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S tandard terminology for nursing

Standard terminologii w pielęgniarstwie

ABSTRACT

ICN anticipates that ICNP[®] users will develop more catalogues as more nurses use ICNP[®] in electronic health records and digital communication devices. Nurses who use ICNP[®] in the documentation of their practice should know the core data elements for their specialty or setting. The following questions needed to be answered: "What nursing diagnoses are most commonly used?", "What nursing interventions are used?" and "What care recipient outcomes are used in that specialty or setting?" Since ICNP[®] was first released in 2005, many pre-coordinated statements have been added to the terminology and more catalogues have been developed by nurse experts and published by ICN. The critical need for continued development of ICNP[®] is the use of the terminology in clinical settings so that the collection of standardized data is available for analysis and research. In this way, nursing will be described. Nurses will then be able to say: "these are our most common diagnoses and interventions" and "these are the best or most-preferred care recipient outcomes."

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Key words: classification; nursing process; nursing care plans

STRESZCZENIE

ICN oczekuje, że użytkownicy ICNP[®] opracują więcej katalogów, ponieważ coraz więcej pielęgniarek używa ICNP[®] w elektronicznych dokumentach medycznych i urządzeniach komunikacji cyfrowej. Pielęgniarki, które używają ICNP[®] w dokumentacji w praktyce, powinny znać podstawowe elementy zbioru danych dotyczące ich specjalności lub otoczenia, w którym pracują. Pytania, na które trzeba umieć odpowiedzieć, obejmują następujące kwestie. "Jakie diagnozy pielęgniarskie są najczęściej stosowane?", "Jakie interwencje pielęgniarskie są wykorzystywane?" i "W jakich specjalnościach lub miejscach praktyki wykorzystuje się wyniki opieki?". Ponieważ ICNP[®] po raz pierwszy opublikowano w 2005 roku, wiele wstępnie oświadczeń terminologicznych zostało i opracowano więcej katalogów przez ekspertów ds. pielęgniarstwa, które są sukcesywnie publikowane przez ICN. Krytyczną potrzebą dalszego rozwoju ICNP[®] jest użycie terminologii w miejscach praktyki klinicznej, dzięki czemu zbieranie standardowych danych jest dostępne do celów analizy i badań. W ten sposób pielęgniarstwo zostanie opisane i pielęgniarki będą mogły powiedzieć: "są to nasze najczęstsze diagnozy i interwencje" i "są to najlepsze lub najbardziej preferowane wyniki leczenia".

Problemy Pielęgniarstwa 2017; 25 (2): 108-111

Słowa kluczowe: klasyfikacja; proces pielęgnowania; plany opieki pielęgniarskiej

Introduction

To a large extent, the delivery of health care depends on nurses who can assess, diagnose, plan, implement and evaluate care needs for individuals, families, groups, or communities. With the implementation of electronic health records and mobile communication devices, the goal of a standard terminology for the documentation of nursing is within the reach of professional nursing. Standardized data that are generated by a nursing terminology can serve as the foundation of nursing knowledge about what nurses do and what the patient's or other care recipient's

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nurse-sensitive outcomes actually are. Also, the data can be shared within and across health care systems in one or many countries. When nurses can articulate what we do (diagnoses and interventions) and what the outcomes are, then we can say with authority: 'this intervention works, it has the desired outcomes' or 'this intervention does not result in the desired outcomes and therefore should not be used.' When patient's records are coded using a standard nursing terminology so that it is machine-readable and all language translations have the same code for each concept, then the power of international nursing knowledge can be used to advance professional nursing as a critical aspect of health care delivery worldwide.

Professional nursing for care delivery is simple and complex at the same time. It is simple because the process of nursing rarely changes: assessment, diagnosis, plan, implementation and evaluatation of the person or group of people with health care needs. It is complex because of the very wide range of nursing specialties and settings, from neonatal care to palliative care, or from community and public health to critical care. Within each setting or specialty there are different levels of care; this adds to the complexity of nursing.

A standard terminology for nursing should represent the nursing activities in each workplace, preferably in an environment where electronic health records or digital communication devices can support the need for data input, storing and re-use by practitioners, analysts and researchers. Essentially, a standard terminology should support coherent and consistent communication and documentation across specialties and settings. It should also promote aggregation and evaluation of nursing activities so that the goals of accessibility, cost-effectiveness and highest possible quality can be met.

