A full-service community hospital, Methodist Hospital has earned numerous awards and certifications for high-quality patient care. It earned $389,000 in Value-Based Purchasing incentives in 2016 and ranks in the top 2% of hospitals in the United States with its five-star rating from the Centers for Medicaid and Medicare Services (CMS). The SafeCare Group ranked Methodist Hospital eighth in the nation for patient safety, quality and efficiency among large hospitals.

Chief Medical Officer and Patient Safety Officer Dr. Bala Chandrasekhar attributes Methodist Hospital’s success to its vigilant focus on patient safety. “If you don’t keep patients safe, it’s not quality,” he said.

“Patients essentially want three things from their hospitals: don’t hurt me, heal me and be nice to me. And they want them in that order.”

As one example of how Methodist Hospital keeps patient safety in the forefront, Dr. Chandrasekhar holds a daily safety huddle that is open to the entire hospital. Employees can raise concerns, “near-misses,” and discuss how to fix processes and reduce errors. “The staff knows that the executive team and medical leadership are focused on continuous improvement; it’s not a flavor of the month here.”

An electronic health record (EHR) that works for clinicians

Methodist Hospital requires an EHR that can help put its steadfast focus on safety into practice. The technology must offer clinical decision support and tools that enable clinicians to follow evidence-based guidelines.
“We have to use technology to build clinical pathways and guidelines as an aid to physicians, to help avoid oversights.”

Gary Russell, Chief Information Officer

“With the exponential growth rate of medical knowledge, it is impossible for clinicians to know it all,” Chief Information Officer Gary Russell said. “We have to use technology to build clinical pathways and guidelines as an aid to physicians, to help avoid oversights.”

Methodist Hospital went live on Allscripts Sunrise in 2007. The flexibility of the system helps the organization respond more effectively to clinical challenges. A strong governance process enables clinicians and IT staff to work closely together to address them with meaningful technology solutions.

“We can customize Sunrise to meet our particular needs,” Russell said. “Not just building order sets, but the Medical Logic Module (MLM) functionality enables us to create a lot of unique solutions…it facilitates our ability to identify situations quickly and trigger events to occur in a very timely manner.”

“I like that I can adjust Sunrise to my use, instead of me adjusting to the technology,” Chief Medical Information Officer Dr. David Ratto said. “The way it pulls information, custom order sets…things like that have revolutionized how we take care of patients.”

Clinical consistency improves clinical results and saves time

Methodist Hospital recognizes the importance of consistently adhering to evidence-based guidelines. As an example of how an MLM can assist, Dr. Ratto spoke from his experience as a pulmonary critical care specialist.

“We wanted more consistency around how physicians selected ventilator settings,” he said. “Physicians were making their best estimates. But now the MLM calculates it automatically based on the patient’s weight and national standards…it saves a lot of time. The emergency doctors love it the most.”

In another example of improving consistency, Dr. Chandrasekhar talked about the importance of medication reconciliation. “To reduce readmissions, hospitals have to get the discharge medications right. Because if patients don’t take the right medications when they leave the hospital, they’ll come right back,” he said.

Methodist Hospital uses Sunrise to combine home medications and hospital medications onto one list. It’s the physicians’ responsibility to make sure that list is accurate within 48 hours. “Through Sunrise, we have a hard stop for that; If physicians don’t do the medication reconciliation, they can’t submit orders,” Dr. Chandrasekhar said. “The EHR is one way we can help remind physicians to do the right thing.”

Reducing unnecessary antibiotic use

Research shows at least 30% of prescriptions for antibiotics are unnecessary, which contributes to rising bacterial resistance and an increase in hospital-acquired infections, such as Clostridium difficile (C. diff).

“Methodist Hospital’s hospital-acquired C.diff was at twice the national average rate in 2013,” Dr. Chandrasekhar said. A part of this incidence can be attributed to widespread use of antibiotics. To better monitor and manage use of antibiotics, Methodist Hospital implemented a stewardship program. The organization took several steps to improve
safety and quality by building its own antimicrobial stewardship program.

To meet federal, state, CMS, Center for Disease Control and Prevention (CDC) and Joint Commission requirements, Methodist Hospital moved from a time-consuming, paper-based system to an automated approach. The effort involved creating a system for custom health issues, including advanced patient lists and a search function for specific criteria of antibiotic use.

