INTERNATIONAL HEALTH TERMINOLOGY
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SNOMED CT to ICPC-2 mapping Candidate Baseline release

Release Notes

Date 20141020
Version 2.0

Amendment History

Version	Date	Editor	Comments
1.0			Finalized document published with release
1.1	12092014	Ian Green	Updated document following user feedback, updated mapping guidance provided by the IHTSDO Map Lead
2.0	20141020	RTU	Updated for candidate baseline release

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1 Introduction

The SNOMED CT International General/Family Practice subset set (hereafter called the GP/FP subset) and the map from the GP/FP subset to the International Classification of Primary Care (ICPC-2) were developed between 2010 and 2013 by the GP/FP subset and ICPC mapping project group. This project ended on December 31, 2013 after field-testing of the products was completed.

2 Background

In December 2009 a harmonization agreement was finalized between the IHTSDO and WONCA to promote co-operation and collaboration between the two organizations.

This agreement led to the formation of the International Family Physician/General Practitioner Special Interest Group (IFP/GP SIG) under the auspices of the IHTSDO. The IFP/GP SIG was established to suggest content for the Systematized Nomenclature of Medicine – Clinical Terms (SNOMED CT®) related to general/family practice and to provide quality assurance for SNOMED CT content from the general/family practice perspective. The IHTSDO's existing Primary Care Special Interest Group was converted to the IFP/GP SIG after the agreement was signed.

The agreement contained a commitment to develop a mapping program, classifying relevant content in SNOMED CT to the International Classification of Primary Care, Version 2 (ICPC-2). Under the terms of the agreement, each task or project in the mapping program was to be managed by a mapping project group, comprised of members from the IFP/GP SIG, the WONCA International Classification Committee (WICC) and the IHTSDO's Mapping Special Interest Group. This project group was established in early 2010 and called the 'International GP/FP subset and ICPC mapping project group'

3 Release content

3.1 Overview

As part of the project described above, a decision was made to focus on two semantic data types commonly used in general/family practice electronic health records:

- Reasons For Encounter (RFEs)
- Health Issues.

A reason for encounter was defined as:

"An agreed statement of the reason(s) why a person enters the health care system, representing the demand for care by that person. The terms written down and later classified by the provider clarify the reason for encounter and consequently the patient's demand for care without interpreting it in the form of a diagnosis. The reason for encounter should be recognised by the patient as an acceptable description of the demand for care" (WONCA Dictionary of General/Family Practice, 2003).

A health issue was defined as an:
"issue related to the health of a subject of care, as identified or stated by a specific health care party". This is further defined in the notes as "according to this definition, a health issue can correspond to a health problem, a disease, an illness" (Health informatics – System of concepts to support continuity of care – Part 1: basic concepts (CEN/ISO FDIS 13940-1)).

Separate Subsets were created for each of these priority areas. After development, the content of the overall GP/FP Subset was classified (or mapped) to ICPC-2.

3.2 Status of content

The SNOMED CT to ICPC-2 map is a Candidate Baseline, which IHTSDO expects to confirm as the Baseline Release following the January 2015 release of the SNOMED CT International Edition. However, if a significant issue is reported in its format or content, IHTSDO reserves the right to re-release a corrected candidate baseline to resolve the issue. IHTSDO does not commit to this being an actual Baseline release until shortly before the due date for the next release of that module (or of the SNOMED CT International Release if the module will be included in that release) maintaining the FULL release history trail.

4 Implementation of the map from the GP/FP subset to ICPC-2

4.1 Purpose of the map

The utility of creating maps from terminologies to classifications is well recognized. ICPC-2 is the most widely used classification in the general/family practice setting and is a related member of the World Health Organization Family of International Classifications (WHO-FIC). ICPC-2 is both a clinical tool and an analytic tool. It groups clinical concepts together to support epidemiological studies of general/family practice. However, it does not record clinical concepts at a high level of specificity for dealing with individual patients. The map from the SNOMED CT GP/FP subset to ICPC-2 utilizes the capabilities of both SNOMED CT and ICPC-2 by allowing granular concepts to be recorded by GPs/ FPs at the point of care using SNOMED CT, with subsequent analysis and reporting using the internationally recognized ICPC-2 classification.