Terminology Requirements and Selection Criteria

The International Organization for Standards (ISO) has developed a set of terminology requirements, which the substantial number of health-related data standards are compelled to follow [1, 2]. These requirements are the terminology developer's responsibility and not the clinical nurse's responsibility. The first requirement is that the terminology should address a clear *purpose and scope* and the content coverage should be comprehensive and complete to support a given domain of knowledge [3]. A nursing terminology would aim to represent the domain of nursing. Secondly, there should be a *modeling structure* that continuously promotes composition of concepts to represent domain knowledge. It is also imperative that such a modeling structure supports the maintenance of concept unique identifiers, version control and language independence. The third broad requirement is that the terminology should be *interoperable* so that accurate and consistent communication among healthcare professionals is ensured. Finally, a *process management* method should be established so that there are formal methods for making changes in the terminology, for auditing, supporting translations, and developing subsets (catalogues).

Selection criteria for a terminology can guide users as they make their choice among terminologies. Five categories of criteria can be described [3]. First of all, the terminology (developers) should be open and responsive to their customers. For example, requests for changes and clarifications should be acknowledged and acted upon in a timely manner.Moreover, the terminology should be clear and reproducible. This means that concepts are formally defined with no duplication or redundancy. Formal definitions are necessary for a terminology to be machine-readable; a nursing terminology needs to be large in order to cover the domain of nursing which then requires machine-aided reasoning to support nurses' documentation practice and performance monitoring within electronic health records. As the terminology has multiple hierarchies, it is necessary to provide a consistent view of concepts to all users (nurses, informatics specialists, educators, researchers). There should be lexical consistence within the terminology, with words meaning the same where ever they are used in the terminology. And there should be language independence, meaning that each concept in the terminology can be translated into the language of the country without loss of meaning.

Third, the terminology should be understandable to the users of the target domain. The content of the terminology should be valid so nurses understand what the concepts mean in the terminology for the nursing domain. Fourth, the terminology should be accessible and usable to promote the adoption of the terminology at various levels. For example, a web-based platform on which the terminology is placed should make it easy to search for concepts that nurses need for the documentation of their work and patient care. A web-based platform could also facilitate translations of the terminology so that nurses, analysts and researchers can access the nursing documentation data for local, regional, national and international studies and subsequent decision-making for procedures and policy.

Fifth, the terminology must have the characteristic of interoperability with other healthcare terminologies. For nursing, this would mean that a nursing terminology could be mapped or harmonized with other nursing terminologies and with other specialty terminologies. The International Classification for Nursing Practice has been mapped, for example, with SNOMED CT, a multi-disciplinary terminology of the International Health Terminology Standards Development Organization and with Clinical Care Classification of SabaCare [4].

International Classification for Nursing Practice (ICNP®)

ICNP[®] is a standardized terminology used to represent nursing diagnoses, interventions and (care recipient) outcomes (www.icn.ch/what-we-do/ /international-classification-for-nursing-practice--icnpr). The International Council of Nurses (ICN) first approved the development of ICNP[®] during the Congress of 1989 in Seoul, Korea [5]. The visionary goal then was to have a unifying terminology for nursing as electronic health records were gradually becoming a reality. The use of a standardized terminology for nursing documentation was seen as an excellent way to generate meaningful, reusable data that would represent nursing practice and support informed decision-making for clinicians, managers, educators, researchers, and policy-makers.

ICNP[®], a part of the ICN eHealth Programme (www.icn.ch/what-we-do/ehealth/), is a related classification of the World Health Organization Family of International Classifications [6]. ICNP[®] is recognized by the American Nurses Association, European Federation of Nurses, and several National Nurses Organizations, such as Norway, Portugal and Poland.

The ICNP[®] meets the requirements and criteria, as described above, that are necessary for a standardized terminology for the nursing domain [3]. It is open and responsive to users with a formal, documented process for change requests. Each concept is formally modeled to assure concept clarity and reproducibility, for example, across translations. The formal infrastructure allows output of multiple formats of ICNP® for different types of users. Each release of ICNP® is evaluated to ensure the quality of the terminology prior to an official publication. The usability of ICNP® is enhanced by its focus on pre--formed or pre-coordinated diagnosis, intervention and outcome statements [7]. In addition, ICNP® is modeled using a semantic Web language to formally define nursing concepts in a machine (computer) readable format [7]. The ICNP® web-based browser is updated with every release and holds the concepts, the pre-coordinated statements and the translations (Table 1).

