Quality and safety

Journal study: Hospital reduces risk of single-patient insulin pens with QI project

A new study published in the December 2019 issue of The Joint Commission Journal on Quality and Patient Safety details how a quality improvement project undertaken by researchers at Penn Medicine, Philadelphia, helped to reduce the risk of single-patient insulin pens.

Insulin pens are widely used in hospitals because they have multiple safety advantages compared to insulin vials, including a product name and barcode and a dial mechanism for less error-prone dosing. Despite these features, accidental sharing of pens still occurs, putting patients at risk for exposure to HIV, hepatitis B virus or hepatitis C virus.

The study — “Is One-Pen, One-Patient Achievable in the Hospital? A Quality Improvement Project to Reduce Risks of Inadvertent Insulin Pen Sharing at a Large Academic Medical Center” — involved a multifaceted quality improvement project at one of Penn Medicine’s academic medical centers to address safety issues of single-patient insulin pens.

Five root causes for accidental sharing of pens were identified:

- Knowledge gaps and practice variation
- Labels
- Insulin storage and removal process
- Information technology issues including those related to barcode medication administration and the electronic health record
- Insulin administration workflow

Four major interventions to address the root causes were developed and tested:

- Patient-specific bar coding on insulin pens
- Redesign of labels
- Systematic removal of discharged patients’ medications
- Ongoing staff education

As a result of the interventions, the hospital had a significant increase in the number of days between self-reported adverse events of insulin pen sharing. Meanwhile, the most significant decrease in the number of reported adverse events occurred after the implementation of patient-specific barcode scanning. There also was a gradual decrease in latent errors found during medication drawer audits, and nursing compliance with patient-specific bar code scanning improved over time.

Of 35 expert recommendations for insulin pen safety, 28 directly affected pen sharing. Eight of these had been implemented prior to this project, and 20 had been implemented by the conclusion.

“Insulin pen use is highly complex in hospital settings where multiple steps provide opportunities for error,” the study authors concluded. “To protect patients, all gaps need to be reviewed, and interventions that address major contributing factors are required to ensure safe insulin pen use.”
Other articles featured in the December issue include:

- “Implementation of a Low-Dose, High-Frequency Cardiac Resuscitation Quality Improvement Program in a Community Hospital” (Illinois Valley Community Hospital, Peru, Illinois)
- “Designing for Sustainability: An Approach to Integrating Staff Role Changes and Electronic Health Record Functionality Within Safety-Net Clinics to Address Provision of Tobacco Cessation Care” (MetroHealth System, Cleveland)
- “Quality Improvement Learning Collaborative Improves Timely Newborn Follow-Up Appointments” (Indiana University School of Medicine, Indianapolis)
- “Use of a Clinical Pathway for C. Difficile Treatment to Facilitate the Translation of Research Findings into Practice” (Penn Medicine, Philadelphia)
- “An Ambulatory Antimicrobial Stewardship Initiative to Improve Diagnosis and Treatment of Urinary Tract Infections in Children” (University of North Carolina, Chapel Hill)
- “Building Improvement Capacity to Create Strong, Effective Primary Care Teams in Community Health Centers” (Harvard Medical School Center for Primary Care, Boston)

Access the Journal.

People

Petrovic named new director of Department of Standards and Survey Methods

Kathryn D. Petrovic, MSN, RN-BC, started as the newest director of the Department of Standards and Survey Methods (DSSM) this week at The Joint Commission. Petrovic succeeds Mary Brockway, RN, MS, who announced her retirement earlier this fall.

As director of DSSM, Petrovic will play a critical role in the future of The Joint Commission’s standards and survey processes. She will oversee the research, testing, development and revision of Joint Commission standards, as well as the development and evaluation of Joint Commission survey practices.

DSSM develops standards for all Centers for Medicare & Medicaid Services-recognized programs, as well as Disease-Specific Care Certifications. The department also supports research and framework for The Joint Commission’s National Patient Safety Goals.

“I think Kathryn will be terrific as director,” said David W. Baker, MD, MPH, FACP, executive vice president, Division of Health Care Quality Evaluation. “Her past leadership positions in health care organizations and her roles in other divisions of The Joint Commission give her unique experience and perspective that will help ensure our standards address key quality and safety issues, can be applied consistently by surveyors, and can help health care organizations drive improvement and achieve better patient outcomes.”

Previously, Petrovic was a field director in the Department of Surveyor Management and Development for the Behavioral Health Care and Psychiatric Hospital programs at The Joint Commission. She provided direction, leadership and training to surveyors. Petrovic also served as senior associate director in The Joint Commission’s Standards Interpretation Group and a surveyor for the Psychiatric Hospital program. Additionally, for the last two years, she has co-facilitated The Joint Commission’s Suicide Risk Reduction Expert Panel.

Prior to joining the Joint Commission, Petrovic served as a nurse leader in several health care organizations. In those roles, she addressed complex clinical and operational challenges and fostered cohesive, multidisciplinary and interdepartmental teams. She received her bachelor’s degree in nursing from Saint Mary’s College, Notre Dame, Indiana, and her master’s degree in nursing administration from the University of St. Francis in Joliet, Illinois.

Resources

Up in the blogosphere with The Joint Commission

- Ambulatory Buzz — Wrong Site Events, Unintended Foreign Object Retention Top Reported Sentinel Events in Ambulatory: The Joint Commission is drilling down into the data on sentinel events, or patient safety events that result in death, permanent harm, or severe temporary harm. A total of 7% of all
reported sentinel events were reported in either ambulatory care or ambulatory surgery centers. Wrong site events and unintended foreign object retention are the most frequently reported types of sentinel events for both ambulatory care organizations and hospitals, writes Gerald Castro, PhD, MPH, PMP, project director, Patient Safety Initiatives, Office of Quality and Patient Safety (OQPS).

- **@ Home with The Joint Commission — Heads Up: Identifying the Risks with Home Oxygen Therapy:** In October 2019, The Joint Commission launched a new survey readiness resource, the Heads Up Report, which provides organizations with a “heads up” or notice about ongoing survey trends as they are observed. The topic for the home care program is identifying risks with home oxygen therapy. From Jan. 1, 2018 to May 31, 2019, 3% of high-risk findings cited on home care surveys were related to home oxygen therapy, writes Brigette DeMarzo, project director, Department of Quality Measurement, and Brette Tschurtz, associate director, Department of Research.

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