

Seminar

Codificación y clasificación de diagnósticos en atención primaria y P4
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**SNOMED GP/FP RefSet and
ICPC mapping project
2010 -2015**



The International Family Physician/General Practitioner Special Interest Group (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.

members from
the Wonca International Classification Committee (WICC) Chair N.Booth
the IHTSDO's Mapping Special Interest Group

Redundancy

Redundncy

Redndncy

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Human to human to machine to machine to human

Loosing redundancy

Gaining precision

Loosing redundancy

	<u>ICPC</u>	<u>ICD</u>	<u>SNOMED-CT</u>
Signifier	B25	i64	397825006
Signified	Fear of AIDS	Stroke	Gastric ulcer

Figure 13 Loose of redundancy in signifier / signified relationship

The aims of this project were to create two interdependent products:

- ❖ an international general/family practice reference set (RefSet) of SNOMED CT (called the GP/FP RefSet), containing SNOMED CT concepts frequently used by GPs/FPs.
- ❖ a map from the GP/FP RefSet to ICPC-2.

The project was divided into three phases:

- Development of the project framework (including scope, requirements, methodology and tooling)
- Construction of the GP/FP RefSet, and construction of the map from the GP/FP RefSet to ICPC-2
- Field testing of the GP/FP RefSet, and the map from the GP/FP RefSet to ICPC-2.

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,” (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”.

• • • (Health informatics – System of concepts to support continuity of care – Part 1: basic concepts (CEN/ISO FDIS 13940-1)).

Interestingly, after several years of work and establishment of two separate lists, the relevance of this distinction has appeared useless from terminological point of view.

Indeed, Health Issue and Reason or encounter are conceptually relevant from health information architecture

The final product will contain only one list

❑ Licenses for the GP/FP RefSet

The use of SNOMED CT is free within IHTSDO member countries.

❑ Licenses for the map from the GP/FP RefSet to ICPC-2

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

The semantic data types included in each of the RefSets includes:

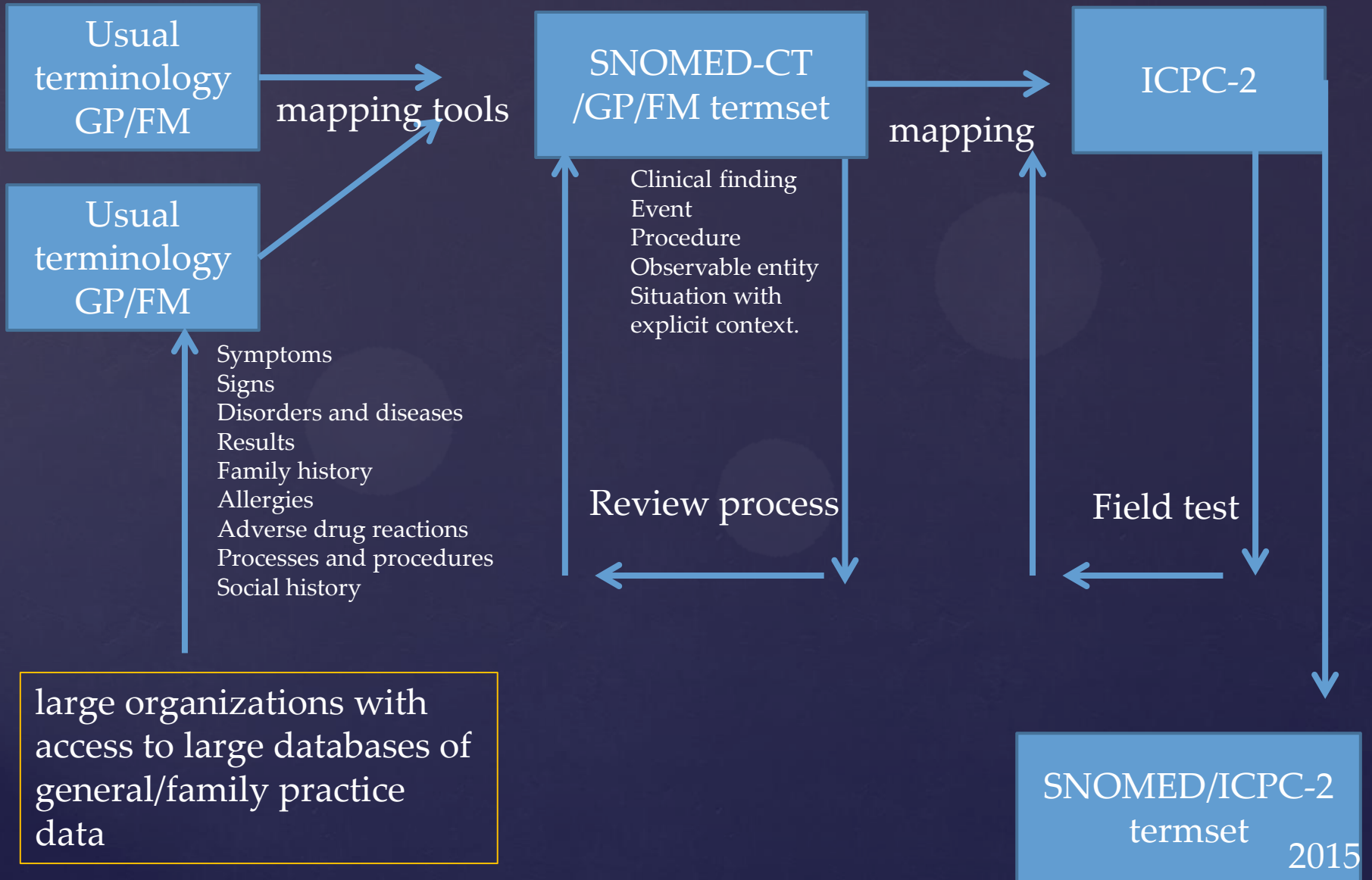
- Adverse drug reactions
- Allergies
- Disorders and diseases
- Family history
- Results
- Processes and procedures
- Social history
- Symptoms and signs.

