3.2. SNOMED CT storage issues for electronic health records

Storing Concepts in electronic health records

Information in an electronic health record should accurately reflect the way it was recorded by its author. If the author of a statement in the clinical record chooses a particular form of representation the system should faithfully store the information in that form.

Following this principle, the recommended approach for representation of SNOMED CT in a electronic health records is as follows:

- If, during data entry, an author selects a single precorded Concept to represent a clinical statement, the Identifier of that Concept should be stored in the record:
  - This form of representation should remain as the original record of that statement. It should not be replaced by an apparently equivalent postcorded transformation of this Concept.
- If, during data entry, an author constructs a clinical statement by selecting a Concept and one ore more qualifier values, refinements or additional Concepts, the Identifier of all the relevant Concepts should be stored in the record in a manner that reflects the relationships between them:
  - This form of representation should remain as the original record of that statement. It should not be replaced by an apparently equivalent transformation of this Concept into a precorded or differently constructed postcorded form.

An application should prompt for author endorsement of any alternative form of representation that it proposes to store in the original electronic health record. In this case, if the author accepts the alternative form presented by the application, this form should be stored as the original record.

The forms in which a technical implementer may wish to store data for efficient retrieval may differ from the forms dictated by the principles appropriate to storage of original entries in a electronic health record. However, it is recommended that any retrieval-oriented representation should be derived from rather than replace the original form of the record.

Storing terms

A electronic health record should also store the term that were actually displayed to and selected by the author of the record. In some Realms the Description Identifier may be regarded as an adequate proxy for the full representation of the associated term. However, in other jurisdictions there may be a requirement to store the original text as entered or selected by the user.

Storing the Description Identifier has the added advantage if a Description is found to be wrongly associated with a particular Concept or if the associated Concept is found to have non-synonymous Descriptions. In these cases, the Description Identifier can be used to map the information to the appropriate disambiguated Concept.

Maintaining integrity following SNOMED CT releases

A SNOMED CT release may contain changes to that state of one or more Concepts or Descriptions referenced by a stored expression. The original recorded form of each stored expression should be retained as record of the information actually entered. However, it may also be useful to include updated representations that take account of changes to the referenced SNOMED CT content.

Release Format 2 files contain previous states of each component allowing comparisons to be performed. In addition, members of an appropriate 900 00000000522004 Historical association reference set allow data originally recorded with a Concept that has been marked as Inactive to be mapped to an appropriate Active Concepts.

If clinical records are updated using this history information, the changes should be appended to the original representation, rather than replacing it. This ensures that any changes arising from a subsequent release can apply the improved mapping to the original Concept this can be utilized to enhance data quality.

Note: In Release Format 1, SNOMED CT Component History, Reference and Relationship tables contain information that allows data originally recorded using Inactive Concepts to be appropriately mapped to Active Concepts.