

CASE STUDY



St. Luke's Hospital Healthcare Institution

Chesterfield, Missouri

With CareScience Quality Manager, St. Luke's Hospital identified trends in hospital-contracted urinary tract infections, implemented a plan to reduce these cases and obtained the necessary buy-in from medical and administrative staff to assure success.

St. Luke's Hospital The Organization

With countless awards and accolades to its credit, St. Luke's Hospital is one of Missouri's undisputed leaders in healthcare. The 493-bed facility offers premier services in cardiology, women's health, oncology, orthopedics, urgent care and more.

St. Luke's strives to offer its patients the best healthcare in the region and its employees a pleasant working environment. It has been named by the St. Louis Business Journal as one of the Best Places to Work, by U.S. News & World Report as one of America's Best Hospitals and by Modern Maturity as one of the Ten Leading Hospitals. Also, St. Luke's Hospital is one of the 100 Top Hospitals in the nation according to the annual Solucient: 100 Top Hospitals® National Benchmarks for Success study.

In Search of Relevant Data

St. Luke's Hospital takes a proactive approach to improving the quality of healthcare—it is committed to improving the success of medical protocols whenever possible. This includes reviewing any treatments that may result in complications and searching for ways to reduce the incidence of these complications. With this in mind, St. Luke's turned its attention to information revealed by CareScience Quality Manager, in which data

collected by the hospital over the previous two years was analyzed. The data revealed that patients were occasionally contracting an infection during their hospital stay as a result of the curative process itself and that 40 percent of these “nosocomial” infections were urinary tract infections (UTIs), largely resulting from the prolonged use of a catheter.¹

St. Luke's realized that such infections are not only detrimental to patients, but are also very costly to the organization because of the increased treatment, and often increased hospital time, infected patients require. In addition, medical studies indicate that four percent of these cases could result in bacteremia (a bacterial infection in the blood), which can be fatal.² St. Luke's also discovered that several alternatives to the Foley catheters currently being used at St. Luke's such as, newer silver-coated catheters and alternative brands of “regular” Foley catheters, had been reputed to dramatically reduce the incidence of nosocomial UTIs and reported more favorable technical attributes for minimizing the risk of infection.

When vendors of the new silver-coated catheters requested that St. Luke's conduct a study to validate this claim, the hospital was interested in participating. But because the new silver-coated catheters were three times



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more expensive than Foley catheters, and because St. Luke's had learned that alternative, laterally-priced regular Foleys were also an option, the organization wanted to determine if it had enough incidence of nosocomial UTIs to warrant a change.

"With the analysis that CareScience Quality Manager provided, the changes that needed to be made to decrease infection rates and to control costs became clear. We were able to execute a new strategy based on hard data and deliver better care through more efficient practices."

Susan Winchester, R.N.
Director of Nursing
St. Luke's Hospital

First, the staff wanted to research the incidence and trends of UTIs within its own institution to determine if Foley use could be avoided as a normal course of treatment for any of the patients currently receiving them, and if the length of time the Foley's were in place was appropriate for each patient. St. Luke's also wanted to identify the best strategy for executing catheter replacement from both a clinical and financial perspective—did it make sense to replace all Foleys with the more expensive brand, could a lateral Foley move be a reasonable alternative, or would it be necessary for treatment changes to vary within the most affected departments or patient populations?

Because the hospital focused on practices of evidence-based medicine and wanted to

engage hospital administration and staff in protocol changes only as a result of qualified information, St. Luke's needed healthcare history and financial data that could support the need to change its treatment strategy. As a result, the hospital began to recognize CareScience Quality Manager, the tool that initially diagnosed the opportunity, could provide the data upon which they could make these strategic decisions.

A Clear View into Quality of Care

With the CareScience Quality Manager, St. Luke's was able to determine its rate of UTI contraction and compare it to published national averages. The hospital discovered that UTIs were the most common nosocomial complication at its facility, and that in fact the hospital's rate of infection was not only higher for those patients who had Foley catheters inserted, but that its rate of occurrence was also four percent higher than the national averages.³ CareScience Quality Manager provided relevant, accurate data on national trends, allowing St. Luke's to check its performance against institutional averages. It also supplied risk-adjusted data to allow St. Luke's to compare its data to other institutions.

St. Luke's was also able to review contextual data relevant to UTIs: infections by sex, age, specialty of supervising physician, hospital division and more. Much of the data was not surprising; however, the hospital was able to identify specific patient care areas where the incidence of UTI was higher than others. CareScience Quality Manager data also indicated that there was potential overuse of Foleys for obstetrics patients.





St. Luke's Hospital found that CareScience Quality Manager supplied the data it needed to identify trends in the occurrence of nosocomial UTIs and create a plan of action. It helped the hospital get a clear picture of its treatment histories, trends, successes, complications, comparative metrics against national averages and more.

A Plan of Action

With CareScience Quality Manager, St. Luke's was able to determine that the hospital and its patient population would potentially benefit from the replacement of its current Foley catheters with similarly priced Foley catheters that had more favorable technical attributes for minimizing the risk of infection. With a phase-one plan to improve overall standards, policies and procedures, including adjustments to which patients were receiving catheters, how long they were in place, and who was putting them in, St. Luke's began to work toward diminishing the risk of nosocomial UTIs in its hospital.

With supporting literature evidence, St. Luke's developed an action plan. After weighing the pros and cons of strategies to improve nosocomial UTIs and reflecting on CareScience Quality Manager data, they selected a strategy that would combine process change (reducing the use of catheters when possible), with product change (swapping out their current Foleys for a more effective alternative, at little price change).

The Final Result

With the data provided by CareScience Quality Manager, St. Luke's was able to build

a strong case for the need to change not only the catheters themselves, but also the frequency with which they are used. And, by defining a strategy that called for the replacement of its current catheters with similarly priced alternatives, St. Luke's was able to increase the quality of care at its organization and potentially reduce its costs at the same time.

In phase two of St. Luke's action plan, the organization will use CareScience Quality Manager over a period of three months to monitor the results of the first phase of the initiative and determine if there are population sub-sets that would further benefit from use of the high-end silver-coated catheters.

"It was easy to extract the data we needed—CareScience Quality Manager lets us search for data using a variety of parameters and perform rich analysis."

Tami Strand
Manager of Clinical and
Operations Development
St. Luke's Hospital

As an unexpected result of its careful research and appropriate strategy, people from departments all throughout the hospital worked together to ensure this program's success: Performance Improvement, Materials Management, Nursing and Infection Control teams worked together, along with the medical staff, to make the new treatment strategy a reality.

CareScience Solutions

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- *Develop measurable plans to improve care processes.*
- *Monitor your improvement initiatives to ensure success.*

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^{1,2} CDC Guideline for prevention of Catheter-associated Urinary Tract Infections, (www.cdc.gov/ncidod/) "Preventing Catheter-Related Bacteriuria," Archive of

Internal Medicine, Vol. 159(8), 26 April 1999, 500-808.
³ National averages for comparison supplied by CareScience.

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