ICPC-3 Blueprint

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In this document we describe the process we will follow in creating the first draft version of ICPC-3. As we see it now, ICPC-3 will be significantly different from ICPC-2. One major difference will be its coding structure, which will move from 3-digits (alpha-numeric-numeric, or A2N) to 4-digits (at this time we believe it will be alpha-alpha-numeric-numeric, or 2A2N). Another major difference will be that it will be a suite of linked tools, with a foundation or "base" ICPC linked to additional classifications or terminologies that provide data not available in the base ICPC.

Why are we making a suite of classification tools rather than just expanding ICPC itself? Because it will be a more flexible way to collect, code, and use the basic information that we need in general/family practice. It has been very difficult to extend ICPC in its current structure, as we have seen in our discussions about revising the process codes in ICPC or in identifying a suitable "risk factor" classification. If we rigorously adhere to the episode-of-care format, accommodating risk factors requires an arbitrary assignment of a particular risk factor to a preventive care episode, or links to multiple episodes, or creation of "pre-disease" states, or creation of a new class of rubric or new and separate ICPC chapter. Within WICC we have discussed almost all of these alternatives, and have not come to consensus about the best way to do this. I believe this is so because each user group conceptually understands the connection in a different way and /or has worked out a solution based on the particular constraints of EHR software used in their own settings. Under these circumstances, it seems highly unlikely that we can identify a single best option to develop and promote worldwide within the constraints of the ICPC-2 model.

In the past two years we have taken a step back to consider what data elements are needed to capture the essence of general/family practice, and how those data elements need to relate to one another. Parallel work has been done by the WICC Structure/Terminology working group, the European health care data standards initiative (CEN TC 251), and an expert group chartered by the Robert Graham Center in the United States. Each of these groups has involved significant WICC participation. The result of all this work can be simply expressed in the "primary care data model" shown in **Figure 1**.

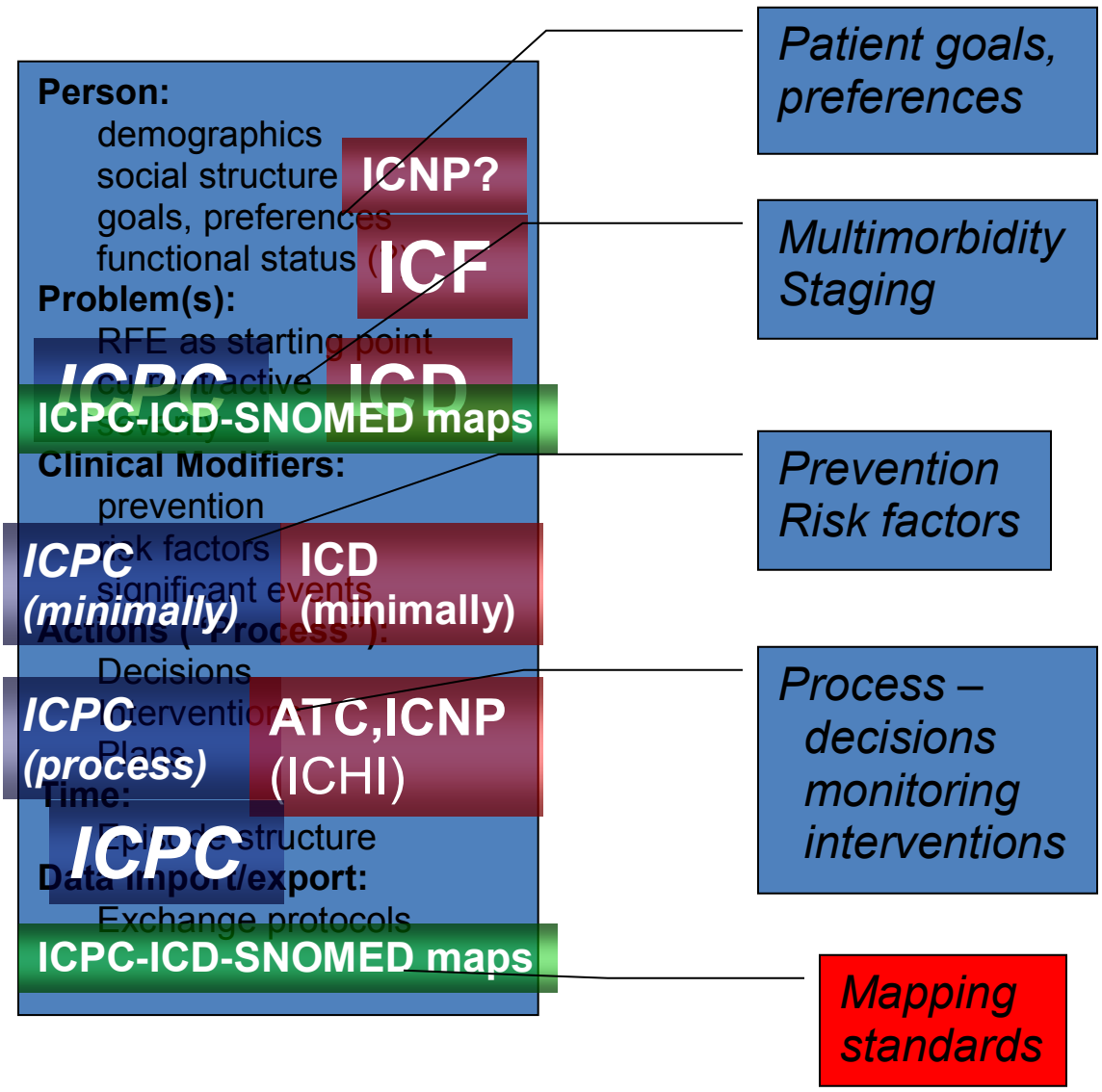
Figure 1: Basic elements in the Primary Care Data Model.