4.2 Use cases for the map from the GP/FP subset to ICPC-2 map

4.2.1 Patient recall

A SNOMED CT member country introduces an incentive program whereby additional reimbursements are made to GPs/FPs who see patients with Type 2 diabetes for a minimum number of encounters and the patient meets pre-defined targets for their HbA1C level. A GP/FP in this country sets up a patient recall query in their EHR to identify patients with Type 2 diabetes who would be eligible for inclusion in this program. The GP/FP already uses the SNOMED CT GP/FP subset to enter all health issues on the problem list for each patient, so is able to utilize the in-built map to ICPC-2 to identify all patients with Type 2 diabetes or synonyms of this concept (using the ICPC-2 code T90 Diabetes, non-insulin dependent). The GP/FP extracts the data from the query, and sends patient recall letters to patients as appropriate.

4.2.2 Data entry

During an encounter in his/her general/family practice, a GP/FP sees a patient who has presented with a newly identified health issue. Using his/her EHR, the GP/FP searches for and selects the ICPC-2 code that represents the health issue presented by the patient. The ICPC-2 code for this health issue is not specific enough to adequately describe the health issue for clinical purposes. The GP/FP therefore clicks on a link to the GP/FP subset and is presented with a list of the SNOMED CT concepts from the GP/FP subset that are mapped to this ICPC-2 code. The GP/FP identifies the SNOMED CT concept he/she wishes to use to further describe the health issue, and enters this into the medical record.

4.2.3 Management of legacy data

A GP/FP has recently started using the GP/FP subset in conjunction with the map to ICPC-2, having previously used ICPC-2 alone for eight years. The GP/FP profiles his/her practice every year to identify changes in patient presentations and the health issues managed at the practice. The GP/FP utilizes the map from the subset to ICPC-2 to ensure that this exercise can continue, so that legacy data collected in ICPC-2 and new data entered using SNOMED CT can both be extracted and analyzed using ICPC-2 for practice profiling over time.

4.2.4 Research

A GP/FP is using the international SNOMED CT GP/FP subset to enter all reasons for encounter and health issues into his/her EHR. The GP/FP agrees to take part in a research study that requests data about patient health issues to be extracted from the GP/FP's EHR. The GP/FP exports the requested data, including the SNOMED CT concepts entered using the GP/FP subset and forwards the data to the organization conducting the research study. The researchers are able to extract the SNOMED CT codes in the data and utilize the map to ICPC-2 to aggregate data from multiple GPs/FPs. This facilitates their analyses of the data, and they subsequently report results using ICPC-2, allowing comparison with other similar studies conducted in the GP/FP setting.

4.3 Design of the map

The map from the GP/FP subset to ICPC-2 is produced as a complex map reference set, where each SNOMED CT concept in the GP/FP subset is linked to one or more ICPC-2 codes as appropriate. Map code correlation was not used in the ICPC map. Detail about complex map reference sets can be found in Section 5.6.2.7 of the *SNOMED CT Technical Implementation Guide*.

4.3.1 Map source

The source for this map is the GP/FP subset, as defined in the following documents:

- *General/family practice RefSet and ICPC mapping project: Scoping document (Version 1.0)*
- *General/family practice RefSet and ICPC mapping project: Requirements document (Version 1.0)*
- *General/family practice RefSet and ICPC mapping project: Methods document (Version 1.0)*
- *General/family practice RefSet and ICPC mapping project: Phase 2 project report (Version 1.0)*

4.3.2 Map target

All ICPC-2 codes are in scope for the map. However, due to the content of the GP/FP subset, which focuses on reasons for encounter and health issues, the target areas covered by the map are primarily ICPC-2 codes in Component 1 (Symptoms and complaints) and Component 7 (Diagnoses and diseases).

4.3.3 Direction of the map

The map is from SNOMED CT concepts to ICPC-2 classification codes.

4.3.4 Map cardinality

The cardinality of the map from the GP/FP subset to ICPC-2 varies. The possible options are:

- Cardinality of **one-to one**: indicates that the source concept in the GP/FP subset maps to one code in ICPC-2.
- Cardinality of **one-to-many**: indicates that the source concept in the GP/FP subset has been mapped to multiple codes in ICPC-2.

Some rubric codes in ICPC-2 contain contextual information about patient sex or age within the code's label. In the case of patient sex, this differentiation is inherent within the structure of ICPC-2 because the chapters within the classification are based on body systems, and there are different chapters for the male genital and female genital systems.

Where a single SNOMED CT concept must be classified to different ICPC-2 codes based on patient sex or age, a context-dependent rule based map has been created, allowing the user to select the correct ICPC-2 classification code in each individual circumstance.

