Developing a Map from SNOMED CT Procedure Concepts to ICD-10-PCS

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Abstract

Abstract: An international collaborative effort is underway to create a Map from SNOMED CT to ICD-10-PCS. Apart from following the 'code once, use many times' principle, the creation and use of this Map can also bring other benefits, including faster and better coding. It will promote the use of SNOMED CT and help to improve the quality of both terminology systems. The Map can facilitate the generation of ICD-10-PCS codes in a number of IHTSDO Member countries.

Introduction

ICD-10-PCS is a procedure coding system created to replace volume 3 of ICD-9-CM. It provides greater specificity to support research, statistical analysis and administrative uses. [1,2] In the US, ICD-10-PCS replaced ICD-9-CM from October 2015 onwards. Belgium has already transitioned to ICD-10-PCS in January 2015, and similar transition is happening in Spain and Portugal.

The SNOMED CT to ICD-10-PCS Map Project Group was formed in January 2015. Through biweekly conference calls, the group established mapping methodology and principles, and discussed tooling requirements, scope of work and project planning.

Finding ICD-10-PCS targets

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All ICD-10-PCS codes are 7 characters long, each character represents an aspect of the procedure.

ICD-10-PCS index and tables

- **Excision**: Cutting out or off, without replacement, a portion of a body part
- **Resection**: Cutting out or off, without replacement, all of a body part

One-to-many maps very common because some aspects not specified in the SNOMED CT concept e.g., approach, laterality, device.

References


Map Benefits

- Improved ICD-10-PCS coding efficiency
- Better coding reproducibility
- Re-use of clinical data for epidemiologic and statistical purposes
- Promote use of SNOMED CT
- Improved quality of the two terminologies

Tooling development

The current tooling used by the IHTSDO Mapping Service Team already has many functions to support other mapping projects:
- Role-specific access and functionalities
- Batch creation
- SNOMED CT content look up
- Team communication
- Workflow management

New ICD-10-PCS-specific features (e.g., index, table, guideline searching, functions for building and validation of Regular Expressions) will be added by technical resources provided by Spain, with assistance from IHTSDO technical team.

Work in Progress

Continue to develop technical documentation of map. Work on a project plan to define scope and timeline of project.
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Audience
Developers and users of clinical information systems or research applications using SNOMED CT to encode clinical procedures. Clinicians and administrators using ICD-10-PCS for statistical reporting, reimbursement and other purposes.

Objectives
To explain the needs and benefits of creating a map between SNOMED CT and ICD-10-PCS. [1] To describe the methods that will be used in mapping, including mapping principles, map data representation, tooling requirements and workflow.

Abstract
ICD-10-PCS is a procedure coding system created to replace volume 3 of ICD-9-CM. It provides greater specificity to support research, statistical analysis and administrative uses. [2] In the US, ICD-10-PCS will officially replace ICD-9-CM from October 2015 onwards. Belgium has already transitioned to ICD-10-PCS from January 2015, and similar transition is happening in Spain and Portugal. A map from SNOMED CT to ICD-10-PCS will provide the following benefits:

1) Rapid and efficient identification of ICD-10-PCS classification codes for the reporting on medical procedures
2) Re-use of clinical data for additional statistical purposes
3) Rapid submission and response to national reporting requirements
4) Saving time and improving efficiency for the coding professional
5) Improved accuracy and reproducibility of code mapping from clinical encounters
6) Promulgation of widespread comparable epidemiologic and statistical data

A project group was formed earlier this year for the purpose of creating the map. Through examining commonly-used SNOMED CT procedure concepts, the group established principles and guidelines for the mapping process. We shall describe these principles and illustrate with examples. A SNOMED CT concept often maps to multiple potential ICD-10-PCS target codes, and the coding options will be represented as regular expressions in the map records. Since ICD-10-PCS is a multi-axial coding system, efficient coding requires special tooling to allow search in the individual component axes (e.g., body part, root operation, device) as well as the main index. We shall share our plan for future activity, and welcome feedback and suggestions from attendees.

References
1. US Centers for Medicare & Medicaid Services ICD-10-PCS web page