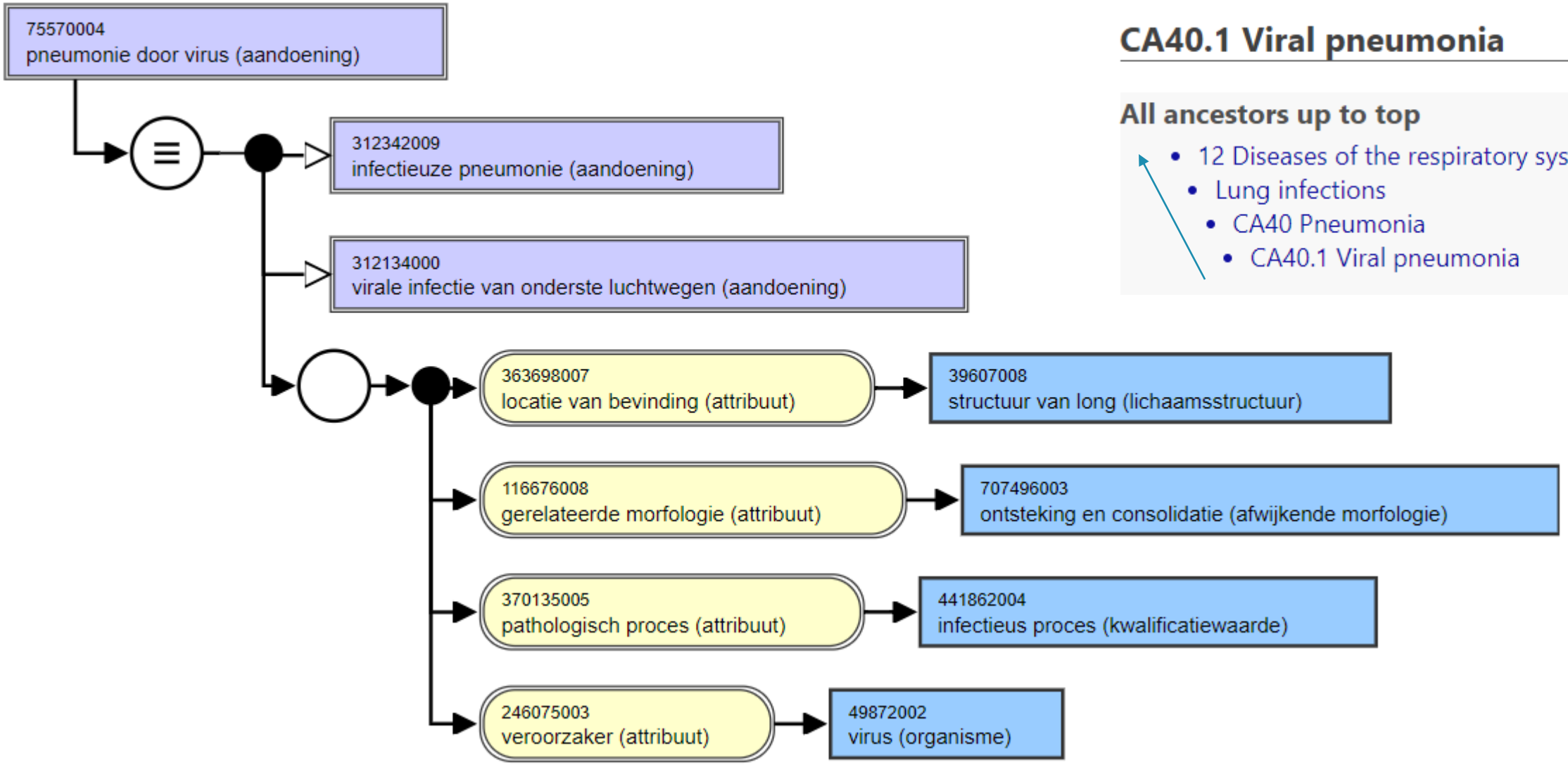
Selecteer alle aandoeningen die gesitueerd zijn t.h.v. de long?

YES: has-finding site long

Selecteer alle virale aandoeningen?