Person: demographics
social structure
goals, preferences
Problem(s):
current/active
severity
Clinical Modifiers:
prevention
risk factors
Significant events
Actions ("Process"):
Decisions
Interventions
Plans
Time: Episode structure

It can be seen that these elements are heterogeneous. Some fit perfectly within the conceptual framework of ICPC-2, that is, episodes of care built upon a series of direct encounters between GP and an individual patient. Current/active problems , decisions, interventions, plans, and to a lesser degree prevention, fit. Of course, the incorporation of time in the form of the episode structure is a major strength of ICPC. Other elements are more difficult to relate to an episode or problem-oriented framework: these include person-based elements such as social structure and goals and preferences (which do not relate only to a single problem), and the elements listed under clinical modifiers, particularly risk factors which remain ill-defined. We have not developed a satisfactory uniform way to handle prior medical events such as a cerebrovascular accident , myocardial infarction, or diabetic complications within ICPC, as they are exceptions or events nested within another problem.

Figure 2 shows where ICPC-2 covers this content, and where there are gaps. As stated above, the gaps have proven very difficult to close. In addition, new medical knowledge and the expansion of ICPC into new geographic regions means that new diagnostic content needs to be included in any ICPC revision. This puts space at a premium within the current ICPC biaxial structure.

Figure 2: ICPC and other classifications/terminologies: current coverage and gaps (on RIGHT)


Person:
demographics
social structure
goals, preferences
functional status
Problem(s):
RFE as starting point
Clinical Modifiers:
prevention
risk factors
significant events
Actions ("Process"):
Decisions
Interventions
Plans
Time:
Episode structure
Data import/export:
Exchange protocols
ICNP?
ICF
ICPC
ICD
ICPC-ICD-SNOMED maps
ICPC (minimally)
ICD (minimally)
ICPC (process)
ATC,ICNP (ICHI)
ICPC
ICPC-ICD-SNOMED maps
Patient goals, preferences
Multimorbidity Staging
Prevention Risk factors
Process – decisions monitoring interventions
Mapping standards

We have seen major changes in primary care practice in many Western, developed regions since ICPC was originally created, and ICPC has now been introduced into non-Western and non-developed regions where the visit-based episode of care model is not routinely followed.

With this combination - a rapidly expanding set of use cases and the need for new content that falls outside the current boundaries of ICPC - it makes most sense to move to a modular set of classification tools, rather than to load more complexity, rules, and content onto the simple and elegant biaxial structure of ICPC. In moving to a modular set of classification tools, users will be able to adopt those tools that best fit their needs, beginning with the base ICPC.

The proposed set of Family Practice classification tools will include in the central role ICPC-3, linked to a revised and simplified functional status classification, a Non-Episode Related Information classification, a classification of patient preferences and goals, and a revised process/intervention classification.

1. ICPC-3 - the backbone of the tool set.

ICPC remains the best tool available for classifying the problems addressed by GPs, and for providing a structural framework to make primary care data useful for both understanding and improving care. We (WICC) decided in 2007 that a major revision was necessary. Subsequent discussions have focused on specific changes to work through:

- Correcting errors in individual rubrics and in mappings to ICD-10
- Merging of Chapters X and Y
- Significant revision to Chapters P and Z
- Adding rubrics to Component 7 – new and important diagnoses
- Reducing, restructuring, or eliminating Components 2-6 (“process” components)
- Improving the prevention and “risk factor” content

Some of these changes could be made without a major revision, and WICC has re-chartered the ICPC-2 Update Group to make those changes (correcting errors, mappings). To accomplish the full list, WICC members have decided that structural change in the form of a 4-digit code structure is necessary.

