PA PATIENT SAFETY

Summer Special Edition
June 2023

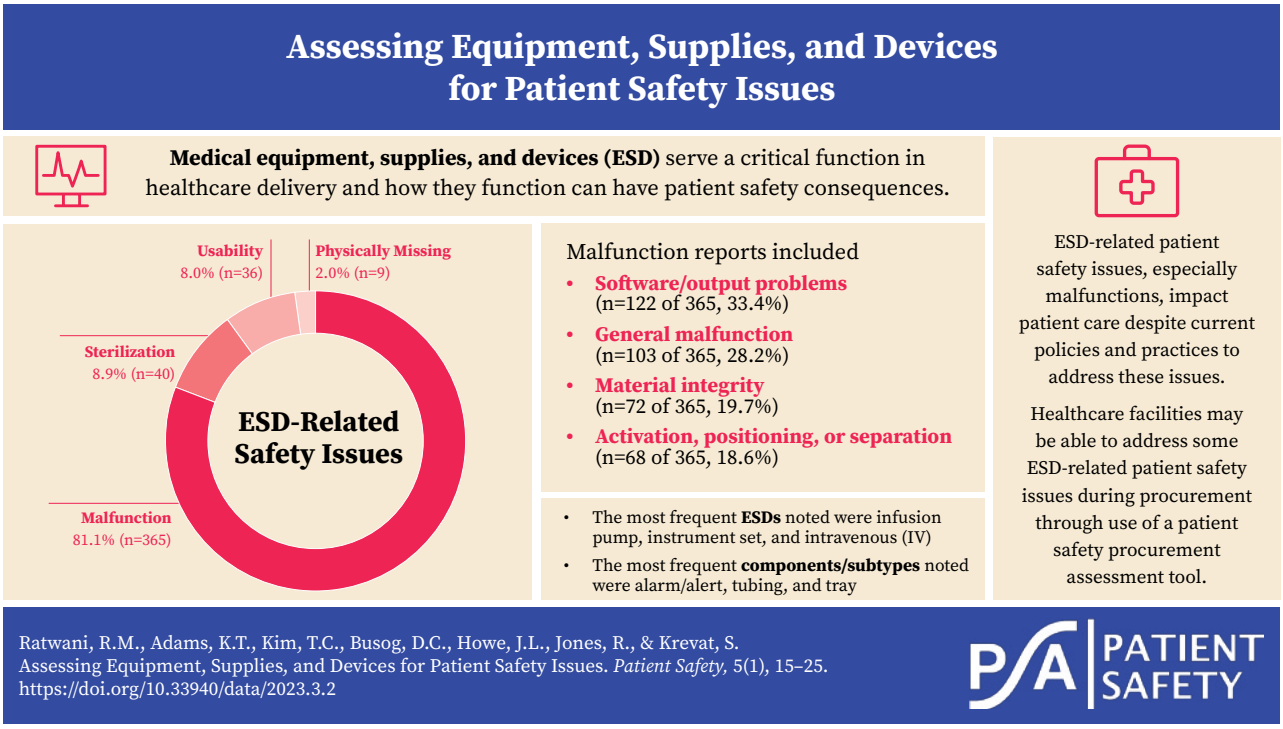
What You Need to Know

Our quarterly special editions feature articles, stories, interviews, and more from our journal, *Patient Safety*. In this newsletter you will read about change in healthcare: how event reports inspire change, facilities that successfully implemented change, new research to inform change, and what is needed to change patient safety culture.

View From the Top: An Interview With Patient Safety Authority Chair, Dr. Nirmal Joshi

"We should always strive to accomplish zero patient harm," says Dr. Nirmal Joshi, Patient Safety Authority chair. "I don't think any healthcare worker would deny that. I think we go into the field with an inherent intent to help people. And when things don't work out as we hope, we are not only saddened, but we go back and look carefully, 'What is something we might have done differently?'"