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

- Patient recall
- Data entry
- Management of legacy data
- Research

Method

Bottom-Up approach



2.3.1 Details of source termsets currently obtained

<u>Termset name</u>	<u>Country</u>	<u>Number of terms with frequency >1</u>	<u>Number of instances of use</u>	<u>Terminology/ coding system used</u>
Hospital Italiano Buenos Aires (HIBA) Family Medicine Problem List	Argentina	5,188	371,529	SNOMED CT
ICPC-2 PLUS – reason for encounter dataset	Australia	#	#	ICPC-2 PLUS codes
ICPC-2 PLUS – problem managed dataset	Australia	#	#	ICPC-2 PLUS codes
Problem list – Ray Simkus	Canada	1,362	7,758	SNOMED CT
RNZCGP Research Unit and Southlink datasets	New Zealand	1,551	3,314,219	Read Version 2
National Medical Primary Care (NatMedCa) study – problem dataset	New Zealand	2,450	15,448	Read Version 2
National Medical Primary Care (NatMedCa) study – reason for encounter dataset	New Zealand	1,860	13,168	Read Version 2
THIN database of UK primary care data	United Kingdom	65,534	269,867,903	Read Version 2
ICD-10-PC	Sweden	#	#	ICD-10-PC and SNOMED CT
National Ambulatory Medical Care Survey	US	#	#	Reason for visit classification and ICD-9-CM
Wellington Read codes	New Zealand	8,262	252,167	Read Version 2
Transition Project	Netherlands	#	#	ICPC-2 and ICD-10

maintenance

The International Family/General Practice Special Interest Group (IFP/GP SIG) is the body that will oversee the maintenance of the GP/FP RefSet and map to ICPC-2. Any decisions made about maintenance must be agreed by the SIG prior to their implementation.

Why implement the GP/FP RefSet?

More 'user friendly' for end users

- Shorter picklists

- Quicker searches for input concept "90% of the time"

- Less "noise" from granular or obscure concepts

- Full SNOMED CT available if other concepts needed

Will be available as part of SNOMED CT international release file (so no additional cost)

Utilises power of SNOMED CT as a global healthcare terminology

Best of both worlds

Courtesy J Gordon

Clinical implementation

Scenario 1: Direct entry of RefSet concepts

- ⌘ The GP/FP RefSet is installed into the EHR and shown at the user interface
- ⌘ GPs/FPs select SNOMED CT concepts directly from the RefSet



Health issue:

MIGRAINE



Aural headache (38823002)

Menstrual migraine (23186000)

Migraine (37796009)

Migraine with aura (4473006)

Migraine without aura (56097005)

etc

Clinical implementation:

Scenario 2: Using an interface terminology

- ⌘ Native vocabulary in the host system, constrained or extended as necessary
- ⌘ Map to SNOMED CT at the back-end as a reference terminology
 - ⌘ Is there a role for GP refset in prioritising which concepts are most quickly searched at input time?
 - ⌘ In some instances no need for a restricted subset as transition to SNOMED CT is transparent to the user

Clinical implementation:

Scenario 3: ICPC-2 to SNOMED CT

PROCESS

GP selects an ICPC-2 code



Associated picklist of all RefSet concepts linked to N89 to obtain additional specificity

