The challenge

The committee highlighted an opportunity to improve performance on peripheral vascular access—one of the most frequently performed patient interventions. Nurses reported that process and performance varied among units. There were frequent missed starts on first attempts to insert peripheral catheters, which required additional attempts that caused patients additional discomfort and wasted resources. In addition, the legacy peripheral catheters did not have an integrated extension set, which added to variability. Nurses had to remove the IV dressing to attach an extension set when patients were moved from the emergency department (ED) to the floors. Every change raised the risks of blood exposure and potential IV dislodgement. The hospital serves a large population of HIV- and Hepatitis C-positive patients, so protection against blood exposure is critical. “Nursing voices were loud and clear,” Dr. Platt said. “Blood exposure and needlestick risks were key concerns with peripheral intravenous (PIV) access.”

Changing the vascular access culture

Dr. Platt was determined to see if upgrading to an integrated catheter would reduce these risks. Five catheter companies were invited to have UF’s frontline nurses evaluate their products.

The nurses’ voice in performance improvement

UF Health Jacksonville is the region’s premier academic health center, a leader in the education of health professionals, a hub for clinical research and a unique provider of high-quality patient care. Among its many awards, it is recognized as a Magnet® organization with over 2,200 nurses, a gold standard of nursing excellence. As a part of this commitment to excellence, Valerie Platt, DNP, RN, NE-BC, Division Director of Nursing Specialty Services, chairs the Nurse Safety Team, which makes continuous improvement recommendations and reviews new technologies and innovations aimed at improving nursing practice and optimal patient care.
“When 90% of our nurses chose BD catheters, we decided to explore further,” Dr. Platt said. The BD catheters had a preattached extension set to contain blood, a safety mechanism to prevent needlesticks and a stabilization platform that meant no more stat locks were required. “We were advancing from using rudimentary straight catheters to a more sophisticated catheter. This required every nurse to master a new set of skills,” she said. “Changing the culture for an ingrained behavior such as inserting a PIV is a challenge,” Dr. Platt continued. “It requires a major effort to effect a culture change, and BD provided incomparable support to ensure that our goals were met.”

Baseline assessment

“The Nurse Safety Team, in partnership with Cynthia Gerdk [DNP, MBA, NE-BD] who chaired the central line–associated bloodstream infection (CLABSI) team, worked with BD to find ways to decrease blood contamination, increase safety during the placement of intravenous catheters, decrease blood culture contamination, and review the opportunities to decrease CLABSI by improving access and techniques used in IV access,” Dr. Platt reported. In June 2014, a team of seven BD clinical consultants conducted a baseline assessment. “The BD team examined the whole IV process including all the products we use. They were objective, clear and unbiased in their observations,” Dr. Platt reported. The BD team examined 98 IVs indwelling in patients, reviewed 69 blinded patient records covering 190 IV insertions, interviewed 42 clinicians in patient care areas and observed 12 live PIV insertions. The goals of the assessment were to assess current practices, processes and products relevant to infusion therapy in an effort to identify any areas of risk that could lead to needlestick injuries, blood exposure, bloodstream infections or other catheter-related complications.

The baseline data from this Quality Assurance Initiative showed that blood exposure was a key risk, and that catheter dwell times, first insertion success, complications and rate of catheter failures could be improved. The data were shared with stakeholders from all departments, including Dr. Patrice Jones, Chief Nursing Officer, Division Directors from all clinical units, and representatives from the Nursing Leadership Council, infection control, purchasing, value analysis and supply technicians. The leadership group committed to a program to improve vascular access practices.

Implementing peripheral IV culture change

The BD clinical team collaborated with UF Health to develop the program and to initiate process improvement projects to align with best practices. The integrated solution from BD for vascular access management provided specific and practical recommendations, including policy updates and practice changes, extensive training on best practices for PIV insertion, and product recommendations, Dr. Platt noted.

In June 2015, “BD offered a robust education and training program, including instructor-led CE courses on infusion topics. They provided hands-on support and one-on-one training to help nurses gain proficiency with the new catheters,” Dr. Platt reported. The BD clinical team ensured that every nurse was trained to perform PIV insertions in accordance with UF Hospital policies and best practices.

In July 2015, the hospital switched to BD products. “The BD products have supported our goals to reduce needlestick injuries, blood exposure and other catheter-related complications,” Dr. Platt observed.

Quality assurance initiative results

In June 2016, the BD team returned and conducted a post-implementation assessment in 22 patient care areas, observing 188 indwelling IV catheters sites, reviewing 60 patient records that encompassed 100 PIVs, watching 15 PIV insertions and interviewing 23 clinicians. They found that incidents of blood spillage and contamination were reduced to zero. First-stick proficiency increased from 42% to 80%, impacting the patient experience as well as product utilization, and PIV site selection and preparation showed improvements. PIV dwell time increased on average from 2.4 days to 4.3 days. The average number of catheters per patient decreased from 2.7 to 1.6, and there was a 46% decrease in the incidence of catheters requiring replacement prior to the completion of patient therapy. “These improvements demonstrate that focusing on optimal vascular access have raised the quality of the care we deliver, created a safer work environment, and may improve patient outcomes and satisfaction,” Dr. Platt concluded.

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