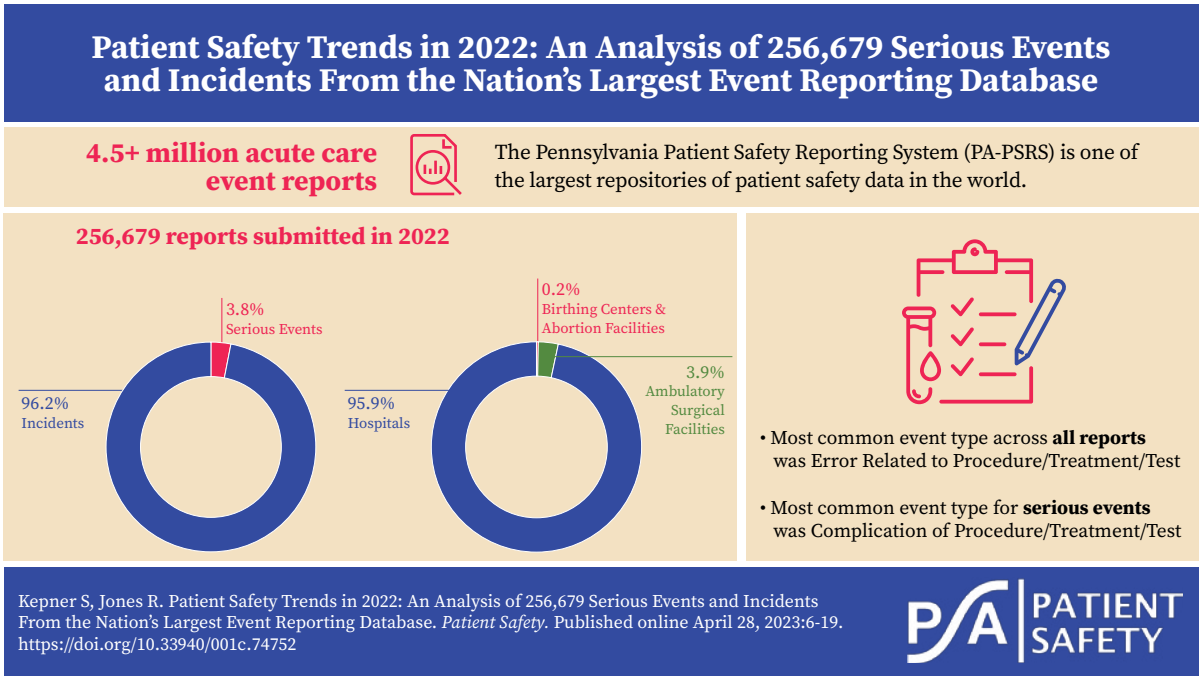
Dr. Joshi recently sat down with *Patient Safety* managing editor, Caitlyn Allen, to discuss ways patient care has improved in the 21 years since Pennsylvania passed the Medical Care Availability and Reduction of Error (MCARE) Act, what challenges persist, and how to achieve the unachievable—true culture change.