YES: has-causative agent virus

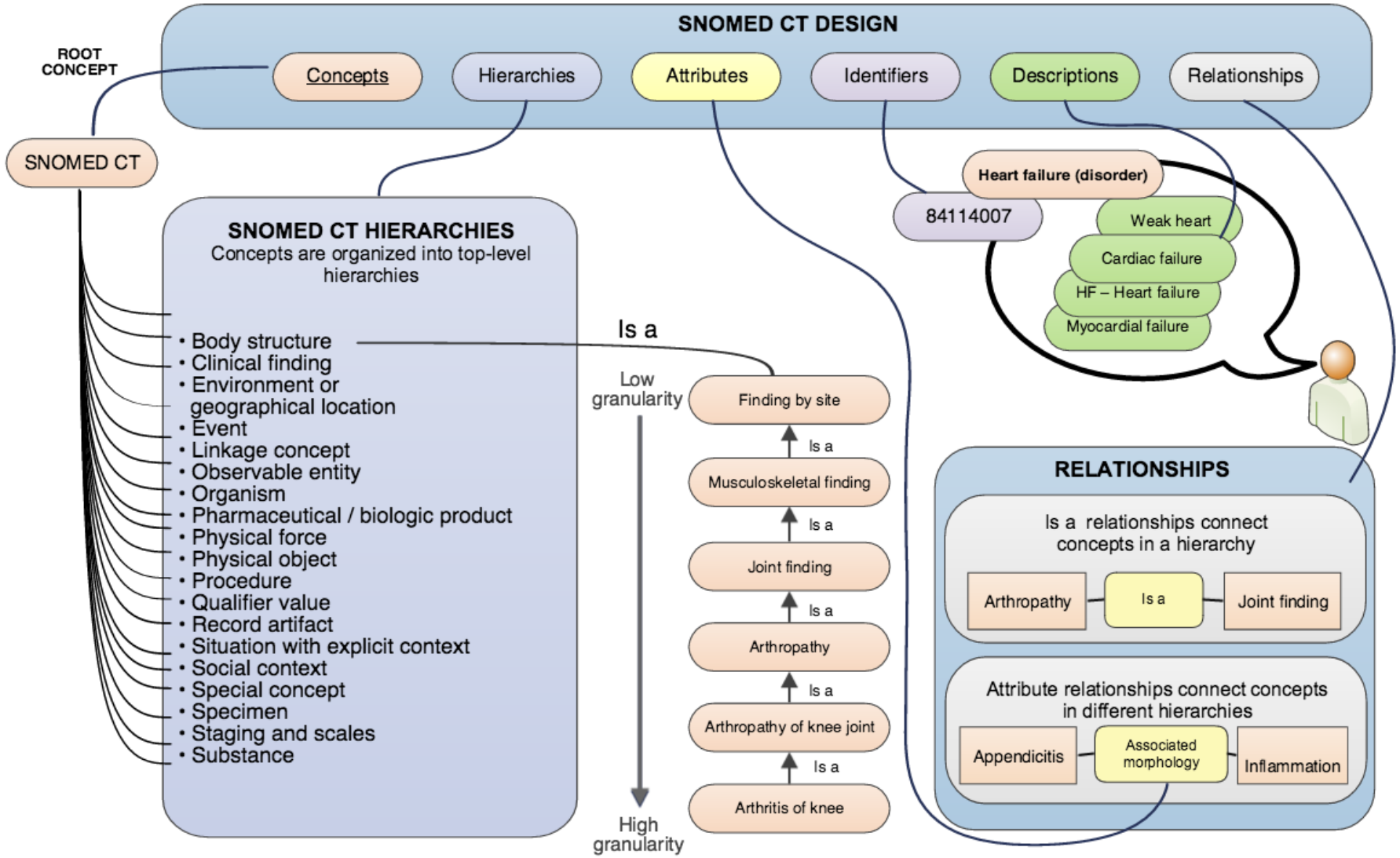
Een betekenisvol (‘meaningful’) patiëntendossier



