CASE STUDY

Advocating for the right product and program leads to lower CLABSI rates

The organization

MUSC Health, clinical enterprise of the Medical University of South Carolina (MUSC), the state's only comprehensive academic health system, with 16 owned and affiliated hospitals state-wide as of March 2025.

The challenge

Reduce risk of central line-associated bloodstream infections (CLABSIs) by achieving buy-in system-wide to implement a standardized central venous catheter dressing change kit.

The outcome

Decrease in CLABSIs of over 20%, positive feedback from nurses and from leadership to use the successful change management model going forward.

Central line-associated bloodstream infections (CLABSIs) cause the highest number of preventable deaths among healthcare-associated infections (HAIs), with a mortality rate of up to 25% and a cost as high as $94,900 per case.[1,2]

Using a standardized sterile dressing change system helps promote sterile maintenance of a catheter, reducing CLABSI risk factors.[2] The right dressing change system can also empower nurses to follow best practices and reduce time spent on dressing changes. These significant benefits motivated Scott Bernshausen, MAM, BSN, RN, CIC, ASSE 12080, system director of infection prevention and control at MUSC Health, to embark on a journey to implement a standardized central venous catheter (CVC) dressing change kit, the EBSI kit from Medline.

CHALLENGE

Inconsistent CVC dressing change kits and resistance to product transition

One of the primary challenges to preventing CLABSIs at MUSC was the lack of a standardized sterile dressing change system across its then 13 hospitals. In 2022, when Bernshausen and his team began work toward standardization, each MUSC hospital operated independently. The disconnect led to inconsistencies in infection prevention practices and the products used. The 13 facilities used more than a dozen different sterile dressing change systems.

"We wanted to put in place controls to help our care team members do the right thing the first time because it only requires one contamination to create that patient harm," says Bernshausen, the 2024 APIC Palmetto Chapter President. In order to accomplish that, Bernshausen knew he would need to get buy-in from leadership. He also knew that positive impact begins at the frontline.

> "We wanted a product that anyone walking into our facility could use correctly."
>
> 
>
> **Scott Bernshausen**
> MAM, BSN, RN, CIC, ASSE 12080, MUSC Health System Director of Infection Prevention and Control

At the time, many acute care facilities, including MUSC were seeing an increased number of traveling nurses. "We wanted a product that anyone walking into our facility could use correctly," he says. "And I think that's still a very valid point, because the turnover in hospitals is so high these days, so you really want consistency."

The other big hurdle was the resistance to cost when it came to implementing a new dressing change system. Bernshausen met every other week with the infection preventionists across the system and says he had their support from day one. "It was important to us to justify a higher upfront cost by educating our partners on the financial impact due to infections, such as lost funding, increased patient stay and overall patient experience."

He also pointed out that the overall confusion at having more than a dozen different CVC dressing change systems was hard on nurses, in terms of confidence to follow best practices, time spent on the dressing change and consistency in practice.

For instance, Bernshausen says, "Out of eight items necessary for the procedure, many of the supply rooms did not have the items close together and/or they weren't easy to find." Such a setup could potentially disrupt workflow, waste nursing time and cause confusion.

> "Turnover in hospitals across the nation is so high these days, so you really want consistency."
>
> 
>
> **Scott Bernshausen**
> MAM, BSN, RN, CIC, ASSE 12080, MUSC Health System Director of Infection Prevention and Control

Bernshausen knew that if he was going to succeed in overcoming the challenges, he had to win over leadership in each of the four divisions that comprise their executive system.

"The intersection of supply chain and quality is where true healthcare efficiency happens," says Austin Zoeller, MBA, AVP sourcing and contracting at MUSC. "When we collaborate with clinical leadership to streamline product selection efforts, we strengthen the supply chain and reduce care variation, which directly supports better patient outcomes, reduces unnecessary costs, and enhances workflows for frontline staff. We understand that behind every supply decision is a patient who deserves the best care possible."

ACTIONS

Seeking out the frontline voices

To address the challenges, the first step Bernshausen took was to organize a product "road show." The road show tapped into the knowledge that impact begins with a bedside-first approach, so he had to get the MUSC frontline staff on board. The road show allowed frontline staff to examine several different formats of kits to decide what would be the most comprehensive and streamline practice. "It meant we reached many more nurses than we would have otherwise," Bernshausen explains.

Anywhere from 30 to 70 nurses came through at each facility, dropping their votes in a box at the end of the line. And then the votes were tallied. "We advertised a lot to get frontline team members involved, and we had the chief nursing officers come by as well, so their voices were heard," he explains.

There were various kits for review, including the EBSI Kit from Medline. Developed by nurses for nurses, Medline's EBSI Kit organizes components in order of use, guiding clinicians through best practice sterile dressing changes and line access procedures. Instructions for use of each component and images that go with them are customizable and available on the sterile field at the point of use for the nurse. As of 2025, Medline's Erase BSI Dressing Change Kit is fully compliant and in support of ANTT® Key-Part Protection.

> "Typically, less than 2% of nurses actually get to even touch a product before it's implemented."

The kits were laid across tables, with nurses starting at one end and going through each kit to the end. Bernshausen created a ballot system for nurses to vote on their preferred kit option.

The end goal was to recommend the optimal dressing kit, and Bernshausen wanted to make sure he had backing and support from the nurses who would be using these kits on a daily basis. "Typically, less than 2% of nurses actually get to even touch a product before it's implemented," he says.

"We didn't just show them a PowerPoint. We didn't just talk to them. We let them touch and feel the products." And, he adds, when nurses are involved in the decision-making process for a product they use, implementation goes much smoother.

