

# Serveur Terminologique

Consolidation d'un noyau de base et d'une méthodologie de développement d'un Vocabulaire Médical Contrôlé (CMV) dans le cadre de la mise en place future d'un serveur belge de terminologie dans le secteur de la santé.

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**Partie 4/4 : Vocabulaire Médical Contrôlé – extension**

**Section B : Soins infirmiers, analyse préliminaire**

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Note : cette partie du rapport contient deux sections

Section A (uniquement sous format excell): sélection et codification de termes pertinents pour les contre-indications médicamenteuses

Section B : Soins infirmiers, analyse préliminaire

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**Editorial note : /**

## Project Belgian terminology Diagnoses MIM 2011

### **Reminder of the objective of the project**

The overall project objective is to enable the development of new innovative approaches to health care in order to be able to respond to the many qualitative economic challenges we face in the years to come.

These approaches all have to start a focus on the patient and a transversal (and multidisciplinary) the continuity of care.

They need to put the information in the middle of practice and design from the outset as potentially usable by other providers and by the patient himself. It therefore requires an advanced computerization sector by networking providers and facilities (health systems) as well as the development of a comprehensive strategy of semantic interoperability.

It was decided to use SNOMED as the primary mapping interface. SNOMED is however unusable as such. The project objective "terminology server" is to determine in each health profession concepts useful, relevant and unambiguous as a starting point with continuity of care.

As part of nursing, the first objective is to have a robust methodology for the end of the year at the latest. In the first phase, it will be:

- ✓ To analyze the terminology nurse currently present in SNOMED and other terminology nurses existing today and used to code diagnoses, interventions and outcomes (ICNP, NIC/NOC/NANDA, thesauri owners) and to understand the characteristics and limitations.
- ✓ To propose a methodology consistent (like these developed in the field of general medicine) in order to select the concepts relevant to the art of nursing.
- ✓ To visit the main solutions developed by the hospital sector and industry Belgium and nurses who use a thesaurus and learn some lessons and recommendations that affect the methodology to be developed.
- ✓ Participate in a working meeting monthly to the FPS Public Health.

### **Actual status (31/10/2011)**

To date, I could view and analyze partially SNOMED and two nursing classifications NANDA / NIC / NOC and ICNP. I also consulted the nursing data contained in the DI-RHM and nomenclature nurse INAMI.

My interest has also focused:

- On a strategy led by "The Canadian Health Outcomes for Better Information and Care (C- HOBIC) " to develop a standardization of nursing language in the context of their own.
- The executive summary of the computerized ambulatory nursing file written by the "Fédération des maisons médicales et des collectifs francophones" in collaboration with the NVKVV.

## SNOMED<sup>1</sup>

I took two courses online:

✓ "SNOMED Clinical Terms Basic": this cursus :

- Define why interoperability is essential
- Describe the model of SNOMED CT
  - Concepts
  - Descriptions
  - Relationships
- Describe the differences between a classification system and a reference terminology
- Explain how SNOMED CT is distributed
- Explain the overview of CAP STS and its services

This allowed me to understand the basic concepts of SNOMED but it gives no information about the nursing content.

✓ "SNOMED: An Introduction to Nursing Content ": This interactive online course is an introduction to SNOMED CT nursing content. It provides an overview of how SNOMED CT concepts standardize the nurse's document to achieve that data collection. This data is used for specific reporting and retrieving nursing research. The content of this course contains many repetitions of the preceding. However, the nursing aspect is more emphasized.

Although this course was to inform me about SNOMED, I was able to account for the interest of the mapping already done with other nurses such classification as ICNP and NANDA / NIC / NOC.

I don't rigorously analyze the full content of SNOMED yet but now I have access to "Cliniclue" and «SIG Nursing"

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<sup>1</sup> <https://www.cap.org>

## NANDA / NIC / NOC<sup>2345</sup>

These are three different classifications. The diagnostic classification was developed by NANDA International and NIC and NOC were designed by the "College of Nursing at the University of Iowa." However, links are established and research is ongoing. These three classifications cover a very broad field of diagnostics, interventions and outcomes.

NIC classification, mainly of interest for now in the project, includes 542 interventions that are subdivided in activities. These will also be considered because they can sometimes distinguish two interventions sometimes quite similar in terminology.

Interventions are divided into areas and classes. The terminology used for these interventions is based on a high pertinent thorough study. This could be an interesting basis in the project.

NANDA is a multiaxial classification which is not the case of NIC and NOC.

NIC is the basis for the design of the DI-RHM. 78 interventions have been selected. So it could demonstrate a similarity with what is actually happening on the ground in Belgium (see below).

These classifications offer an unquestionable scientific value due to an evidence based research to validate each of the concepts.

## ICNP<sup>6</sup>

This classification is widely used. To facilitate employment, the catalogs are built with diagnoses, interventions and outcomes specific to a group of patients or specific health problems. It's multiaxial: Focus, Judgment, Means, Action, Time, Location and Client. The actions are themselves divided into several areas. This is a particular interest to have a rigor in the granularity.