An updated version of ICNP[®] is released every two years, at the time as the International Council of Nurses Biennial Congress. The next version of Table 1. ICNP® translationsTabela 1. Tłumaczenia ICNP®

Portuguese Canadian French Chinese (Simple) Chinese (Traditional) English Farsi (Persian) French
Chinese (Simple) Chinese (Traditional) English Farsi (Persian) French
Chinese (Traditional) English Farsi (Persian) French
English Farsi (Persian) French
Farsi (Persian) French
French
-
German
Indonesian
Italian
Japanese
Korean
Norwegian
Polish
Portuguese
Romanian
Spanish
Swedish

ICNP® will be released during Spain Congress in Barcelona in May, 2017. Statistics from 2013 and 2015 show that ICNP® continues to expand, and thus, be more comprehensive for the nursing domain. In 2013, there were 783 pre-coordinated diagnosis and outcome statements (15% increase from 2011) and 809 pre-coordinated intervention statements (50% increase from 2011). In 2015, there were 805 pre-coordinated diagnosis and outcome statements (3% increase from 2013) and 1,019 pre-coordinated intervention statements (21% increase from 2013). The 2015 release was made up of 4,212 elementary and pre-coordinated concepts. The 2017 version of ICNP® will reflect the continued growth of the terminology and include most of what is necessary for nursing documentation.

Development of ICNP[®] catalogues (or sets of diagnosis, intervention and outcome statements) [8] began in 2007, with the first catalogue being "Partnering with Individuals and Families to Promote Adherence to Treatment" [9]. Catalogues are a tool for nurses using, or thinking about using, ICNP[®]. The statements in each catalogue provide an array of diagnosis, intervention and outcome statements for a topic so that nurse users can begin to document their work [8]. The statement sets are dynamic in that more or fewer statements might be useful for a particular specialty or setting, depending on how nurses practice and what the care recipients need. Currently there are eight catalogues available (Table 2).

Table 2. ICNP® Catalogues

Tabela 2. Katalogi ICNP®

Community Nursing Disaster Nursing Nursing Care of Children with HIV and AIDS Nursing Outcome indicators Pediatric Pain Management Palliative Care Partnering with Individuals and Families to Promote Adherence to Treatment Prenatal Nursing Care

References

- 1. International Organization for Standardization . Health Informatics – Controlled health terminology – Structure and high-level indicators (ISO/TS 17117). Geneva, Switzerland. 2002: ISO.
- International Organization for Standardization. Health Informatics— Categorical Structures for Representation of Nursing Diagnoses and Nursing Actions in Terminological Systems (ISO/TX 18104:2014). Geneva, Switzerland. 2014: ISO.

- Kim T, Coenen A, Hardiker N. A quality improvement model for healthcare terminologies. Journal of Biomedical Informatics. 2010; 43(6): 1036–1043, doi: <u>10.1016/j.</u> jbi.2010.08.006.
- Kim TY, Hardiker N, Coenen A. Inter-terminology mapping of nursing problems. J Biomed Inform. 2014; 49: 213–220, doi: <u>10.1016/j.jbi.2014.03.001</u>, indexed in Pubmed: <u>24632297</u>.
- International Council of Nurses . ICNP[®] Version 2. Geneva, Switzerland. 2009: ICN.
- 6. World Health Organization. Family of International Classifications. Available from http://www who int/classifications/en/ accessed.; 21: February.
- Hardiker NR, Coenen A. Interpretation of an international terminology standard in the development of a logic-based compositional terminology. Int J Med Inform. 2007; 76 Suppl 2: S274–S280, doi: <u>10.1016/j.ijmedinf.2007.05.005</u>, indexed in Pubmed: <u>17600764</u>.
- Coenen A, Kim TY. Development of terminology subsets using ICNP. Int J Med Inform. 2010; 79(7): 530–538, doi: <u>10.1016/j.ijmedinf.2010.03.005</u>, indexed in Pubmed: <u>20434946</u>.
- 9. International Council of Nurses . Partnering with Patients and Families to Promote Adherence to Treatment. Geneva, Switzerland. 2008: ICN.