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In The Blood: Quality Improvement Measures Reduce Infections, Helping Patients And Saving Money

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by Daniel Seeger

A recent study mounted by Cedars-Sinai found that shifting safeguards around central venous catheters can help hospitals better protect patients and save millions of dollars annually.

To find out how healthcare facilities might incorporate these findings into both their short-term and long-range planning, Surgical Products interviewed Pat Parks, MD, PhD. Parks serves as medical director for the Critical and Chronic Care Solutions Division of 3M.

Can you tell us about the recent study on preventing bloodstream infections related to central catheters?

The study "Economic Evaluation of Quality Improvement Interventions for Bloodstream Infections Related to Central Catheters," published in the December 2016 JAMA Internal Medicine, was aimed at understanding whether the quality improvement (QI) interventions that health systems make can drive down bloodstream infection rates in a cost-effective way.

The study uncovered two important findings. The first finding was that properly executing QI interventions — including implementing established processes — can lead to a reduction of 57 percent fewer bloodstream infections on average.

The second finding was that for every \$100,000 a health system spent on improving care, they were able to achieve a savings of \$315,000 — which equaled a 3:1 ratio of gain to expense.

These findings further solidify the success of investing in QI interventions, and also counter current thinking that prevention interventions are too cost prohibitive.

What proactive steps can healthcare facilities take to reduce bloodstream infections?

Central venous catheter related bloodstream infections (CRBSIs) are prevalent, with approximately 60,400 occurring each year in U.S. hospitals. To help reduce the risk of infection in their facilities, health systems must proactively incorporate a three-prong approach: 1) highly trained and committed people, 2) policies that incorporate industry standards, and 3) evidence-based technology.

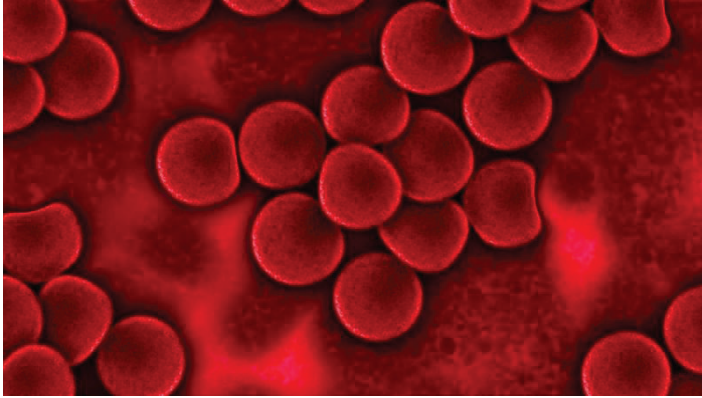
This means all staff need to understand that CRBSI prevention is their responsibility. With nearly one-third of all central venous catheters being placed by anesthesiologists and OR staff to help maintain fluid levels during a procedure, it is important to help connect the dots between how that central line impacts the patient's remaining stay until discharge.



Pat Parks, MD, PhD
Medical Director, Critical and Chronic
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Beyond helping staff understand their role in CRBSI prevention, health systems must invest in training staff to consistently execute best practices, including monitoring and implementing the most recent industry guidelines as they become available.

Lastly, health systems need to identify and incorporate products that are scientifically-proven to help reduce the risk of infections and that allow staff to easily comply with industry standards.



Since a major conclusion of the study was that initial investments lead to eventual cost savings, how should healthcare facilities approach their financial planning around this? And how quickly will they see results?

Because historical thinking had been that proper prevention was too costly, many health systems have historically been reluctant to invest in properly training staff, incorporating new policies and trialing new, evidence-based technologies. Sharing this study's results more broadly will help health system leaders recognize that they need to abandon this old way of thinking.

Successfully implementing QI interventions does take time, as change is often met with resistance. To help health systems overcome this hurdle, some manufacturers can serve as your partner in the process. They can provide [educational resources on the latest best practices and industry guideline changes relevant to your facility](#), as well as product research and in-service training to ease the implementation process for new products.

Once interventions are successfully in place, health systems can typically anticipate seeing results and savings within 6-12 months.

What can device manufacturers learn from this study that can help them deliver solutions to healthcare providers?

What we as manufacturers must understand is that we are not here to simply sell products. Device

manufacturers have to serve as trusted advisors in the infection prevention process.

The most successful manufacturers partner with clinicians and health system leadership to better understand the challenges they face, and take it upon themselves to research and apply the right science to deliver innovations that will solve problems. Working together, we can help facilities improve quality of care and reduce costs.



How feasible is it to think that at some point in the future individual hospitals will be able to completely eliminate catheter-related bloodstream infections?

While health systems will be able to significantly reduce the risk of infections by implementing QI interventions, CRBSIs can come from more than one site and source. Some patients' health conditions will lead them to get a CRBSI regardless of all the proper precautions taken.

But for facilities embracing the three-prong approach of highly trained staff, industry standards and advanced technology, we believe it is possible to reduce the rates so significantly that we can change how we measure CRBSIs — from number of infections per 1,000 catheter-days to much greater infection-free periods of time. It will become more common for these facilities to celebrate significant milestones, such as a year free of CRBSI.

Anything else you'd like to add?

This study was especially unique because it was a systematic review of more than 15 different studies, which ranged from randomized control studies, before-after studies, a time-series analysis, and modeled estimates with data collected from 113 hospitals.

Incorporating this mix of studies makes the findings — that QI interventions improve quality of care and can also save money — relevant and applicable to the average patient and to clinicians across the full spectrum of care.