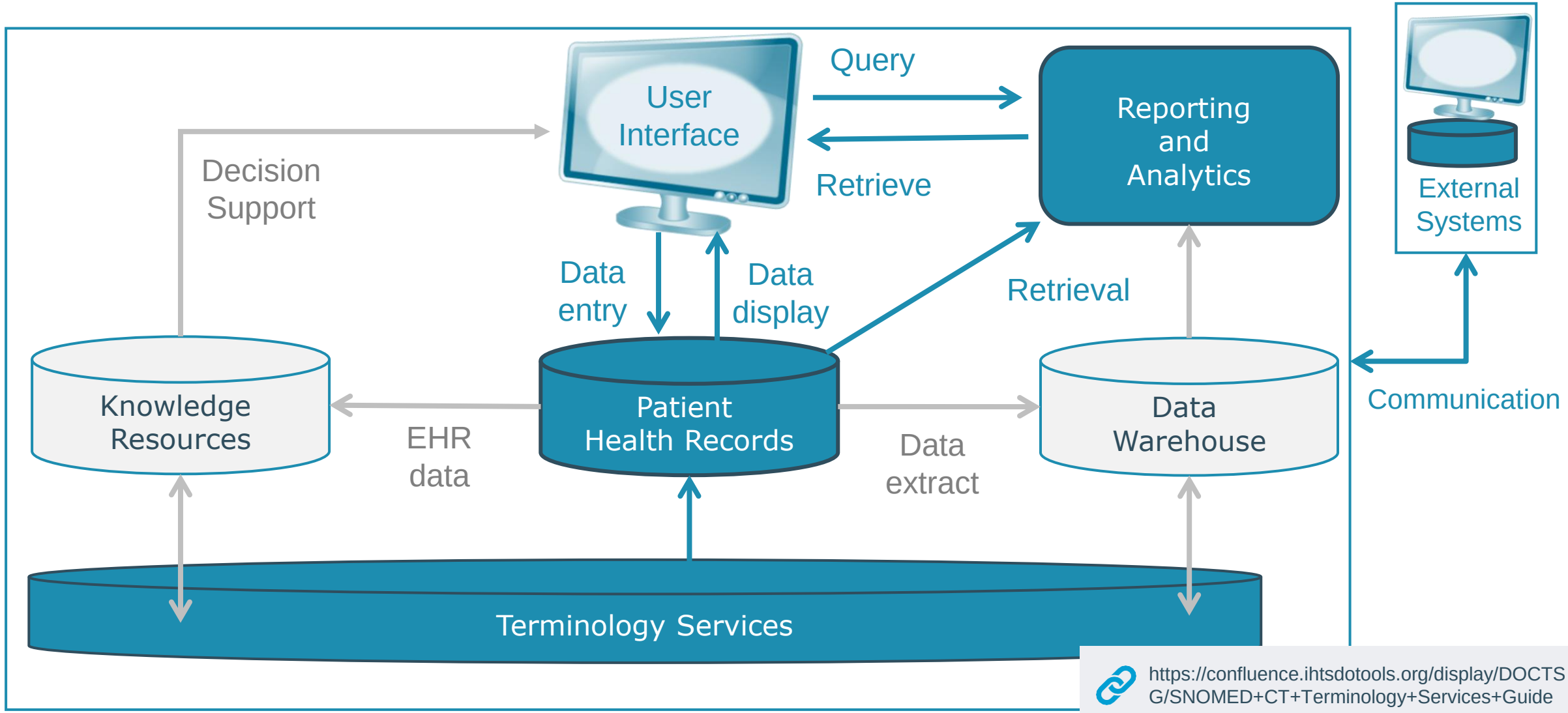
CA40.1 Viral pneumonia

All ancestors up to top

- 12 Diseases of the respiratory system
  - Lung infections
    - CA40 Pneumonia
      - CA40.1 Viral pneumonia

