



The Ability of SNOMED CT to Capture Perinatal Process Concepts

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Audience

Those interested in perinatal quality, perinatal nursing and the feasibility of using SNOMED CT for perinatal concept mapping

Objectives

To describe a 2011 study in which 76 perinatal process concepts were mapped to SNOMED CT and 3 standard nursing terminologies. Results were validated by expert panel. Presentation will explain why SNOMED CT is a feasible terminology for capture of perinatal process measurement concepts.

Abstract

Healthcare literature stresses the need for increased patient safety and quality; the current healthcare environment necessitates fiscal responsibility. Approximately 4.3 million births occur in the United States every year at a cost of approximately \$16 billion dollars. Perinatal nurses manage the care for hospitalized childbearing women and their newborns and share responsibility for quality outcomes. Therefore, the perinatal nurse's role in safety and quality cannot be minimized. The need to make perinatal nursing processes visible and the ability to assess which processes yield the best outcomes support the need for retrievable, measureable perinatal data and for tools to quantify outcomes related to perinatal safety and quality. An example of such a tool for the childbearing population is perinatal failure to rescue (Simpson, 2005). This study explored whether elements of Simpson's paper-based perinatal failure to rescue tool could be specifically defined (name: value pairs) and whether those defined name: value pairs exist in any of three selected standard nursing terminologies and/or in SNOMED CT.

This was an exploratory study with mixed methods. The two-phased approach included a modified Delphi study followed by cross-mapping of defined terms to three standard nursing terminologies and SNOMED CT, with cross-mapping validation by an expert panel. The Delphi study had 29 participants and was completed in three rounds. Consensus of at least 75% was achieved for 76 individual perinatal failure-to-rescue elements. The individual elements were mapped to each of three standard nursing terminologies, CCC, ICNP, and LOINC and to SNOMED CT. Each terminology's open-sourced search tool (ICNP, LOINC and SNOMED CT) or data dictionary (CCC) was used for mapping. For some concepts, post-coordination was necessary. While each standard language contained some failure to rescue elements, more than 80% were present in SNOMED CT. A five-member expert panel validated 100% of the mapping findings. Panel members included three informatics experts, two with specific nursing terminology expertise and one with specific SNOMED CT expertise, along with 2 perinatal nursing experts, including the author of the perinatal failure to rescue tool. Study results provide a foundation for further research focused on eventual incorporation of perinatal failure to rescue elements into electronic documentation systems and support the role of SNOMED CT in such implementations.



References

Simpson, K.R. (2005). Failure to rescue: Implications for evaluating quality of care during labor and birth. *Journal of Perinatal and Neonatal Nursing*, 19 (1), 24-34.