EXAMPLE

N89 'Migraine'



37796009 | Migraine
4473006 | Migraine with aura
23186000 | Menstrual migraine
38823002 | Aural headache
56097005 | Migraine without aura
etc

Courtesy J Gordon

11-03-2019

Statistical implementation

& Note: requires both the GP/FP RefSet and map to ICPC-2 to be implemented

Use of RefSet in a clinical setting



Link to ICPC-2 (via map)

"I want to know how many patients I've treated for migraines"

Select
N89 'Migraine'



37796009 | Migraine
4473006 | Migraine with aura
23186000 | Menstrual migraine
38823002 | Aural headache
56097005 | Migraine without aura
etc

Strangely discrepancies between SNOMED-CT and ICPC have never been addressed by the group

Differences are in several domain

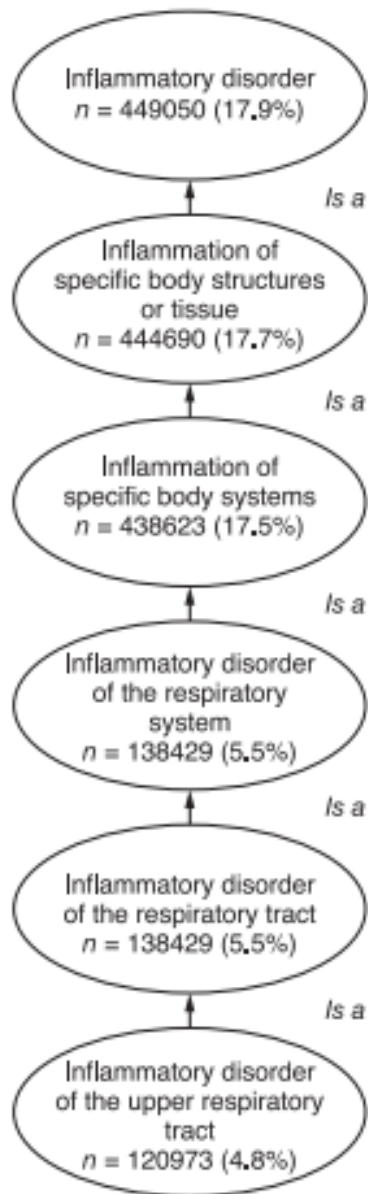
- Content : ICPC is a classification for human mind , SNOMED-CT is a terminology for machines to humans and machines to machines
- Philosophical ; SNOMED deals with disease, ICPC is patient based
- Historical ; SNOMED is a pathologist approach, ICPC a Family doctor one
- Ontological ; SNOMED has relations between items, ICPC-2 refers to definitions
- Language : ICPC-2 is available in 20 languages and works also without computer
- Economic : ICPC is free of use for research, SNOMED-CT is a proprietary product

Discussion

There is no cursive definition of concepts available. SNOMED-CT considers relationships as the unique way to define a concept

SNOMED-CT Term	# occurrences	Definition (by relations)
Borderline	188	is_a reference range interpretation value
Normal	1814	is_a normality findings
Abnormal	788	is_a modifier related to clinical specialty AND/or occupator
Pathological	92	is_a normality findings

Figure 3 Occurrences of usual terms in Clinical Clue Browser. (Cliniclue browser extract SNOMED CT International Edition (2010-01-31) <http://www.cliniclue.com>)



Ex of definition by relations (source Vickstrom 2010)

Unsure SNOMED-CT is able to cover all the working fields of GP/FM

	To do	To be
individual	Bio math medicine	Mental health
community	Epidemiology	Anthropology

Figure 1 Four fields of General Practice / Family medicine
Adapted from M. Van Dormael²

Semantics discrepancies between ICPC /SNOMED /UMLS (what are we speaking about)