Now pharmacists can complete the mandatory 48-hour antibiotic timeout in fewer than four hours, when previously it had taken more than eight hours. Intelligent order sets in Sunrise remove antibiotics after seven days, requiring physicians to take an active process to continue this medication and avoiding unnecessary automatic renewals.

“Our antimicrobial stewardship has become such a good program, that we are now a mentor hospital in California,” Dr. Chandrasekhar said. “We’ve been able to showcase how we’ve dramatically decreased infections, and we saved about a half-million dollars in our first year.”

Dr. Ratto adds, “We’ve had marked improvements, including a 20% decrease in number of days for eight of the top 10 antibiotics,” Dr. Ratto said. “Pricing varies, but we know we’re saving the cost of the medications and the amount of time the clinical staff puts into delivering those doses to patients.”

Outcomes

ANTIMICROBIAL STEWARDSHIP PROGRAM:

- Decreased unnecessary days on antibiotics in eight of top 10 antibiotics by 20%
- Decreased use of other expensive antibiotics by 15%
- Increased pharmacy involvement by 48%
- Decreased rates of infection for C.diff by 70% between 2015 and 2016
- Reduced cost by an estimated $500,000 per year
- Saved time for pharmacists completing the 48-hour antibiotic rule, reducing from 8 hours to 4 hours

HIGH PERFORMANCE IN SEVERAL AREAS, INCLUDING:

- Significantly lower rates of sepsis mortality than the national average
- Exceptional patient safety indicator scores for pressure sores (PSI-3 at .08%) and serious blood clots after surgery (PSI-12 at 2.21%)

“Sepsis is a common admitting diagnosis among our older population,” Dr. Chandrasekhar said. “The earlier we start treating sepsis, the better. Sunrise is set up to alert our physicians as quickly as possible to address it.”

When patients arrive, often in the emergency department, Sunrise alerts physicians when patient symptoms meet evidence-based criteria for sepsis. The system triggers sepsis order sets in the triage area, including orders for blood cultures, IV fluids and more. The alerts help clinicians begin treatment earlier, which reduces morbidity and mortality rates.

“The red alert that shows up in Allscripts Sunrise has helped Methodist reduce our sepsis mortality rate; In most hospitals it’s about 35%, but we are below 20%,” Dr. Chandrasekhar said.

Faster intervention for patients with sepsis

Sepsis is a deadly and costly disease that arises when the body’s response to an infection damages its own tissue. EHRs can help clinicians to act quickly to avert or minimize the impact of sepsis.

“Sepsis is a common admitting diagnosis among our older population,” Dr. Chandrasekhar said. “The earlier we start treating sepsis, the better. Sunrise is set up to alert our physicians as quickly as possible to address it.”

Advanced MLMs to speed IV to PO conversions

Methodist Hospital will expand its stewardship program, requiring clinicians to review antibiotic prescriptions every 48 hours. One more advanced feature the organization will introduce this year will help clinicians determine appropriate times to convert intravenous (IV) to oral (PO) antibiotic therapies.

Many hospitalized patients receive IV-administered antibiotics, but they can create clinical challenges. For example, IV therapy increases the risk for catheter-related
infections, which can lead to additional time in the hospital, sepsis and other complications. Oral medication alternatives can be just as effective as IV treatments and can reduce these clinical risks. They also reduce costs of IV sets and pumps, nursing and pharmacy personnel time.

A future enhancement will include an MLM to alert clinicians placing IV orders for antibiotics. If the patient has a diet order, meaning patients are able to eat food, then the alert would recommend an oral medication. Another MLM will remind clinicians to change medications from IV to PO when placing a new diet order. Because the conversion occurs at the time of prescribing, it eliminates manual processes for both the physician and pharmacy.

“I’m not sure if innovations like our antibiotic stewardship could happen on another system, because they are so much more rigid than Sunrise,” Dr. Ratto said.

“Or how much it would cost us if we couldn’t do it ourselves.”

**What’s next for Methodist Hospital**

Methodist Hospital continues to advance patient safety using technology as a tool. The next phase is to integrate more sources of data for connected, complete care.

“We’re piloting physician documentation in our emergency room and will expand that across the enterprise, real-time,” Russell said. “Building documentation into more structured fields, and bringing in data from other sources, will enable us to do more comprehensive reporting and analytics around the data that we’re capturing.”

All of the technical initiatives support a much larger goal to be the safest hospital. “I want processes that help make us the benchmark,” Dr. Chandrasekhar said. “We have the resources, ability, dedication and results…we should be the best we can be.”