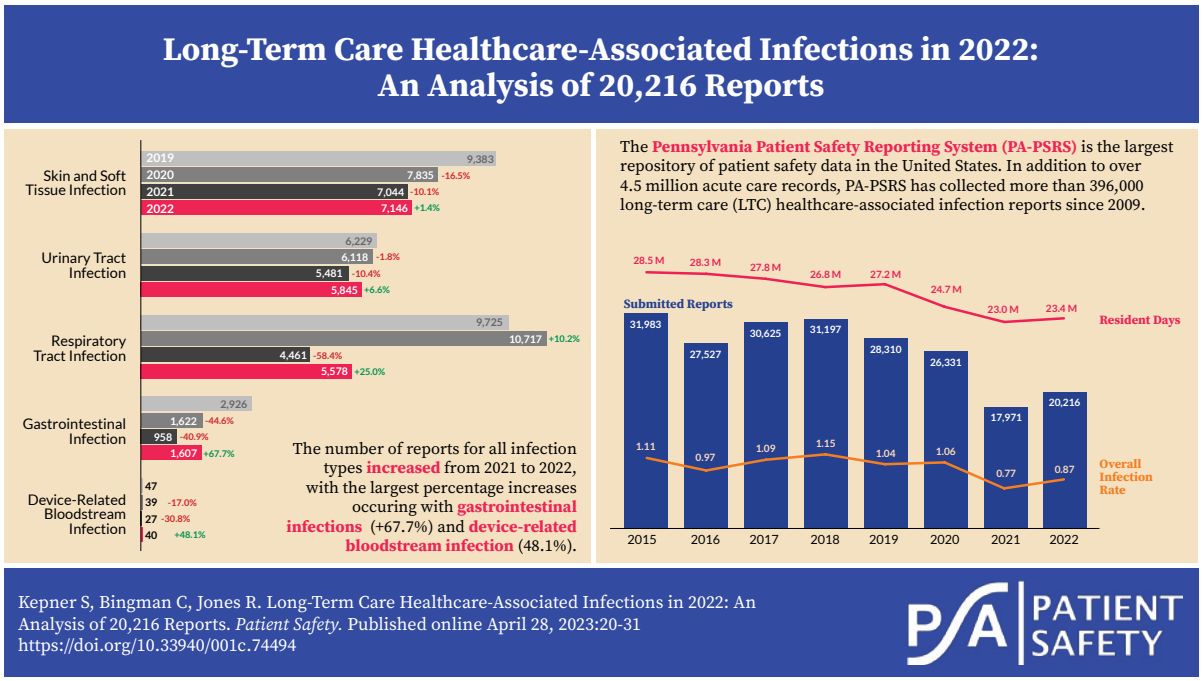


Original Articles — Assessing Equipment, Supplies, and Devices for Patient Safety

To care for patients, healthcare staff rely on a host of medical equipment, supplies, and devices (ESD) every day. So when a medical instrument fails or isn't maintained or used correctly, the health and safety of patients can instead be compromised. A team of researchers reviewed 450 patient safety event reports related to ESD to identify the most common safety concerns and the human factors usability issues contributing to them.

Data showed that the most frequently reported ESD-related safety issues were malfunction, sterilization, usability, and physically missing. Their detailed findings and insights, along with the patient safety procurement assessment tool based on their analysis, may help guide facilities in selecting ESD and making changes in their policies and procedures, and enhance training.

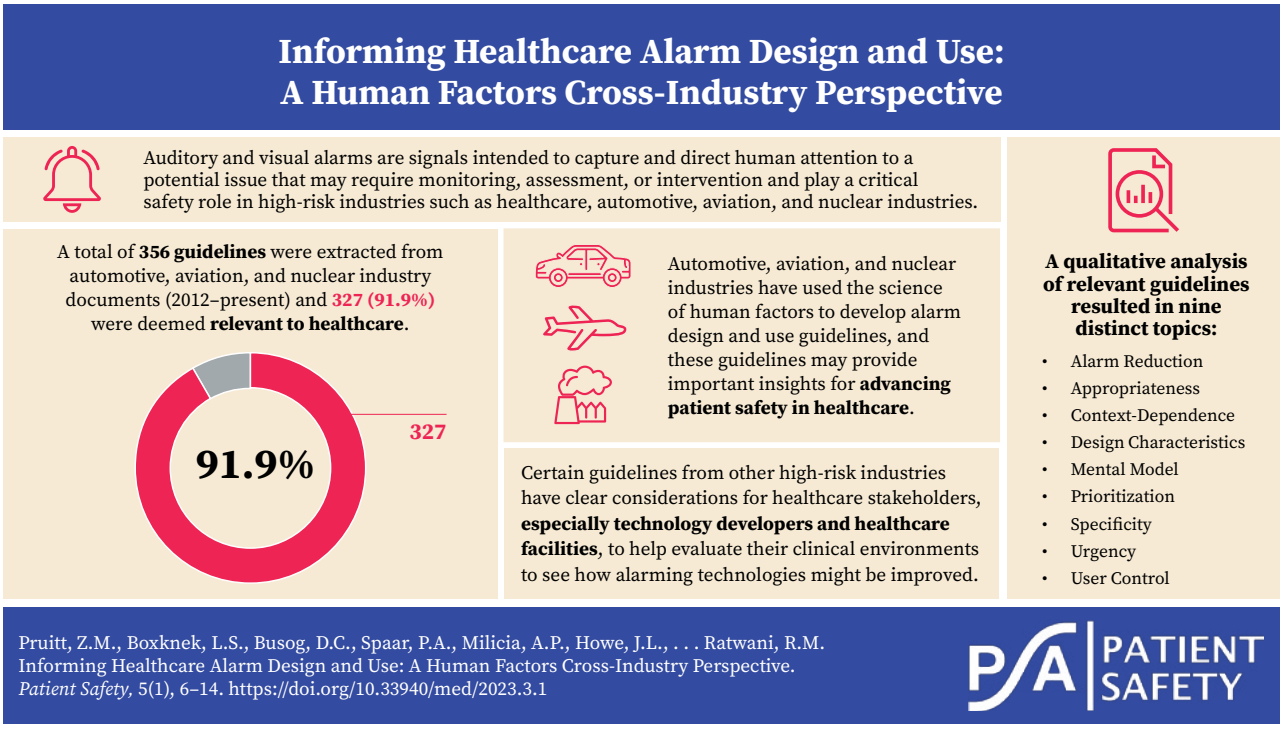




2022 in Patient Safety

In conjunction with the Patient Safety Authority's 2022 annual report, we published two articles in *Patient Safety* analyzing 2022 data from the Pennsylvania Patient Safety Reporting System (PA-PSRS), the nation's largest event reporting database.

