201944 Use of SNOMED CT in the Swedish National Medication List

Daniel Karlsson, National Board of Health and Welfare (Sweden)

Co-authors

1. Rikard Lövström

Summary

Sweden is introducing a national medication list for all citizens. This effort requires use of standard medications terminologies including terminology for drugs, routes and methods of administration and administration sites. Here we will present how SNOMED CT is used to fulfill those requirements.

Audience

Clinical, Policy/administration

Learning Objectives

1. Use of SNOMED CT in national strategic projects
2. How SNOMED CT can be used with other standard terminologies (here EDQM)

Abstract

Based on the Swedish National Pharmaceutical Strategy, Sweden is introducing a national medication list for all citizens as a single resource for prescription information. The national medication list will be available for care providers as well as patients starting summer 2020. Work is currently ongoing developing the specifications needed by the service. FHIR has been selected as the information model framework to be used.

A national medication list requires the use of standard terminologies to express prescriptions of drugs. A regulatory terminology from EDQM, mandated by the EU, is used to express the intended administration of drugs. This terminology consists of a list of routes, methods and intended sites of drug administration. Every medical product on sale in Sweden is supposed to have a route and method assigned to the product. This data is planned to be added to the database of pharmaceutical products during 2019. In addition to the regulatory demands, there is a need for documentation of drug prescriptions and how the drugs were administered in the clinic. The EDQM terminologies however were not sufficiently detailed and/or of sufficient coverage to meet this clinical need. Additional information on medical devices, specification of anatomical details and some few more routes and methods, as well as a need for grouping some routes, methods and anatomical sites in related groups was identified. There was also a need for continuous maintenance and adjustments of the terminological content. These demands could be fulfilled by using SNOMED CT as a complement to EDQM terms.

As a first step terminology requirements was identified by a group with pharmacy and clinical competencies. Requirements included recommendations on terms used in the UI of prescription management software. There will be services for both health care professionals and patients.

Concepts in EDQM terminologies as well as additional concepts not in SNOMED CT were, or is planned to be submitted for inclusion in the International release of SNOMED CT. This included 9 route of administration and 4 administration method concepts. A mapping from EDQM to SNOMED CT was developed.

While concepts required for use in the national medication list could be found in SNOMED CT with few exceptions some issues still exist in the implementation:

- Drug information in the national pharmaceutical database is for registered and intended use of the drug whereas the national medication list shall reflect prescribed use. Pre-population of intended use in the UI should though be supported.
- Administration routes, methods, devices, and sites do overlap semantically. For example, the route Nasal route indicates that the direct (local) or indirect (systemic) site is the nose. Further, not all methods or devices can reasonably be used for a nasal route of administration.
- Routes of administration in SNOMED CT do not have a concept model, and thus concepts cannot be modeled. A concept model for routes might be one way of addressing the semantic overlap above.
- Intended sites in SNOMED CT are not related to body structures. "Parenteral" and "Environmental" are examples of intended sites which cannot be easily related to the existing SNOMED CT hierarchies.

In the presentation we will show how SNOMED CT has been implemented in the national medication list specifications. Further we will discuss issues discovered and how we aim to address them.