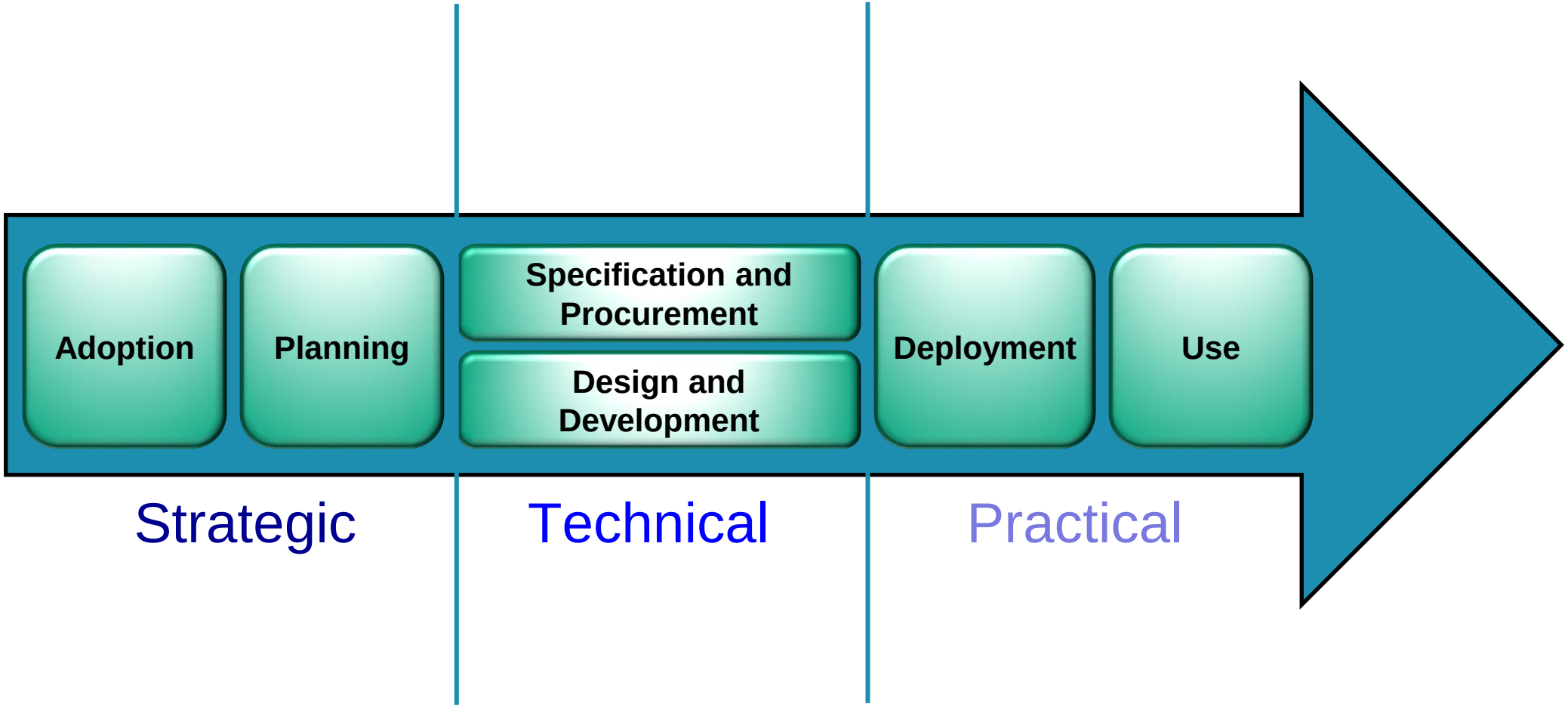


Minimaal maturiteitsniveau



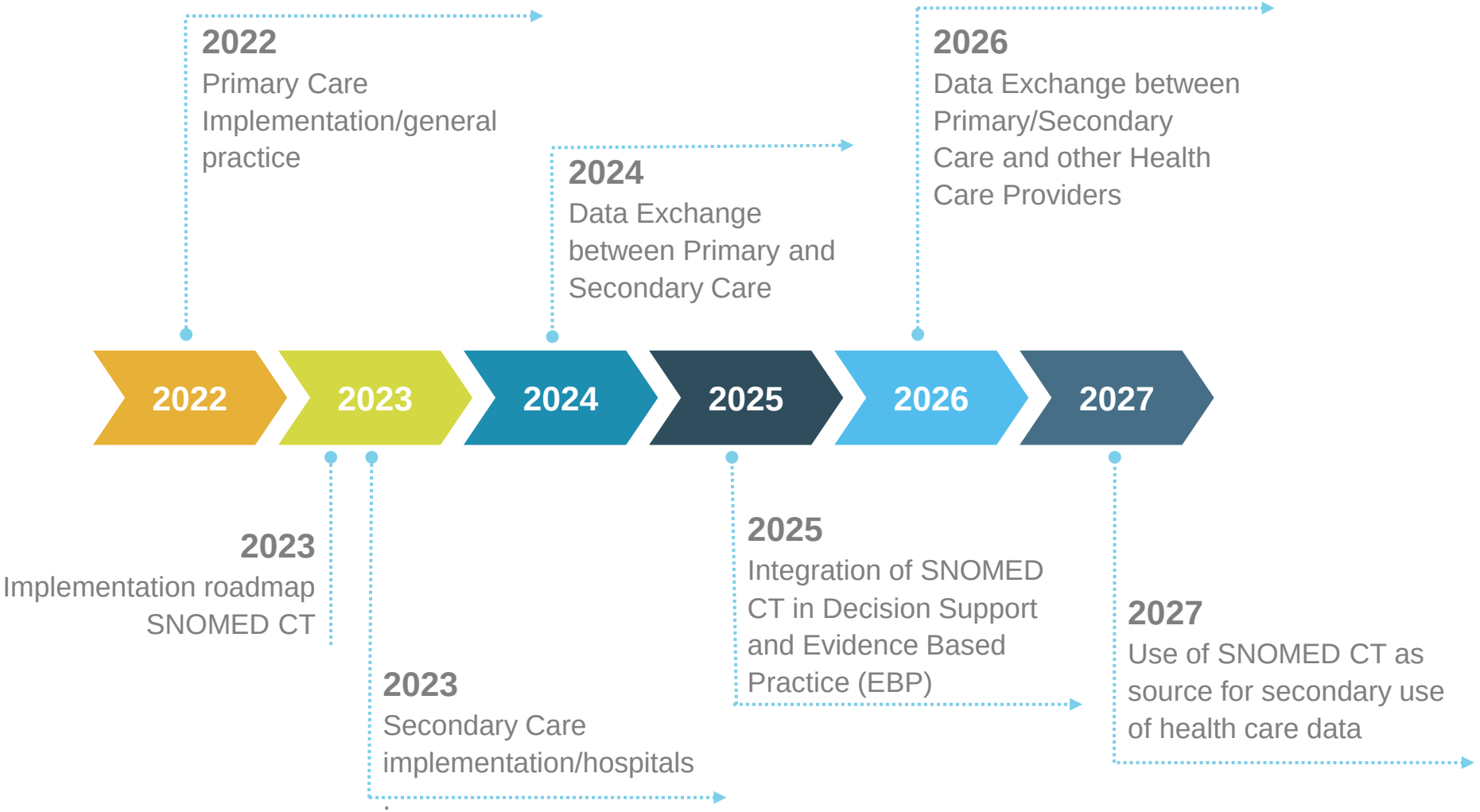
https://confluence.ihtsdotools.org/display/DOCTSG/SNOMED+CT+Terminology+Services+Guide

Implementatie van SNOMED CT



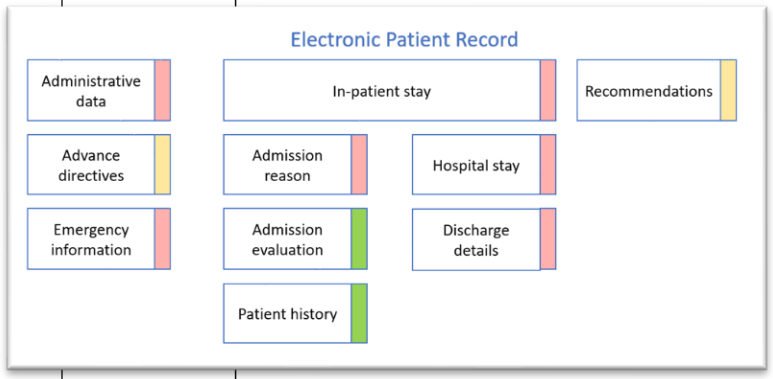
Implementation process (2022-2027)