In "Patient Safety Trends in 2022," PSA data analysts take a close look at the 256,679 incidents and serious events reported by acute care facilities last year, while "Long-Term Care Healthcare-Associated Infections in 2022" examines 20,216 HAI reports from long-term care facilities last year. They supplement the data overview in the annual report with a comprehensive review and analysis of events reported in 2022, as well as insights into patient safety in Pennsylvania and how we may continue to improve it together.



Informing Healthcare Alarm Design and Use: A Human Factors Cross-Industry Perspective

Alarms are used in hospitals and other healthcare facilities to help monitor patients and warn their care team of sudden changes in their condition. But when there are too many alarms they may just become background noise, and poorly designed alarms may confuse users or distract them from important information—potentially putting patients at risk.

Other high-risk industries, such as automotive, aviation, and nuclear, also heavily rely on auditory and visual alarms to protect, and their alarm design and use guidelines offer some best practices that can be adopted in healthcare to develop more effective alarms with human factors in mind. Researchers reviewed industry documents from the last decade and extracted, analyzed, and categorized 327 guidelines that are relevant to healthcare, in areas including alarm reduction, appropriateness, design characteristics, and prioritization. One example of a guideline that can help keep patients safe: "visual alarms should use symbols and icons, as well as colors, that utilize existing associations (e.g., octagon shape for a stop sign)."

Patient Safety Initiatives — Events That Inspired Change: The Importance of Sharing What Happened to Stop It From Happening Again

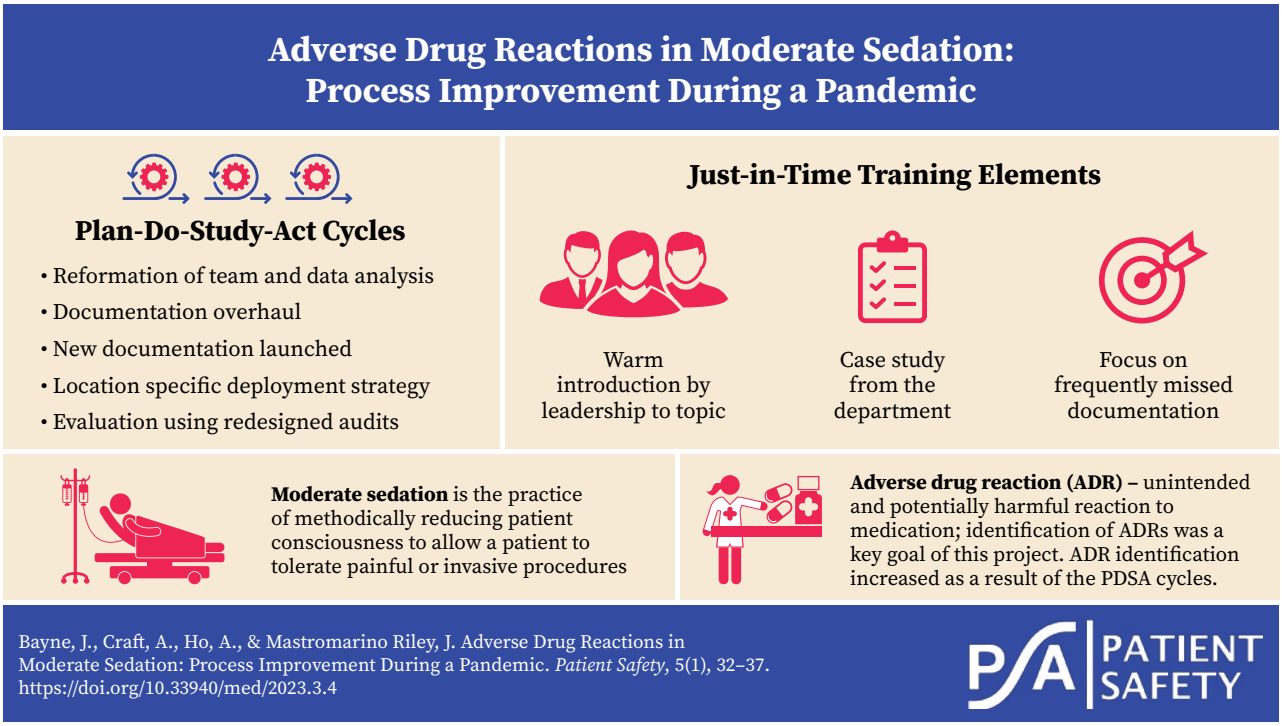
Healthcare facilities in Pennsylvania are required to report events that caused harm or could have caused harm to patients—but why is it so important? Event reporting isn't about pointing blame, it's about telling the story behind the event to help us understand why it happened and prevent it from happening again. Sharing these stories can help other facilities and staff avoid mistakes, learn from best practices, and provide better care for patients.

