SSM Health
case study

Mediware® and Epic integrate to enhance patient safety and decrease turnaround times across 15 facilities

EMR, lab and blood bank systems from Mediware and Epic work together to improve patient safety and turnaround times across SSM Health's multi-facility network.

Before implementing technology to help manage care in its 19 hospitals, SSM Health's laboratory turnaround times (TAT) weren't where they wanted them to be. However, with the addition of the Epic-Care© electronic medical record (EMR) integrated with HCLL™ Transfusion and Beaker© laboratory information system (LIS), turnaround times were quickly reduced and continue to improve.

"We weren't making those times of 30 minutes for CBC and 40 minutes for CMP," reported Victoria Stockley, BS, MT (ASCP), who serves as SSM Health's system Epic product specialist. But once all the facilities were live on Epic, specimens were received more efficiently in both the labs and in HCLL which, in turn, decreased the TATs.

Turnaround Time Outliers

before HCLL/EpicCare integration 12%

after integration 2%

HCLL chosen for trusted blood bank functionality

With hospitals in four states, many of which share patients within their regions, integration was a primary goal when the SSM network began implementing EpicCare in 2008. From that time until the integration with Beaker and HCLL Transfusion, a blood and transfusion management solution from Mediware, was complete in 2010, blood bank staff was using a paper system and resulting in an outdated LIS.

"That was not optimal for patient safety or for the satisfaction of our techs," shared Stockley. But once the EpicCare system was in place, selecting and integrating applications took time. "The team was looking for a way to integrate with Epic and because there was an established interface and positive experiences with Mediware products used in the past, we chose HCLL," she explained.

In addition to its integration capabilities, Stockley said the blood bank team chose HCLL because it had just the functionality they were looking for. "It's

Mediware®

very user-friendly, and it does everything we need. Some of our blood banks are very small and some are very large, and we can configure HCLL to work with whatever we have."

HCLL has also proved to be easy to use, even for the generalists who rotate through the blood banks and other departments. According to Stockley, the blood bank at DePaul Hospital in St. Louis, for example, includes 25 generalists "who are able to use the 'pro' view and work in HCLL. After the initial training period is over, the learning curve is pretty quick," she explained.

The implementation and training were also fairly easy for the sites that started with HCLL and added Beaker later. "The interface handled everything. The techs were able to get their orders on a consistent basis, and once they verified results in HCLL, it would go back to Epic," Stockley recalled.

Maximum information from HCLL to EpicCare

Currently, SSM Health has 15 sites across four states that are live with HCLL Transfusion, EpicCare and Beaker. A 16th site, in Janesville, Wis., is due to go live in the next several months while a 17th site, in Shawnee, Okla., is just starting the process.

Once integrated to share information, HCLL, Beaker and EpicCare work together to improve accuracy and patient safety. "We are providing

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> **Victoria Stockley, BS, MT (ASCP)**
> System Epic Product
> Specialist–Beaker Laboratory

consistent HL7 update messages to Epic, so all of the sites report the same six pieces of donor information, giving providers the maximum amount of information about the product order from HCLL," Stockley assured.

This product data is sent to Epic's Blood Product Administration Module, where HCLL provides unit number and status. Then, "the logic in Epic is able to do full matching with patient encounters. Before, when everything was manual, there were things that were missed," recalled Stockley. "Now, with HCLL interfaced to Epic, we can capture a lot of information that was never there before," she added.

Additional integration with the Epic Rover© PPID handheld tool for phlebotomists further enhances patient safety. Draw lists created in Beaker are communicated in real time to the Rover devices, so phlebotomists draw blood, print collection labels and apply the labels at the bedside. This information goes across the interface to HCLL, so data is available to the blood bank as needed.

One site utilizing the integrated systems is SSM Health Cardinal Glennon Children's Hospital, a 190-bed inpatient and outpatient pediatric medical center in St. Louis, Mo. During the integration process, there was some concern that aliquots would pose a challenge when sending unit results back to the EMR.

"It ended up taking quite a bit of configuring in our integration engine to get that to work," shared Stockley. Now, she adds, "Cardinal Glennon basically has very little manual entry in Epic. Everything pretty much goes back and forth across the interface. That was a big win for us because, initially, it was difficult to get the aliquots to work."

Flexible configuration for any size organization or facility

During the early days of the EpicCare install nearly a decade ago, Cardinal Glennon was partitioned from the other locations because, explained Stockley, "the ABO matrix for pediatrics is totally different than for the adult hospitals, and we couldn't have two separate ABO matrices in those days."

The remaining sites are configured according to SSM Health's needs in each region. Currently, each region has its own HCLL server, and the system is configured within the regions depending on whether the facilities are likely to share information. Those facilities that do share information typically are configured in a multi-facility setup while those that don't share data are likely to have their own servers.

Although the configurations vary, the sites have standardized integration and interfacing, which helps with implementation and troubleshooting. "I have all my sites use the same procedure codes in Epic that cross over to HCLL," Stockley stated. "There are just a few that are different for Cardinal

Glennon because they do stem cell transplants and other procedures like that. We try to be as standard as possible," she concluded.

Recently, the integrated systems were put to the test when SSM Health St. Mary's Hospital in Audrain, Mo., underwent inspection by the Joint Commission. Stockley related that they went from "total paper, with very few resulting capabilities," to having "no deficiencies in blood bank" after just a few months.

The end result, in all SSM facilities, is that "nurses feel safer about the blood coming from the blood bank," assured Stockley, and everyone is more confident about the results that go back to the Epic EMR, which caregivers can see at the bedside. This kind of information, available from systems that reliably send and receive across multiple facilities, contributes to accurate data, fast response times and impeccable patient care.