Hospital Surveillance Monitoring System Improves Clinical Outcomes in General Care Units

(Article Featured in July 2016 Issue of The Joint Commission Journal on Quality and Patient Safety)


In late 2007, DHMC developed a generalizable and effective design, implementation and performance evaluation approach to alarm systems for continuous monitoring in general care settings. The system was designed to provide nurses with continuous data for patient assessment and to redirect the attention of the nurse when a patient’s heart rate or oxygen saturation level crossed institutionally established thresholds. In early 2009, the system was expanded from the 36-bed orthopedics pilot unit to cover more than 200 inpatient beds in all medicine and surgical units, except for psychiatry and labor and delivery.

Results showed a reduction of unplanned transfers by 50 percent and a reduction of rescue events by more than 60 percent in 2008. In addition, sample analysis of pager notifications indicated that more than 85 percent of all alarm
conditions were resolved within 30 seconds and more than 99 percent were resolved before escalation is triggered. The systematic approach to design, implementation and performance management has been key to the success of the system, according to the study authors.

In an accompanying editorial, “Diagnosing and Treating ‘Alarm Fatigue’: Pragmatic and Evidence-Based Approaches Needed,” Michael F. Rayo, PhD, and Susan D. Moffatt-Bruce, MD, PhD, MBA, state that the DHMC surveillance monitoring program “is the first of, hopefully, many examples of alarm-related interventions and alarm management programs that are both pragmatic and sufficiently grounded in the available evidence.”

The remaining articles from the July 2016 issue are:

**Methods, Tools and Strategies**

**Using Literature Review and Structured Hybrid Electronic/Manual Mortality Review to Identify System-Level Improvement Opportunities to Reduce Colorectal Cancer Mortality**  
Joanne E. Schottinger, MD; Michael H. Kanter, MD; Kerry C. Litman, MD; Helen Lau, RN, MHROD; Gary E. Schwartz, MD; Farah M. Brasfield, MD; Najeeb S. Alshak, MD; Louis A. DiFronzo, MD

A structured hybrid electronic/manual mortality review was used at Kaiser Permanente Southern California (Pasadena) to examine 50 randomly selected cases of colorectal cancer mortality. Improvement opportunities existed at multiple stages of care, including screening, evaluation of symptoms, timeliness of care, use of adjuvant chemotherapy and surgical oncology practices.

**Performance Improvement**

**Perceived Factors Associated with Sustained Improvement Following Participation in a Multicenter Quality Improvement Collaborative**  
Sohini Stone, MD, MBA; Henry C. Lee, MD; Paul J. Sharek, MD, MPH

Interviews with six of the 11 neonatal ICUs that participated in the Breastmilk Nutrition Quality Improvement Collaborative indicated that increases in breast milk feeding and
decreases in necrotizing enterocolitis persisted for six months after the collaborative’s end. Twelve to 18 months later, some sites maintained or increased their gains, while others trended back toward baseline. Factors contributing to sustained improvements included physician involvement, continuous education, incorporation of interventions into the daily work flow and data-driven feedback.

**Departments**

**PSYCH: A Mnemonic to Help Psychiatric Residents Decrease Patient Handoff Communication Errors**

*Maria Theresa Mariano, MD; Victoria Brooks, MD; Michael DiGiacomo, MD*

In a pilot study, psychiatry residents were taught a mnemonic, PSYCH, to use during their post-call patient handoffs, which resulted in a statistically significant decrease in the mean number of omissions after the intervention (*p* = 0.049).

**Managing Disruptions to Patient Flow Capacity: Rapid-Cycle Improvement in a Pediatric Cardiac Procedure Complex**

*Debbie McKetta, MS; T. Eugene Day, DSc; Virginia Jones, BSN, RN; Alexis Perri, MSN, RN; Susan C. Nicolson, MD*

Discrete event simulation and a rapid improvement event enabled a cardiac center to meet demand during a planned six-week disruption period of diminished capacity.

**Tool Tutorial**

**A National Organizational Assessment (NOA) to Build Sustainable Quality Management Programs in Low- and Middle-Income Countries**

*Joshua Bardfield, MPH; Margaret Palumbo, MPH; Michelle Geis, MHA; Margareth Jasmin, MD; Bruce D. Agins, MD, MPH; for the NOA Working Group*

The NOA tool was developed to support governments in low- and middle-income countries in the creation of national quality management programs. The NOA facilitates identification of strengths and gaps in eight domains to target capacity-building needs.
Forum

Behavioral Health Integration in Acute Medical Settings: An Opportunity to Improve Outcomes and Reduce Costs

Mara Laderman, MSPH; Kedar S. Mate, MD

Psychiatric comorbidities in acute medical settings are prevalent, but compared to ambulatory care, there are few models of integration of behavioral health. An innovation review process suggested barriers to better integration; core components of successful approaches; and the business case for this model of care.

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