Strengths and weaknesses of standardized nursing terminologies used in electronic health records: a literature review

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ABSTRACT

Background: Standardized Nursing Terminologies apprise the nursing care provided and facilitate clinical research and education.

Aim: To identify strengths and weaknesses of standardized nursing terminologies used in electronic health records.

Methods: A literature review was conducted. Studies were retrieved from: PubMed, Cochrane Library, CINAHL, Cuiden, Scopus, and ISI Web of Knowledge. The search strategy included articles in English, French, Portuguese and Spanish published between 2002 and 2016 focusing on standardized nursing terminologies most frequently used in electronic nursing records.

Findings: NANDA/NIC/NOC and ICNP were the Standardized Nursing Terminology most frequently used. The use of Standardized Nursing Terminology allows making comparisons between nursing records sharing the same terminologies. Sometimes the standard terminology was not sufficiently understood by nurses and therefore it could not be efficiently used, at some extent, hindering nursing continuity care.

Discussion: Standardized nursing terminologies had a strong impact on information quality, process quality and efficiency, but not on patients or professionals.

Conclusion: nurses must know why they are using a particular standardized terminology is beneficial or detrimental for patients, nursing knowledge or for themselves.

Table 1. Strengths and weaknesses of standardized nursing terminologies in electronic health records.

Reference	Year	Country	Standardized Nursing Terminologies	Strengths (-) and weaknesses (+)	Design	Effects using in EHR
Barton	2003	USA	Omaha	+	Observational	Use of Omaha system provide documentation of patient problems interventions and their outcomes
Törnvall	2004	Sweden	VIPS	-	Observational	It is necessary that all the nursing process is reflected correctly. Little use of diagnoses and outcomes
				+		The participation of nurses is necessary in the design and implementation of nursing record programs.
Hovenga	2005	Australia	ICNP	+	Observational	The nurses are in a good position to lead a change in the paradigm of standardized clinical languages and their incorporation in EHR.
Keenan	2005	USA	N/N/N	+	Experimental	It was found that increasing the visibility of nursing care promotes greater awareness and understanding of attention and in turn greater care continuity
Rukanuddin	2005	Pakistan	ICNP	+	Experimental	Use of the ICNP records provides data to describe and quantify nursing practices and outcomes.
Thoroddsen	2005	Iceland	N/N/N	+	Experimental	The NIC language is useful to describe the work and supports the construction of nursing knowledge
Cho	2006	Korea	ICNP	+	Observational	The ICNP could cover more than 75 % of the nursing reports in an EHR system.
Darmer	2006	Denmark	VIPS	-	Observational	It is likely that in the future have to be replaced by interdisciplinary taxonomies.
				+		VIPS model facilitates the storage and retrieval of nursing. It is simple to use and improve nursing documentation.
Doran	2006	Canada	NIC	+	Observational	Using 77 NIC interventions to link nursing interventions are associated with patient outcomes
Thoroddsen	2007	Iceland	NANDA-NIC	+	Observational	Improvement in the use of functional health patterns using terminologies NANDA NIC
Boyd	2007	USA	N/N/N	+	Experimental	The creation of computerized management plans, evidence-based care using standardized instruments
Müller-Staub	2007	Switzerland	N/N/N	+	Experimental	The implementation of N/N/N supported with a planned educational program led to a higher quality of nursing documentation
Von Krogh	2007	Norway	N/N/N	+	Observational	Discussion on theoretical and methodological aspects of the implementation of a standardized model registration
Müller-Staub	2008	Switzerland	N/N/N	+	Experimental	The use of N/N/N improves nursing documentation
Viittorini	2009	Italy	Omaha	+	Observational	Development of the computerization of the Omaha system
Dykes	2009	USA	ICNP and NANDA	+	Observational	Wide coverage of the concept and the structure of the logic-based ICNP makes it a robust flexible standard.
Hwang	2009	Korea	ICNP	+	Observational	Integration of Asian nursing actions with western records promotes the interchange and communication between the two records thereby allowing a comprehensive focus to improve the quality of care.
Luo	2009	USA	N/N/N	+	Experimental	The creation of a database combining clinical data and N/N/N allows users to detect the nurse seeking procedure in relation to their condition
Müller-Staub	2009	Switzerland	N/N/N	+	Qualitative	The Q-DIO instrument is valid to measure the quality of N/N/N
Bernhart-Just	2010	Switzerland	N/N/N	+	Experimental	Integration of NNN in EHR allows to follow the logical sequence of nursing process
Häyrinen	2010	Finland	FinCC	+	Observational	National project of computerized records. According to this model nursing records in Finland favor visibility and quantification of the interventions.
Junttila	2010	Finland	NANDA	+	Observational	Validation of diagnoses for recording perioperative care
Sotelo	2010	Spain	N/N/N	+	Observational	The computerized map of care offers the opportunity to measure health outcomes.
Westra	2010	USA	Omaha	+	Observational	It's feasible to integrate the Omaha system and compare the use to document nursing problems, interventions and results. Feasibility of integrating data from different health providers and data interoperability

Biography

Olga Vigo Oller is presently working at Catalan Health Institute. Government of Catalonia, Spain

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