

Chapter 14

Case Study:

Lessons Learned when Embedding Evidence-Based Knowledge in a Nurse Care Planning and Documentation System

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ABSTRACT

A partnership between Aurora Health Care, Cerner Corporation, and the University of Wisconsin-Milwaukee College of Nursing that focused on the design of an informatics solution that aimed to allow evidenced based information to be available to nurses at the point of care and promote engagement in the electronic recording of patient data is described. The process of determining need, building the solution, integrating into nurse practice, and evaluation is laid out.

INTRODUCTION

Bringing evidence-based practice to nurses at the point of care through a nurse care planning and documentation system that is more than simply

a digital version of the traditional paper health care record, and which provides robust decision support for all aspects of the nursing process, is a challenging endeavor. A partnership between Aurora Health Care, a large integrated health care system, Cerner Corporation, a global leader in healthcare information technology, and the

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University of Wisconsin-Milwaukee College of Nursing, a research intensive academic setting (ACW) was initiated in 2004 to address this vision through a project called the Knowledge-Based Nursing Initiative (KBNI). This partnership and the conceptual framework upon which the KBNI project was built are described in other publications (Ela, Lang, & Lundeen, 2006; Kerfoot et al., in press; Lang, 2008; Lang et al., 2006; Lundeen, Harper, & Kerfoot, 2009). In short, generating and synthesizing knowledge from existing sources, analyzing, coding, and making it actionable within the nursing process is what sets this work apart. Using decision support, actionable knowledge becomes “executable knowledge”™ within the electronic medical record, positively impacting patient care while creating the data for nursing research. Metrics are captured as a by-product of the care delivered to the patient and reports are available for quality improvement.

The KBNI was undertaken to provide nurses with computerized access to clinical evidence, research, and best practices at the point of care delivery. This initiative joined nurse researchers, informaticians, clinical practitioners, and a software vendor to work together to create solutions that promote the use of evidence-based nursing at the point of care, as well as to examine the usefulness of that evidence in promoting outcome improvements. A case study about the KBNI related to embedding fall risk assessments and interventions was described elsewhere (Hook, Devine, & Lang, 2008).

In this chapter, we describe the importance of this project, the processes used to identify actionable, evidence-based nursing knowledge, and the lessons we have learned during implementation of the project in the following areas: (1) creating information technology changes which support nurse’s use of evidence-based content, (2) organizing the project to get the proper sponsorship and support to promote nursing adoption, (3) assembling the right team to build an effective, efficient system, (4) designing a system that makes it easy

for nurses to do the right thing, (5) educating and validating the competency of the nursing staff to promote integrity of the implementation of best evidence, and (6) learning from the “go live” in order to improve our work.

PROJECT BACKGROUND

The need to use research and other sources of best evidence to support clinical decision-making is well documented in the literature (Melnik & Fineout-Overholt, 2005; Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996). But, even when high quality evidence and guidelines are available, they are not always used in practice (van Achterberg, Schoonhoven & Grol, 2008). Based largely on studies with physicians, it has been found that using computerized information systems, reminders, and decision-support can improve clinical practice as well as the adoption of innovations and evidence-based care (Kawamoto, Houlihan, Balas, & Lobach, 2005; van Achterberg et al., 2008).

Clinical decision-support has been defined broadly by the organizations such as the Healthcare Information and Management Systems Society (HIMSS) and the American Medical Informatics Association (AMIA). In an AMIA position paper which is a report of the Joint Clinical Decision Support Workgroup, Teich, Osheroff, Pifer, Sittig, and Jenders (2005) asserted that clinical decision-support provides intelligently filtered clinical knowledge and patient information at the appropriate time and in the appropriate manner in order to enhance care. They stated that clinical decision-support includes such things as alerts, reminders, structured forms, pick lists, guideline support, and reference information.

Many authors have noted that great care must be taken when designing information systems and decision-support. It is important to consider all aspect of the clinical information system implementation: from planning through maintenance

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