We can see a similarity with NANDA between the terms used to define diagnostic concepts. This is not necessarily the case for NIC but the semantic rigor seems to be more important in this classification than in the NIC. But this is a subjective affirmation because my analysis of this classification is not yet enough complete.

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<sup>2</sup> G. Bulechek, H. Butcher, J. Mc Closkey, "Classification of nursing interventions," French translation of the fifth American edition by AFED, Editions Masson, Paris 2010.

<sup>3</sup> Moorhead, M. Johnson, M. Maas, E. Swanson, "Nursing Outcomes Classification", Mosby-Elsevier 2008,

<sup>4</sup> Carpenito LJ "Handbook of Nursing Diagnosis," Translation of Lina Rahal, 12th edition, Elsevier, St Louis, Missouri, 2008

<sup>5</sup> NANDA International, "Nursing Diagnosis", Editions Masson, Paris 2009

<sup>6</sup> <http://www.icn.ch>

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## **DI-RHM**<sup>7</sup>

The DI-RHM is a tool for nursing minimum data record includes:

- ✓ general data about the institution of care
- ✓ data on the nursing units involved in the recording
- ✓ identifying data about the patient,
- ✓ nursing interventions performed.

The interest is particularly in the interventions. The list of nursing interventions is to provide an image of nursing interventions performed. The taxonomy of the recording tool DI-RHM classification refers to the NIC and its structure is organized into four hierarchical levels.

The first and highest level consists of six fields. The second level consists of 23 classes and the third of 78 items. The fourth and final level allows the choice between different options for encoding a given nursing intervention.

The interest of the DI-RHM for the project is to analyze the choice of interventions that has been achieved as an indicator for methodology to be used in the development of Belgian terminology. Indeed, this choice should be a ground truth. However, a consultation on the subject land is essential as well as the various reports that have been established following the analysis of the results. This will be taken into consideration when developing managed interview guideline to be submitted to hospitals during their consultation.

## **Nomenclature INAMI**<sup>8</sup>

The nomenclature of health benefits is a list containing code for benefits subject to repayment (total or partial) by health insurance. The list and changes are published in the Moniteur Belge.

A comparative analysis will be interesting to identify the requirements for coding and taken into account in the development of terminology. The current nomenclature is "large", unclear and may comprise different interventions. It will be a basis in terms of content but less in terms of semantics.

## **The executive summary of the computerized ambulatory nursing file**<sup>9</sup>

Not aimed at developing a semantic framework, the working group, however, considered the issue and said that "the taxonomy with the largest anchor at both professional and at the level of education is classification NANDA / NIC / NOC"<sup>10</sup>. Unfortunately, this presents a significant cost which favors the use of the ICNP is "open source".

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<sup>7</sup> <http://www.health.fgov.be>

<sup>8</sup> <http://www.inami.fgov.be>

<sup>9</sup> <http://www.health.belgium.be>

<sup>10</sup> Isabelle De Geest, Marc Glorieux, Paquay Louis, Federation of medical centers and community health Francophone association, in collaboration with the NVKVV, "Dossier infirmier informatisé ambulatoire – Rapport executif," May 2011  
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“The goal is not to focus solely on Taxonomy particular but to work with the development of a controlled scientific vocabulary in which concepts from the various medical and paramedical professions are fully compatible with each other and with SNOMED CT as the primary mapping tool”<sup>11</sup>

This analysis reinforces the essential nature of the consultation of these three classifications for the development of Belgian and thesaurus mappings.

### **C-HOBIC**<sup>1213</sup>

The Canadian Health Outcomes for Better Information and Care (C-HOBIC) Project has begun implementation of the standardized collection of patient outcome data related to nursing care in Electronic Health Records (EHRS) in Saskatchewan and Manitoba.

The objectives of the project C-HOBIC were to:

- Standardize the language concepts to HOBIC Used by the International Classification for Nursing Practice (ICNP)
- Capture patient outcome data related to nursing care across over Sectors of the Health System: acute care, complex continuing care, long-term care and home care, and
- Store the data in Standardized Captured and under, secure databases or repositories Jurisdictional data in preparation for entry into provincial EHRS.

The interest of this analysis is in a mapping done with the ICNP and the acceptance of creation of new terms to increase the granularity particularly in terms of degree of dependency of a person in the toilet or bathing.

### **Perspectives**

The project approach and analysis, however still incomplete, allowed me to target the objective of the project.

The next step is the consultation of various hospitals already known to have used classifications in the development of their computer record. In addition, a proposal for participation will be presented to all other hospitals. To ensure that this consultation be productive and structured, a development of an interview guide is in progress. It will be easier to rigorously analyze the results and to highlight what is available and can be used. A refined comparison of SNOMED - NANDA / NIC / NOC and ICNP will be developed according to scheme yet to be determined to regain all the concepts relevant to Belgian terminology for intervention. A final methodology should be proposed following these steps.

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<sup>11</sup> *Ibidem*

<sup>12</sup> <http://www.cna-aiic.ca>

<sup>13</sup> *Canadian Nurses Association, “Mapping Canadian Clinical Outcomes in ICNP”, April 2008*

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