Milestones at the latest as of …



Standaarden voor primaire proces

#	Field	Field_Description	Preferred_Standard	Cardinality	M/R/O	Limitations/Dependencies/Preconditions	Value/Sub/Reference_Sets	Notes
A.2.7	Hospital stay			1..1	Mandatory			
A.2.7.1	Diagnostic report	All problems/diagnoses that should have affected care during the inpatient case or are important to be recorded to ensure continuity of care. The diagnostic summary differentiates, in accordance with the international recommendation, between active problems/diagnoses, problems arising during hospitalization and inactive problems/diagnoses. The diagnostic summary contains all conditions as they were recognized at the end of hospitalization, after all examinations.	SNOMED CT Belgian Edition	1..*	Required		CRS: Narrative comment section of diagnostic report (record artifact)	
A.2.7.1.1	Problem description	Problem specification in narrative form		1..1	Mandatory		CRS: Narrative comments on diagnosis (observable entity)	
A.2.7.1.2	Problem	All problems/diagnoses that should have affected care during the inpatient case or are important to be recorded to ensure continuity of care. Differentation, in accordance with the international recommendation, between active problems/diagnoses, problems arising during hospitalization and inactive problems/diagnoses. The diagnostic summary contains all conditions as they were	ICD-9-CM	0..*	Optional	Systems should be able to display data coded using the ICD-9-CM standard, as this legacy content still exists and may be used for analysis/decision support/quality measurement needs, where retroactive analysis is often required, but ICD-9-CM should not be collected for new entries.	A mapping from ICD-9-CM to SNOMED CT is available to support semi-automated generation of ICD-9-CM codes from clinical data encoded in SNOMED CT Belgian Edition for reimbursement and statistical purposes.	
			ICD-10-CM	0..*	Mandatory	Systems should be able to display data coded using the ICD-10-CM standard, as this legacy content still exists and may be used for analysis/decision support/quality measurement needs, where retroactive analysis is often required, but ICD-10-CM should not be collected for new entries.	A mapping from ICD-10-CM to SNOMED CT is available to support semi-automated generation of ICD-10-CM codes from clinical data encoded in SNOMED CT Belgian Edition for reimbursement and statistical purposes. A mapping from SNOMED CT International Edition to ICD-10-CM is available to support semi-automated generation of ICD-10-CM codes from clinical data encoded in SNOMED CT Belgian Edition for reimbursement and statistical purposes.	
			LOINC	0..*	Optional			
			SNOMED CT Belgian Edition	0..*	Required	Use of SNOMED CT Belgian Edition codes should generally be chosen from three axes: Clinical finding, Situation with explicit context, and Event.	Problem List CORE set (Extensional): starter set Problem List set (Intensional)	M/R/O needs to evolve to Mandatory after legal basis
			ORPHA	0..*	Optional	One of the key use cases for this standardised map is to meet EU requirements to implement ORPHA codes in health systems for Rare Diseases epidemiology and research, including use in registries, enabling linkage from SNOMED CT enabled EHRs, and cross-border interoperability with ICD-based coding systems: Recommendation on ways to improve codification for rare diseases in health information systems (2014) European Commission Expert Group on Rare Diseases 2014: https://ec.europa.eu/health/sites/default/files/rare_diseas	A mapping from SNOMED CT International Edition to ORPHA is available in october 2023 to support automated generation of ORPHA codes from clinical data encode in SNOMED CT Belgian Edition.	
			ICD-11 MMS	0..*	Optional		A mapping from SNOMED CT International Edition to ICD-11 is available to support automated generation of ICD-11 codes from clinical data encode in SNOMED CT Belgian Edition for reimbursement and statistical purposes.	
A.2.7.1.5	Onset date	Date of problem onset		1..1	Required			
A.2.7.1.6	Abatement date	The date or estimated date that the condition resolved or went into remission.		0..1	Required			



Advance directives | Emergency information | Encounter | Admission evaluation | Patient history | Hospital stay

