SNOMED CT Search and Data Entry

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Audience

SNOMED CT search and data entry users (e.g. clinicians), educators, health information managers, reference set developers, implementation managers and IT vendor implementers.

Learning objectives

To review and demonstrate practical and effective SNOMED CT search and data entry techniques.
To improve the usability of search and data entry, and thereby the quality of SNOMED CT encoded data.

Outline

This tutorial complements new draft IHTSDO guidance on SNOMED CT search and data entry.

Speed and accuracy, though both are critical to user acceptance, must typically be traded off against one another. A wide range of search implementation design choices exist to be made, but systems based on different choices respond very differently to the same search expression. Systematic within-system coding biases may thus be created, with impact on both local data quality and between-system interoperability.

We present a comprehensive 'pipeline' for normalising and then searching over SNOMED CT descriptions. Detailed review and demonstration of this pipeline's components includes:

> Single and Dual-key indexes; Excluded words; Word, phrase and abbreviation equivalences;
> Realm Description and Non-human subsets; Code usage frequencies;
> Undesirable interactions between different pipeline elements;
> Limitations of 'standard' database text indexing; novel 'lexical-semantic' indexation techniques;
> Generalisability to descriptions in other languages.

The raw pipeline output requires further optimisation for maximally efficient and clinically acceptable data entry. We describe and demonstrate a range of techniques, including:

> Contextual-, metadata- and other RefSet-driven filtering; 'favourites' and velocity coding;
> Term ranking, collation, ordering, truncation and hierarchy display.

Different use cases may legitimately require different search pipeline configurations, but entirely different modalities of data entry may be better suited to some use cases. We provide an overview of some, including:

> Text parsing; structured and semi-structured forms; single concept matching; predictive data entry.

Prior reading

1. SNOMED CT Technical Implementation Guide Sections 7 & 8 http://www.ihtsdo.org/fileadmin/user_upload/doc/en_us/tig.html
2. Slides and Webex recording of webinar given to the Implementation SIG (March 2013)
   https://csfe.aceworkspace.net/sf/discussion/do/listPosts/projects.implementation_sig/discussion.general_committee_notifications.topc5748