That's why the Patient Safety Authority has launched Changemakers: Stories That Made a Difference, a collection of stories about events that inspired people to improve care across their hospital, health system, or even nationwide. Read about how a malfunction resulted in incomplete lab orders being faxed from the electronic health record system; how reports of events related to nasogastric tubes revealed a widespread, unidentified supply issue; how tracheostomy events catalyzed changes in procedures for changing trachs; and more.

Improving Sepsis Compliance With Human Factors Interventions in a Community Hospital Emergency Room

If an infection leads to sepsis, and the condition isn't treated quickly, the patient is at risk of suffering organ damage and even death. Screening tools can help healthcare staff identify sepsis early, but as with any tool, they are only effective if they're being used. When one hospital system realized they had low compliance with sepsis best practice treatment—below state and national benchmarks of 55% and 57%, respectively—and a high sepsis mortality rate, they launched a quality improvement project to turn things around.

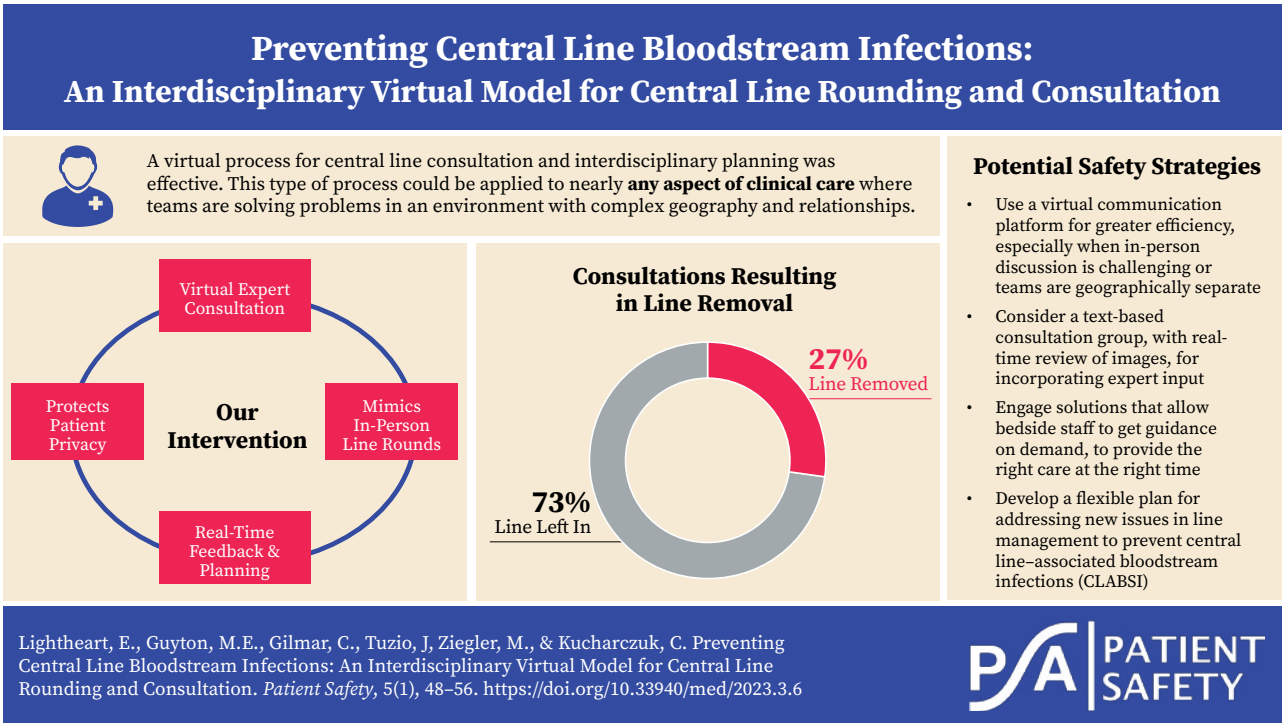
Their sepsis workgroup introduced a series of interventions and studied their effectiveness in practice, including increased education around sepsis best practices and data transparency, as well as creating visual cues of sepsis criteria. Some of their innovations included "badge buddies" to raise awareness of sepsis and help identify it, the addition of a sepsis screening triage question to the electronic medical record, and a sepsis escape room for registered nurses in the emergency department. As a result of the project, compliance with sepsis best practices increased to 68.3%, surpassing recommended benchmarks, and sepsis mortality decreased by half.