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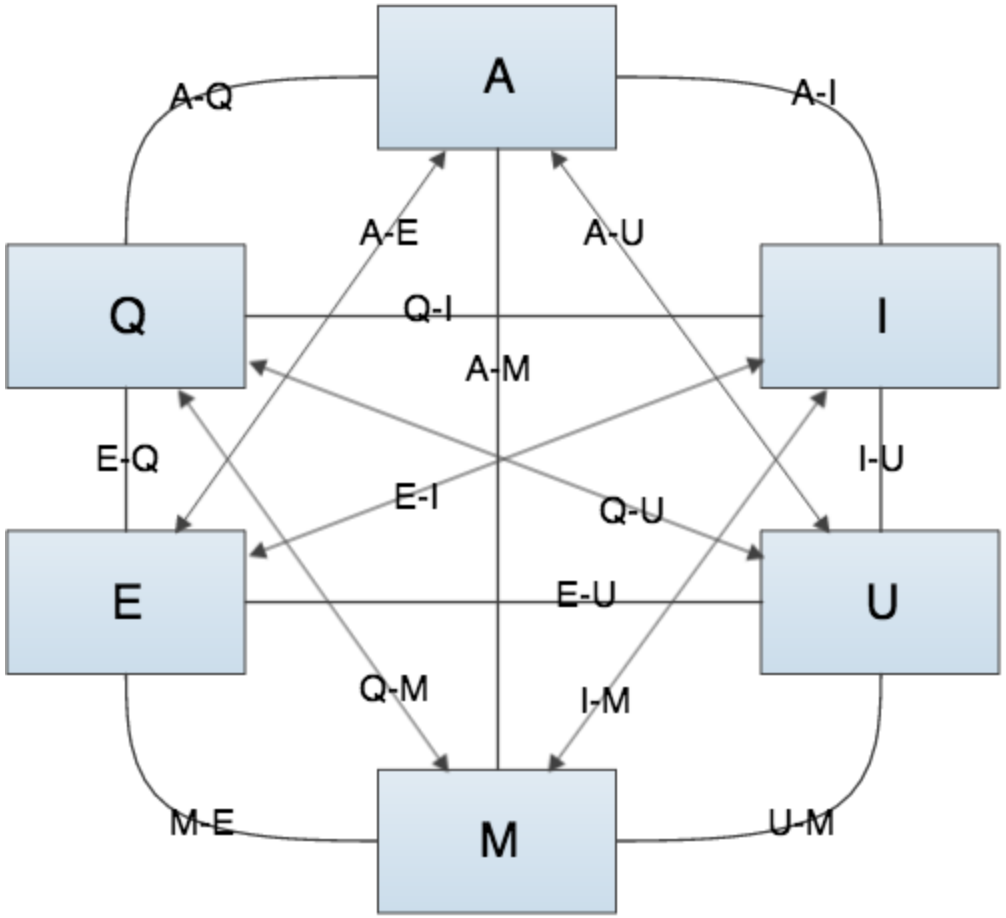
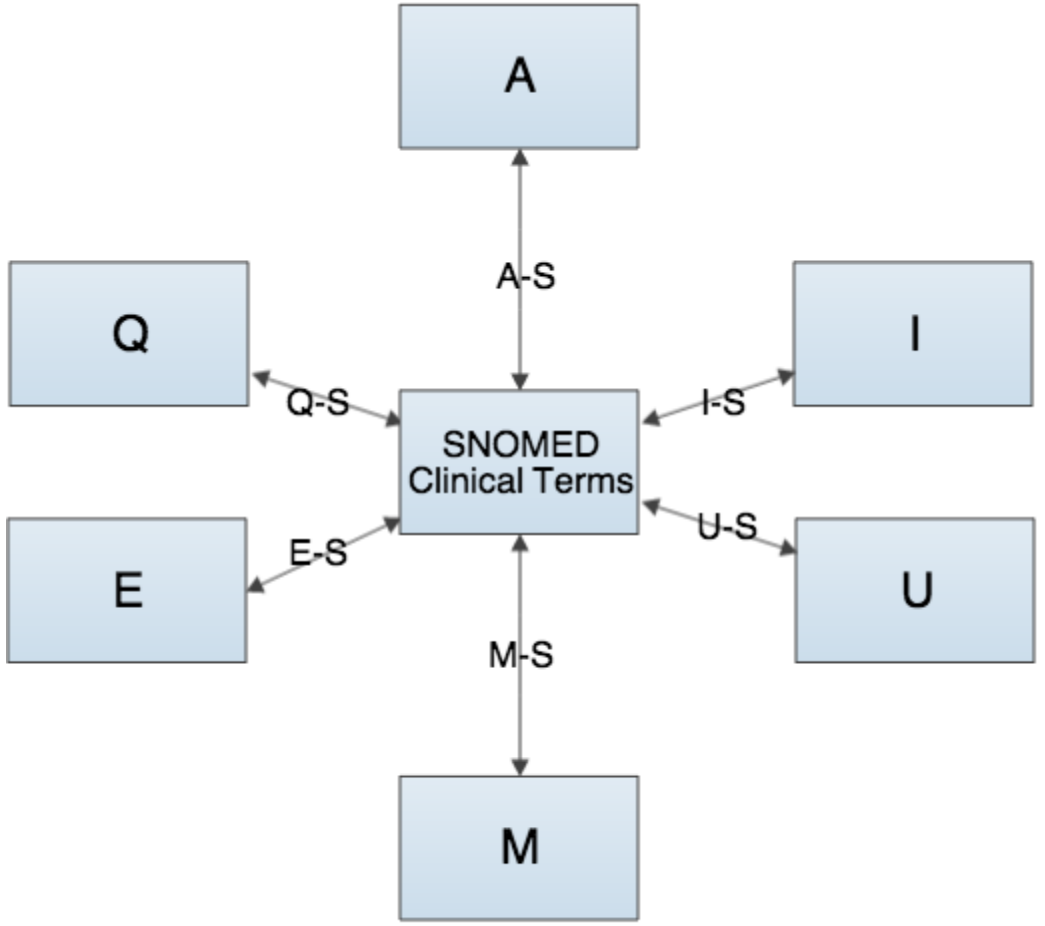
Interoperability need: MEDICAL DIAGNOSES						
Type	**Preferred Standard**	**Standard Adoption**	**Standard Cost**	**Standard Use**	**Requirement specification**	**Notes**
Obsolete Standard	ICD-9-CM	High	Free	Secondary	Optional	
Obsolecent Standard	ICD-10-CM	High	Free	Secondary	Mandatory	
Obsolescent Standard	ICDC-10	High	Free	Secondary	Mandatory	
Standard for observations	LOINC	No Known Status	Free	**Primary**	Optional	
Standard for observation values	SNOMED CT Belgian Edition	Low	Cost	**Primary**	Required	M/R/O needs to evolve to Mandatory after legal basis
Standard	ORPHA	High	Free	Secondary	Mandatory	
Emerging Standard	ICD-11	No Known Status	Free	Secondary	Optional	

