Beaumont Health System started out with a simple requirement – submit reports on hospital-acquired infections to the Centers for Disease Control (CDC) to qualify for reimbursements from the CMS Inpatient Prospective Payment System. However, in the process of solving this tactical problem, Beaumont realized unexpected strategic benefits – including improved patient safety and increased responsiveness to the healthcare needs of its community.

Beaumont Health System includes three major hospitals and multiple clinics and extended care centers in southeast Michigan, with annual revenues over $2.1 billion. It is recognized nationally for its optimal use of healthcare technology and was ranked in the top 250 of the InformationWeek 500 list of Top Technology Innovators for 2012.

Beaumont Health System improves patient safety using HealthShare strategic interoperability platform

IT becomes more strategic with advanced interoperability technology

Beaumont was struggling with multiple limitations in its legacy interface engine, which placed a huge burden on staff resources. This drove the Beaumont IT team to search for a replacement. “In addition, we wanted more built-in interfaces and more advanced communications capabilities than were available in the legacy software,” explains Subra Sripada, Executive Vice President, Chief Administrative and Information Officer at Beaumont. These new capabilities included monitoring and alerts.

To replace the legacy system Beaumont evaluated InterSystems HealthShare®, a strategic informatics platform, and vendor competitors on three criteria: Alignment of technology with organizational strategy, functionality, and rapid
development capabilities. Beaumont’s interface team conducted a series of proof-of-concept workshops where they took their most complex interfaces and worked with each vendor to re-create them, and to determine ease and speed of development, reliability, scalability, and data throughput. “We also spoke with our peers at multiple healthcare provider organizations,” says Sripada. “The feedback was enlightening. Support was a recurring theme with every organization’s staff and InterSystems customers provided positive feedback on the support that they received.”

Beaumont concluded that HealthShare was the best choice. Soon after HealthShare implementation, Beaumont rapidly replaced more than 150 legacy interfaces between its Epic EHR and other systems. With this success, Beaumont IT began to address strategic initiatives that would have been difficult or impossible without HealthShare.

**A fresh look at the data**

HealthShare’s standards support, data aggregation, and data transformation capabilities enabled Beaumont to look at its current systems and reporting in a new way. For example, Beaumont wanted to receive reimbursement from the CMS Inpatient Prospective Payment System based on reducing the rates of hospital-acquired infection. But this required the organization to submit reports to the Centers for Disease Control and Prevention in a customized CDA/CCD (Clinical Document Architecture/Continuity of Care Document) format. Before HealthShare, the data on hospital-acquired infections was in Beaumont’s EHR, but they had no way to automatically produce such reports. It was a manual and inefficient process. “We’ve always wanted to make use of this data,” says Stephen Bean, IT Manager at Beaumont, “but didn’t have the technology or resources to do it. The data abstraction alone would have required 20 hours a week, and InterSystems took this off our plate.”

HealthShare enabled Beaumont to automatically extract the data from the EHR and transform it into the correct CDA/CCD format for reporting to CDC and CMS – completing the project ahead of schedule and easily meeting the CMS deadline.

**Better information, better care with strategic interoperability**

While healthcare has traditionally seen interoperability as a tactical problem to be addressed by IT, leaders such as Beaumont are leveraging clinical data with the strategic interoperability technology of HealthShare to enhance population health and improve patient outcomes. With a better understanding of hospital-acquired infections, Beaumont compared this information to community-acquired infections among incoming patients and gained valuable insights. “It’s a new way of getting value from our data,” notes Kathleen DeSnyder, Manager, Quality and Patient Safety at Beaumont. “And we can now benchmark our performance on hospital-acquired infections against other hospitals on a national level.”

“Because of what we learned about community-acquired infections, Beaumont is now better prepared for patients entering our healthcare system in terms of antibiotics inventory, isolation techniques, and the like—an unanticipated benefit that occurred only because of this project,” explains DeSnyder. “Now we can truly use our data to make a difference in patient safety and intervention.”

With HealthShare’s ability to access and integrate all available data, Beaumont is looking at other areas where better information can lead to better care. The organization now uses HealthShare to integrate the data from medical devices, such as dialysis machines and patient monitors located in the home and in the hospital, with its EHR. As a result, clinicians always have the latest data to use when making care decisions.