4.3.4.1 Explanation of the one-to-many cardinality

Some rubric codes in ICPC-2 contain contextual information about patient sex or age within the code's label. In the case of patient sex, this differentiation is inherent within the structure of ICPC-2 because the chapters within the classification are based on body systems, and there are different chapters for the male genital and female genital systems.

Where a single SNOMED CT concept must be classified to different ICPC-2 codes based on patient sex or age, a context-dependent rule based map has been created, allowing the user to select the correct ICPC-2 classification code in each individual circumstance.

4.4 Benefits of using the map

- The map from the GP/FP subset to ICPC-2 will allow GPs/FPs to record and retrieve clinical data using two interdependent international standards.
- ICPC-2 is a related classification in the WHO Family of International Classifications (WHO-FIC)
- The map allows users to enter data in EHRs using the granularity of SNOMED CT, and extract data from EHRs using the international standard of ICPC-2
- For those who already use ICPC-2, the map will provide an opportunity to obtain additional specificity in the form of SNOMED CT concepts

4.5 Implementation of the map from the GP/FP subset to ICPC-2

Implementers of the map must be aware that this is not a full map from SNOMED CT to ICPC-2. The IFP/GP SIG will be responsible for adding to the source SNOMED CT concepts included in this map in the future.

5 Implementation overview

Primarily, the SNOMED CT GP/FP subset and the map from the GP/FP subset to ICPC-2, are designed to be implemented in general/family practice electronic health records. Two clinical implementation scenarios will be discussed in this report:

1. EHRs implementing the GP/FP subset alone
2. EHRs implementing both the GP/FP subset, and the map from the GP/FP Subset to ICPC-2.

There are a variety of ways in which the GP/FP subset and map to ICPC-2 can be implemented, and it would be impossible to outline each possible scenario in this report. Vendors are encouraged to contact members of the IFP/GP SIG to discuss specific implementation scenarios.

5.1 Deciding to implement the subset and map to ICPC-2

The benefits of implementing SNOMED CT are discussed in Section 3.1 of the *SNOMED CT Technical Implementation Guide*.
There may be many reasons why a decision is made to implement the GP/FP Subset and/or the map to ICPC-2, including:

- a national directive to use SNOMED CT in general/family practice
- desire for standardization with other levels of the health care system, creating potential for greater interoperability
- transition from legacy systems/local terminologies to a standard reference terminology.

The type and scale of implementation of the GP/FP Subset and map to ICPC-2 will be dependent on a number of factors, some of which are outlined in Sections 4 and 5 of this report.

5.2 General information about the GP/FP subsets and ICPC-2 map

Subsets act as the extensibility mechanism in SNOMED CT, allowing developers and users to customize SNOMED CT content to meet specific use cases.