Limitations, Dependencies, and Preconditions for Consideration:	**Vocabulary/Terminology Section: Applicable Value Set(s) and Starter Set(s)**
•Use of SNOMED CT Belgian Edition codes should generally be chosen from three axes: Clinical finding, Situation with explicit context, and Event. •Systems should be able to display data coded using the ICD-9-CM standard, as this legacy content still exists and may be used for analysis/decision support/quality measurement needs, where retroactive analysis is often required, but ICD-9-CM should not be collected for new entries. •Systems should be able to display data coded using the ICD-10-CM standard, as this legacy content still exists and may be used for analysis/decision support/quality measurement needs, where retroactive analysis is often required, but ICD-10-CM should not be collected for new entries from 2027 on. •Map from SNOMED CT to is to meet EU requirements to implement ORPHA codes in health systems for Rare Diseases epidemiology and research, including use in registries, enabling linkage from SNOMED CT enabled EHRs, and cross-border interoperability with ICD-based coding systems.	•Mapping from ICD-9-CM diagnosis codes to SNOMED CT Belgian Edition to facilitate code translation and integration with newly collected SNOMED CT Belgian Edition data. •Mapping from ICD-10-CM diagnosis codes to SNOMED CT Belgian Edition to facilitate code translation and integration with newly collected SNOMED CT Belgian Edition data. •A mapping from SNOMED CT International Edition to ICD-10-CM is available to support semi-automated generation of ICD-10-CM codes from clinical data encoded in SNOMED CT Belgian Edition for reimbursement and statistical purposes. •A mapping from SNOMED CT International Edition to ICD-11 is available to support automated generation of ICD-11 codes from clinical data encode in SNOMED CT Belgian Edition for reimbursement and statistical purposes •Problem List CORE set (Extensional): starter set •Problem List set (Intensional)

Mapping





Mapping

- LOINC part to SNOMED CT simple map
- SNOMED CT to GMDN simple map
- SNOMED CT to ICD-O simple map
- MedDRA to SNOMED CT simple map
- SNOMED CT to MedDRA simple map
- SNOMED CT to ICPC-2 complex map
- SNOMED CT to Orphanet simple map
- SNOMED CT to ICD-10 extended
- SNOMED CT to ICPC-3 complex map
- SNOMED CT to BelRai complex map
- SNOMED CT to DSM 5?
- SNOMED CT to ICHI
- SNOMED CT to ICF
- ICNP diagnoses to SNOMED CT simple map
- ICNP interventions to SNOMED CT simple map
- SNOMED CT to ICD-9-CM equivalence complex map
- SNOMED CT to ICNP 2019 equivalence table
- European Directorate for the Quality of Medicines (EDQM) & Healthcare pharmaceutical dose forms to SNOMED CT simple map with correlation
- SNOMED CT to ICD-11 MMS extended map

SNOMED CT en LOINC

- Door samen te werken beogen SNOMED International en Regenstrief :
  - De distributie van alle LOINC-inhoud naar LOINC- en SNOMED CT-gebruikers
  - Met aanduiding van SNOMED CT- en LOINC-codes voor alle concepten die gedeeld worden door beide terminologieën.
  - Een LOINC-extensie creëren die bestaat uit LOINC-inhoud, met gebruikmaking van het SNOMED CT-conceptmodel

SNOMED International
Delivering SNOMED CT

LOINC®
from Regenstrief

Reference Sets en Value Sets

- Integratie van SNOMED CT in Value Sets van de Care Sets voor gegevensuitwisseling
- Integratie van SNOMED CT in registers Healthdata.be
- Integratie van SNOMED CT in Clinical Building Blocks Healthdata.be
- Integratie van SNOMED CT met Nomenclatuur
- Problem List (Belgian Medical Subset for Medical Problems in Patient Health Records)
- RefSets per specialism
- RefSet Nursing
- Belgian SNOMED CT Drug Extension (SAM V2)
- ReTam (Belgian Subset voor Labo LOINC, UCUM, SNOMED CT)
- SNOMED CT gebaseerde thesaurus voor codering doodsoorzaken in ICD-11
- Language RefSets (Nederlands, Frans, Duits)
- Belgische Interface terminologie voor Huisartsen (GP RefSet)

Samengevat: toekomstig gebruik van semantische standaarden

Terminologies

- Gebruikt voor structurering en standaardisering van klinische documentatie in de back-end van het EPD
- Uitwisseling van data hoofdzakelijk gebaseerd op SNOMED CT/LOINC terminologieën
  - Tussen zorgteams
  - Tussen organisaties
  - Cross border
  - Met overheden (o.m. MZG)
- Zorgondersteuning: decision support, evidence based practice, early warnings,…

Classifications

- Afgeleid op basis van mappings vanuit SNOMED CT
- Gebruik voor secundaire doeleinden zoals rapportering, analyse, research,...