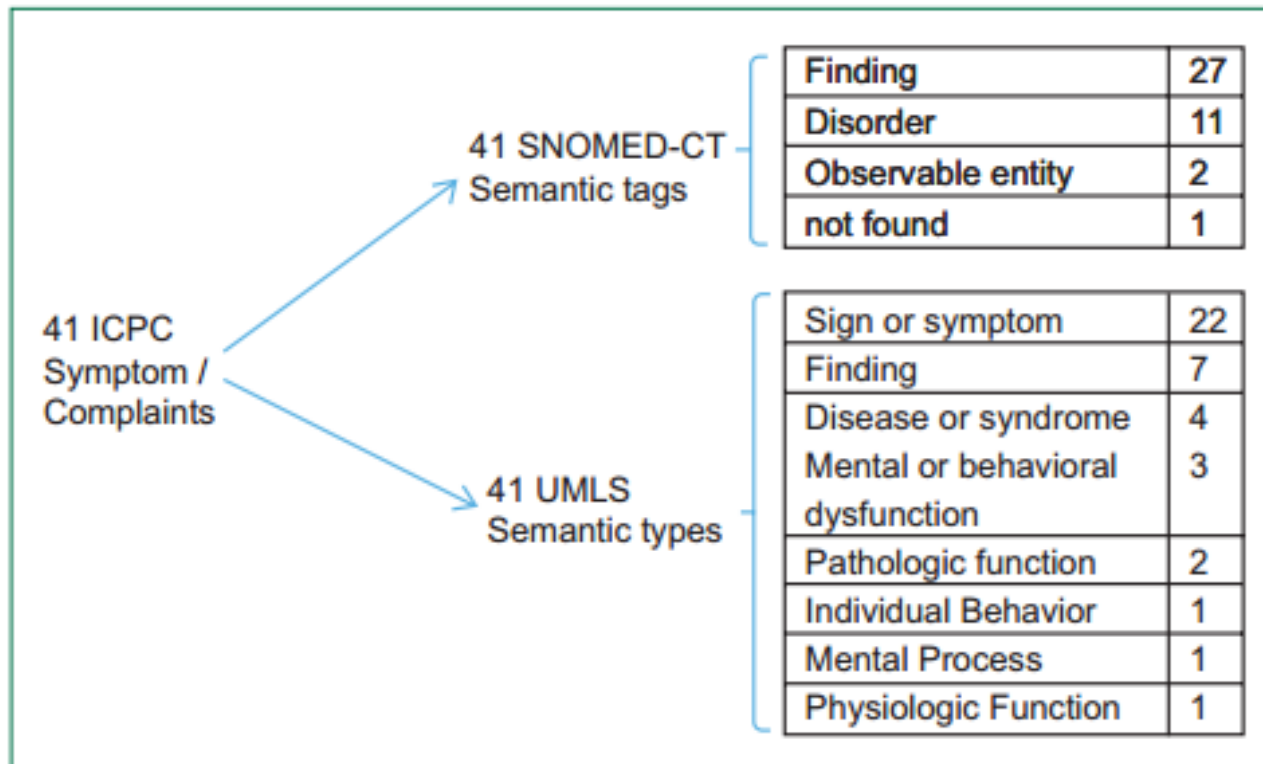


Figure 1 Semantic values mapping distribution in 41 items classed as Symptoms in ICPC-2 on 160 analysed

studies focusing on the clinical use of SNOMED CT in GP/FM.

In Swedish Primary Care (but Sweden is not using ICPC)

- Vikström A, et al. Coding of procedures documented by general practitioners in Swedish primary care-an explorative study using two procedure coding systems. *BMC Family Practice*. 2012;13:2. doi:10.1186/1471-2296-13-2.
- Vikström A, et al. Views of diagnosis distribution in primary care in 2.5 million encounters in Stockholm: A comparison between ICD-10 and SNOMED CT. *Inform Prim Care*. 2010;18:17–29.

Sampalli T, Shepherd M, Duffy J, Fox R. An evaluation of SNOMED CT in the domain of complex chronic conditions. *Int J Integr Care*. 2010;10(March):e038.

Navas H, Lopez Osornio A, Gambarte L, Elías Leguizamón G, Wasserman S, Orrego N, et al. Implementing rules to improve the quality of concept post-coordination with SNOMED CT. *Stud Health Technol Inform [Internet]*. 2010 Jan [cited 2015 Mar 10];160(Pt 2):1045–9. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/20841843>

Further readings

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GP/FP RefSet and ICPC mapping project. Recommendations for maintenance
Date 20131105

General/family practice RefSet and ICPC mapping project. Methods document Date 20110621

Jamouille M. Some views about SNOMED-CT by a General Practitioner [Internet]. ICMCC Science Pages. 2011. Available from:
http://docpatient.net/onto/doc/SNOMED_CT_study_MJ_2010.pdf

Jamouille M, Vander Stichele RH, Cardillo E, Roumier J, Warnier M. Mapping French terms in a Belgian guideline on heart failure to international classifications and nomenclatures: the devil is in the detail. Inform Prim Care 2014;21(4):189–198.
<http://www.ncbi.nlm.nih.gov/pubmed/25479349>

Van Dormael M. Identités professionnelles en médecine générale et en soins de santé primaires.[Professional identity in GP/FM and in Primary Care] Chap VI in Hours B (ed): Systèmes et politiques de santé. De la santé publique à l'anthropologie . Karthala: Médecines du Monde; 2001