Community Hospital CPOE System Implementation: The Lived Experience of Multi-Disciplinary Healthcare Team Members

Willa Fields, DNSc, RN
Rita Snyder, PhD, RN
1San Diego State University School of Nursing, San Diego, CA
2University of Nebraska Medical Center College of Nursing, Omaha, NE

Abstract. Research has demonstrated that physician medication prescribing practices can be improved with Computerized Provider Order Entry (CPOE) systems. However, while these systems specifically target physicians, they also have a ubiquitous and pervasive impact on all healthcare team members. The purpose of this poster is to report preliminary results from a qualitative interview study conducted to capture multi-disciplinary healthcare team member adoption experiences during a community hospital pilot CPOE implementation.

Introduction. Computerized Provider Order Entry (CPOE) systems are one of the key medication safety improvement technologies advocated by the Federal Government and prominent safety groups, such as the Institute on Healthcare Improvement. Research findings support physician use of CPOE for safer medication prescribing. However, they frequently neglect to address the pervasive impact that CPOE has on all healthcare team members. This impact underscores the importance of assessing multi-disciplinary team member responses to better understand the contextual impact CPOE implementation has on adoption experiences. This is particularly true of community hospitals that represent the largest segment of health care delivery settings in the United States.

Method. The study was conducted in a tertiary community hospital in an integrated healthcare delivery system in Southern California. The pilot CPOE implementation took place between January and August 2006 in a 19 bed MICU. During this time the MICU had an average occupancy rate of 86% and an average of 21 direct nursing care hours per patient day.

Interviews were conducted with 17 subjects: physicians (n=4), nurses (n=3), pharmacists (n=3), pharmacy technician (n=1), unit secretary (n=1), respiratory therapist (n=1), and information system staff (n=4). All participants had been involved in the design and implementation of the CPOE system. A semi-structured interview guide was used by the principal investigator to conduct one-hour interviews that were digitally recorded and transcribed. Key interview guide topics addressed participants’ opinions, experiences, and recommendations about CPOE implementation. Participants were given a copy of their transcribed interview for content validation. Interview responses were analyzed using standard content analysis techniques to identify common themes within and across participant groups.

Results. Preliminary results suggested four themes: 1) ease of use, 2) speed, 3) trust, and 4) helpfulness. In terms of ease of use, all participants commented that CPOE was easy to learn, although it was not intuitive and was difficult to use. Participants also found that navigation speed varied across the disparate computer systems, i.e., Picture Archiving and Communication System (PACS), nursing documentation, and CPOE. Trust also emerged as a physician and pharmacist theme. Physicians found that order sets made ordering easier and faster. However, they found individual order selection from a long, computerized list, to be difficult and slow. They especially feared that they would harm patients by choosing the wrong medication, dose, or product from the extensive list of choices (“I really wasn’t trusting myself to pick the right one because there were so many products [from which] to order.”). Pharmacists feared that physicians chose the wrong medication (“How do we know the physician meant that… that they just didn’t pick the wrong thing?”). Overall, participants valued CPOE potential and were hopeful that future systems would: 1) be easy to use; 2) decrease error potential; and 3) be more customizable for individual users.

Conclusion. Results indicated that CPOE needs to be easy to use, fast, and contain concise physician order sets to foster medication order safety. Vendors and implementation teams are encouraged to consider these characteristics.

Reference

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