Groupers

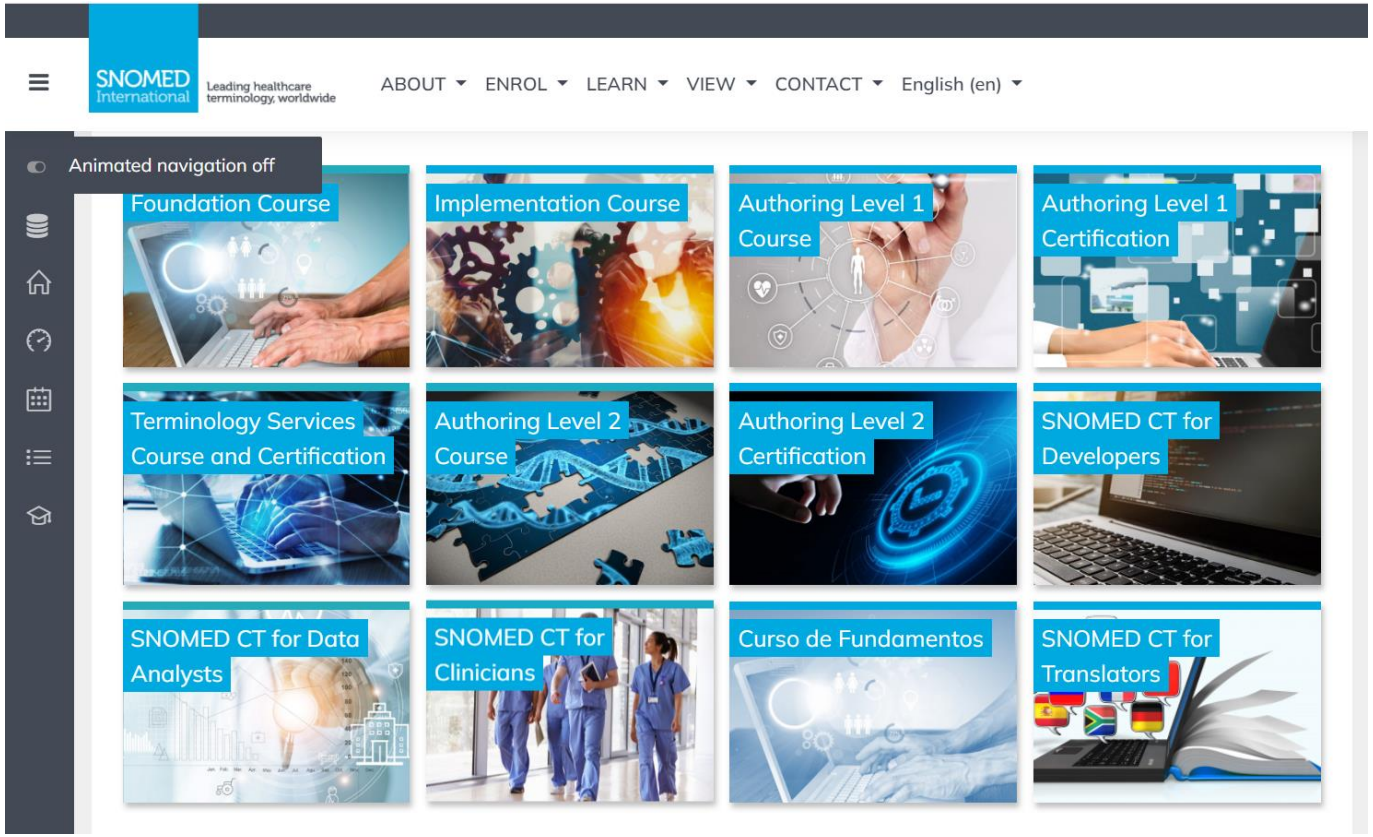
- Rechtstreeks afgeleid van SNOMED CT?

Registraties en SNOMED CT

- Registraties hoofdzakelijk gebaseerd op SNOMED CT & LOINC
  - Snellere beschikbaarheid
  - Beleid en financiering gebaseerd op recentere gegevens
  - Geen codering (geen aggregatie=geen verlies, geen interpretatie=geen wijziging)
  - Workshops MZG
- Gestructureerde en gestandaardiseerde documentatie van zorg is belangrijk
  - Maakt wezenlijk onderdeel uit van kwaliteit van zorg
  - Kwaliteit (relevant), geen kwantiteit
  - Kan redundante administratie elimineren door hergebruik (COUM-principe)
  - Kan ondersteund worden door Clinical Documentation Improvement
    - Bv. Ervaren codeurs
    - *Clinical documentation improvement (CDI) is the process of reviewing patient record documentation for completeness and accuracy. CDI includes a review of care process, diagnostic findings, procedures, and what the documentation might be missing.*

Registraties en SNOMED CT

- Exploitatie van de data
  - Capacity building van betrokkenen (clinici, MZG-artsen, codeurs, data-analisten)



In de pijplijn

- Implementatie roadmap voor ziekenhuizen
- Kick-off meetings Q2-Q3 2023
  - Kick-off eerste lijn (huisartsen) gestart
  - Developer Implementation Days begeleid door SNOMED International
    - Terminology services
    - Record services
    - Terminology Repository
- Nationaal terminologiecentrum, dat ook fungeert als National Release Center for SNOMED CT (Belgian NRC)

terminology@health.fgov.be
Belgian Health Terminology Portal (belgium.be)
Inscription newsletter terminologie

2027

Punt op de horizon