Project Title: **CPOE Implementation in ICU's**

Grant Number: R01 HS15274 (Agency for Healthcare Research and Quality-AHRQ). Award amount: $ 1,460,000
Project Dates: 09/01/2004 -08/31/2009
Principal Investigators: Pascale Carayon, PhD, and Ken Wood, DO

AHRQ Grants Online Database
http://www.gold.ahrq.gov/GrantDetails.cfm?GrantNumber=R01%20HS15274

University of Wisconsin Health Sciences Institutional Review Board: protocols # M-2004-1380, 2006-1291, 2005-1343

Abstract

This project builds on an existing interdisciplinary research network, and proposes to examine the value of CPOE technology in various domains (patient safety, quality of care, end users, and communication) and at various levels (unit, patient, end user) in the Intensive Care Unit (ICU). The application also aims at using prospective human factors analysis methods for improving the design and implementation of CPOE, and at examining the impact of CPOE on end users.

We propose to evaluate value and outcomes in the following domains:

- patient safety-medication errors (evaluation of medication errors and ADEs)
- quality of care (length of stay, mortality, complications, use of prophylaxis)
- end users' job tasks, perceptions and attitudes (questionnaire survey and observations of job tasks), and communication patterns
- financial impact (data derived from hospital accounting system)

Benefits of participating; this project…

- …offers research partners the unique opportunity to carry out and publish collaborative research on a highly visible AHRQ Health Information Technology (HIT) grant.
- …allows partners to work with researchers from the Center for Quality and Productivity Improvement at the University of Wisconsin-Madison who have experience studying the design and implementation of technologies such as CPOE.
- …incorporates prospective human factors analysis methods (risk analysis, usability testing, etc.) to 1) improve the design and implementation of CPOE and 2) examine the impact of CPOE on end users.

Aim 1 - Safety and Quality	• Collect quality indicators such as SMR & LOS (e.g., using APACHE), CVC site management, VAP, SUD, DVT, glycemic control, antibiotic turnaround time • Collect safety indicators: adverse drug events and medication errors (through chart review, incident reporting, etc.)
Aim 2 - Impact on End Users	• Perform job task analysis (on-unit observations of MDs, RNs) • Collect subjective work measures (via surveys)
Aim 3 - Financial Value	• Collect cost accounting data
Aim 4 - Prospective Analysis	• Conduct prospective analysis • Perform usability evaluations

UW-Madison Research Team Members:
Pascale Carayon (Principal Investigator), Randi Cartmill (Project Manager), Peter Hoonakker, Ann Schoofs Hundt, Patti Brennan, Roger Brown,

Geisinger Medical Center Research Team Members:
Mary Ann Blosky, Jim Walker, Jean Adams, Buzz Stewart

UWHC Department of Medicine Research Team Members:
Ken Wood (Co-Principal Investigator), Tosha Wetterneck, April Faas

PhD and Masters Students:
Kerry McGuire (Industrial and Systems Engineering), Bonnie Paris (Industrial and Systems Engineering), Niharika Chinthapalli (Industrial and Systems Engineering), Adjhaporn Khunlertkit (Industrial and Systems Engineering)

For further information contact:
Pascale Carayon, PhD
carayon@engr.wisc.edu
608.263.2520
http://cqpi.engr.wisc.edu/cpoe_home

University of Wisconsin-Madison
Center for Quality and Productivity Improvement

Updated 03-03-2009