The EBSI Kit was deemed the favored choice. "They liked it because it makes dressing change easy to do correctly," Bernshausen says.

Presenting the data

The next step was sharing the results of the road show with leadership, along with the clinical and financial rationale for implementing the EBSI Kit. Bernshausen brought all the stakeholders back together for a state of infection prevention presentation. CLABSI took centerstage.

And it didn't start the usual way—with a spreadsheet of numbers. It started by humanizing the challenge to reduce CLABSIs. "We focused it all on the patient," Bernshausen says. "We used icons of humans to represent the number of infections throughout the system." He marked some to indicate how many of those had negative outcomes. "I wanted to show that CLABSIs cause real harm to the patients that we all care for."

> "I wanted to show that CLABSIs cause real harm to the patients that we all care for."

Only after that did he bring in the spreadsheet of numbers: the average cost of an infection, the revenue and reimbursement lost, and the projected cost of a weakened reputation for the hospitals.

He concluded saying that they all had an opportunity to reduce the negative impact of having multiple CVC dressing change kits. And, of course, he emphasized the EBSI Kit that was preferred by the frontline nurses.

"I really took the approach like I was walking into a courtroom," Bernshausen says. "I presented my evidence and gave my closing statement: Here is where we are, these are the facts, we heard from frontline care team members, and now it's our job to make sure that we represent them and support them in reducing patient harm."

Prior to implementation, Medline outlined the basics of CLABSI prevention, tying it directly to the design of the EBSI kit that MUSC customized, and ultimately developing a CLABSI prevention champion at each facility. Then, MUSC and Medline partnered to visit each region in person to demo the kit and review the best practices in person.

OUTCOME

Reducing CLABSI risk and empowering nurses

The implementation of the EBSI kit led to a significant reduction in CLABSIs across the MUSC system, with a reported decrease of over 20% in the calendar year 2024. The success of the project was celebrated in the annual report and highlighted as a model for change management.

20% decrease
in CLABSIs with the EBSI Kit

"Overall the EBSI Kit has been wildly successful," Bernshausen says. "Moving our infection numbers, especially in a 1,000-bed academic institution hospital, is like changing the course of the Titanic with a wooden oar." Seeing that 20% reduction was validation that the process was worth the outcome.

Once the decision was made to use the new kit, nursing educators worked with Medline partners to help educate care team members prior to the go-live, ensuring implementation went smoothly. "The nurses were so excited, and the product is so intuitive, that there isn't a lot of education actually needed," Bernshausen points out, adding that most of the education focused on transitioning from one dressing to another. After implementation, several facilities also participated in Medline's Fact or Fiction Aseptic Non-Touch Technique hands-on workshop.

Although Bernshausen says they had some battles to overcome, the persistence throughout the journey has proven to be worth the effort. The secret to his success? "You have to have a holistic approach, make sure all the right stakeholders are at the table, from both a project management and change implementation perspective."

"The nurses were so excited, and the product is so intuitive, that there isn't a lot of education actually needed."

From the nursing perspective, Bernshausen says, frontline staff didn't see it as a battle at all. They saw it as leadership listening to them for a change. "They saw us present a product, they voted, and they got the product they voted for." It doesn't always happen that way, though. "Many of them felt it was the first time they had been able to voice their opinion."

Since the success of the EBSI Kit road show and presentation, Bernshausen and his team have been able to take on other large-scale changes by following the same process. "Leadership said this should be a model for change management with materials." He also feels like this is just the beginning of how they'll see the EBSI Kit help reduce CLABSIs.

Tips to using a holistic approach to materials change management

1. **Be persistent:** Change management takes determination and persistence, as demonstrated with the efforts to get leadership on board with the Medline EBSI Kit.
2. **Identify barriers:** Spot potential barriers early so you can either remove them or find ways to jump through the hoops, always keeping your goal in sight.
3. **Engage frontline staff:** Get frontline staff involved in the decision-making process from the start. Make sure they have an opportunity to touch and try the product Their input is crucial and carries a lot of weight in the final decision.
4. **Use a data-driven approach:** Leadership and value analysis committees appreciate numbers. Show them results of frontline staff reviews, as well as data that indicates the clinical challenge and how the preferred product can reduce patient harm and the costs associated with it.
5. **Maintain a patient-centered focus:** Build your case by starting with statistics that humanize the issue, emphasizing that it's not just about the upfront product cost, but the cost in patient harm, treatment and organization reputation.
6. **Collaborate on education:** After getting input from the frontline, involve educators to help with smooth implementation and training for the new products.
7. **Improve systemization:** Start a more systematic approach to materials management to improve efficiency.
8. **Highlight positive outcomes:** Promote the success of the initiative and the importance of frontline involvement by highlighting the positive results.

References:
1. U.S. Department of Health and Human Services & Centers for Disease Control and Prevention. (2011). Vital signs: Central Line–Associated blood stream infections — United States, 2001, 2008, and 2009. In Morbidity and Mortality Weekly Report. https://www.cdc.gov/mmwr/pdf/wk/mm60e0301.pdf
2. Beauvais, B., Dolezel, D., Shanmugam, R., Wood, D., & Pradhan, R. (2024). An Exploratory Analysis of the Association between Healthcare Associated Infections & Hospital Financial Performance. Healthcare, 12(13), 1314. https://doi.org/10.3390/healthcare12131314
3. Preventing central line-associated bloodstream infections: A global challenge, a global perspective. Joint Commission. https://www.