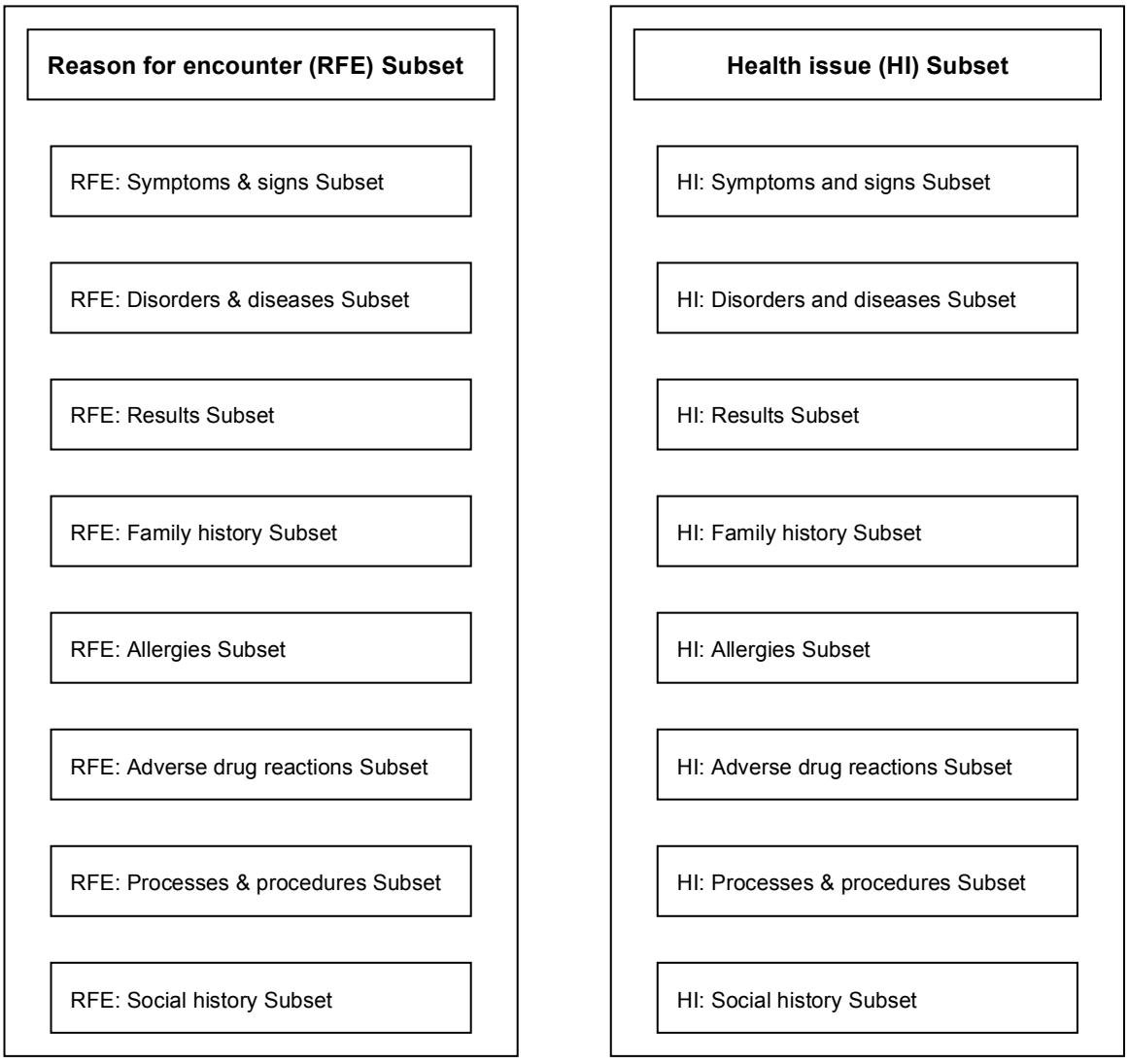
The International General/Family Practice subset (the GP/FP subset), has been developed by the IHTSDO's General/Family Practice and ICPC-2 mapping project group. It is designed for use in general/family practice clinical settings within electronic health records (EHRs), and is intended for use as the 'core' subset for two commonly used data fields — reasons for encounter and health issues.

5.3 Obtaining the GP/FP subset and ICPC-2 map

Initially, the GP/FP subset and map to ICPC-2 will be released as a 'technology preview' in April 2014. Subsequently, it is planned that the RF2 files for the GP/FP Subset and map to

ICPC-2 will be provided with the SNOMED CT core international release every six months, starting in July 2014.

Figure 1: the GP/FP Subset release file



Content coverage for the GP/FP subsets and ICPC-2 map

6 Summary of development activity

6.1 Implementation overview

Primarily, the SNOMED CT GP/FP subset and the map from the GP/FP Subset to ICPC-2 are designed for implementation in general/family practice electronic health records. Two clinical implementation scenarios will be discussed in this report:

3. EHRs implementing the GP/FP subset alone
4. EHRs implementing both the GP/FP subset, and the map from the GP/FP Subset to ICPC-2.

There are a variety of ways in which the GP/FP subset and map to ICPC-2 can be implemented, and it would be impossible to outline each possible scenario in this report. Vendors are encouraged to contact members of the IFP/GP SIG to discuss specific implementation scenarios.

6.1.1 Licenses for the map from the GP/FP Subset to ICPC-2

Only those who have licenses for both SNOMED CT and ICPC-2 can access the map from the GP/FP Subset to ICPC-2.

ICPC-2 licenses are obtained from the World Organization of Family Doctors (WONCA). Contact the WONCA CEO (ceo@wonca.net) for more information. In Australia, ICPC-2 licenses are obtained from the Family Medicine Research Centre, University of Sydney. Contact fmrc@fmrc.org.au for more information.

6.2 Effective date

This release is aligned to the July 2014 SNOMED CT International Edition, and is therefore effective retroactively to that release. This release supersedes prior releases of these files, and preserves no history and assumes no continuity with prior releases.

Feedback using feedback form at https://csfe.aceworkspace.net/sf/go/doc7200?nav=1 should be sent by 1st May 2014. See Contact details below.