Adverse Drug Reactions in Moderate Sedation: Process Improvement During a Pandemic

Moderate sedation—methodically reducing a patient's consciousness so they may feel less pain during a procedure—requires identification and evaluation of adverse drug reactions (ADRs), to ensure medication can be safely administered. When a community hospital noted that no ADRs had been reported over two years, which was unlikely to be an accurate reflection of adverse drug events, they recognized that they needed a better process for consistently documenting ADRs.

Their efforts to redesign and implement a new documentation protocol were complicated by the pandemic, which limited in-person opportunities for staff education and training, but the project team rose to the challenge. Using multiple Plan-Do-Study-Act cycles, they drew on existing literature and feedback from staff to update the moderate sedation program and tailored education to each department and staff's individual needs: a combination of one-on-one instruction and just-in-time training at huddles, as well as ongoing feedback and process improvement. Their efforts resulted in an increase in both adverse drug event knowledge and identification of ADRs.



Preventing Central Line Bloodstream Infections: An Interdisciplinary Virtual Model for Central Line Rounding and Consultation

Central line–associated bloodstream infections (CLABSIs) may result in health complications in patients with a central venous catheter (CVC), prolonging their hospital stay, increasing patient and hospital costs, and increasing the risk of mortality. Training in best practices for inserting and maintaining CVCs, as well as when to remove them, can help prevent CLABSIs. Multidisciplinary central line rounds are also helpful in CLABSI prevention, and to reduce the number of CLABSIs occurring at their hospital, particularly when in-person rounds are challenging, one team took the concept even further—by introducing virtual central line rounds.

The team developed and implemented a HIPAA-protected, text-based "CL Hotline" for assessing central lines for risk of infection which enabled inpatient oncology staff to consult with an interdisciplinary team of oncology and infectious disease experts. Reasons for these consultations included concerns about central line assessment findings, issues with CVC maintenance, clinical concerns for central line infections, and consideration of removing central lines. The CL Hotline facilitated removal of central lines in nearly a quarter of the consultations, which contributed to an overall decrease in CLABSI rates.

Reduction of Patient Harm Through Decreasing Urine Culture Contamination in an Emergency Department Using Multiple Process Improvement Interventions

Urinary tract infections (UTIs) can occur in any part of the urinary system, including the kidneys, bladder, and urethra, and can be diagnosed with a urine culture that detects the presence of bacteria in urine. An untreated UTI can lead to significant health complications, such as repeated infections, but fortunately once identified, it can usually be treated with antibiotics. However, misdiagnosing a patient with a UTI, due to contaminations in the urine sample, comes with its own risks: unnecessary prescription of antibiotics, added costs for the patient and healthcare system, and unnecessary hospital admissions.

To prevent contamination of urine samples and cultures, a team studied data at their hospital and reviewed best practices to develop new processes for specimen collection and handling that would help reduce the number of incorrect UTI diagnoses, thereby reducing antibiotic use, repeat urine cultures, and patient admissions. They successfully decreased contaminated urine samples by 80% over six months through a combination of improvements in midstream "clean catch" visual education for patients, staff training in midstream and sterile straight catheter collection techniques, and near elimination of bedpan or urinal collection.

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