The “basic” ICPC-3 will retain its biaxial chapter-and-component structure but feature 4-digit codes. The first alpha term will confirm the chapter, the second will contain added information in the form of subcategories of interest to health authorities. The initial list of second alpha terms will include:

S = Symptoms/complaints
G = infections (Germs)
N = Neoplasms – with discussion about whether to further divide into Malignant/Benign/Uncertain
T = Trauma/injury
A = congenital Anomalies
D = other Diseases

The alpha draft will include a new Chapter G ("genital") to replace Chapters X and Y. At this point, we expect that process codes will be maintained, but not specified by Chapter, but a final decision has not been made.

At the Ghent meeting in 2010, the full Committee reviewed the initial draft of the proposed chapter G prepared by Helena Britt. Several questions related to the merged chapter were discussed at the meeting (for details, see the 2010 meeting minutes), including questions on coding principles that would also apply to all ICPC-3 chapters. For more details, see the 2010 meeting minutes at the **www.ph3c.org** website.
At the end of the meeting, a few volunteers agreed to draft chapters of ICPC-3 following the structure and principles discussed at the meeting. However, as of this posting (March 2012), no additional draft chapters have been completed. This remains a top priority for WICC as time and resources allow.

2. NERI – Non Episode-Related Information.
This new classification (terminology?) will include a heterogeneous group of terms coding information that does not fit within the constraints of an individual episode of care. This type of information has been referred to by WICC members at various times as "risk factors" or "clinical modifiers". These terms could include previously experienced clinical events that are not active problems but can and should affect future care, such as hysterectomy or amputation, clinical risk factors that are important to the care process but are not themselves active clinical problems, and (perhaps) closed episodes of care that need to be considered by clinicians who provide ongoing care. The organizing principle for this classification is that it should include non-episode based information that should be taken into account when making decisions about care for a specific patient.

Discussions about how to create a classification/terminology in this area are just beginning, and it will be some time before its first draft is available. Its use will most likely be alongside ICPC-3 in an electronic health record, rather than as a chapter within the base classification.

3. Patient goals, preferences, and requests.
This classification tool will provide the structure to capture patients' expressed goals, priorities and preferences for care, limits to care (advance directives fit here), and specific requests for care pathways (for example, the request to receive no blood products made by a patient of the Jehovah's Witness faith). These all fall outside the scope of the Reason for Encounter contained in the base ICPC classification.

It is quite possible that the "patient side" will be expanded further in the near future in developed countries to include direct patient entry of information into the health record, or patient-directed posting of information from a personal health record into a shared record maintained by the GP. Where this takes place, the Reason for Encounter may be supplanted by a "patient request" that could be a reason for encounter , an administrative request, a posted update of self-management date regarding a chronic health problem, or another type of services. The RFE terms will need revision and

extension to capture this expansion, and the resulting set of terms may need to reside outside the current base ICPC.

A "patient-side" working group is needed to explore options for development of a new classification/terminology in this area. This would be very useful as a way to structure some of the information contained in Personal Health Records and facilitate their interoperability.

4. Functional status.

Efforts to include functional status, severity, and complexity into ICPC have not been successful to date. Most recently, WICC members have worked to find ways to harness ICF to provide functional status data for ICPC. While some specific applications show promise (use of reduced-set ICF for sick leave certification) It seems clear at this point that it is exceedingly difficult to link functional status to a specific episode or problem in ICPC. The approach we will now consider is to create a space (spaces) in the base ICPC-3 to link to functional status information from ICF or another tool yet to be developed. Including a rubric in Chapter A will provide space to record overall functional status: including spaces in other chapters may allow for more specific applications of ICF for use in staging the severity of specific chronic health conditions (for example, CHF , COPD, or arthritis) where they occur.

5. Interventions and other processes of care.

This area has been discussed for several years. IC-Process-PC was developed in the 1980s, and offered a way to improve the granularity of the process codes in Components 2-6 of ICPC. It is not clear whether IC-Process-PC has ever been used in a real-world clinical setting. Many groups have developed their own "process" or "intervention" coding schemes, and some regions or countries have developed highly granular terminologies that cover some or most of the content of the process codes in ICPC and are used to document care or for payment purposes.

WICC members have been involved in several local, regional or national projects to capture process information, and some have developed EPRs that link process data to episodes of care. But there is no standard in this area. WICC members have discussed revisions of Components 2-6 on several occasions, but no consensus has emerged for how to capture intervention and process data. At the Barcelona meeting in 2011, a proposal to update the basic process codes for mapping was approved by WICC, and the Process working group was rechartered under the leadership of Marten Kvist.

This is another area that requires work in the near future, so that electronic records can capture and exchange process data. Given the granularity needed for individual patient records, it may not be possible to include this within the base ICPC-3 other than by a link to "interventions" opened for each health problem for an individual patient.