

CASE STUDY

Implementation of LUMINARE at
two CHG Hospitals has resulted in
detecting sepsis a staggering 15x faster
than the national average.

LUMINARE × CORNERSTONE
HEALTHCARE GROUP



CORNERSTONE HEALTHCARE GROUP

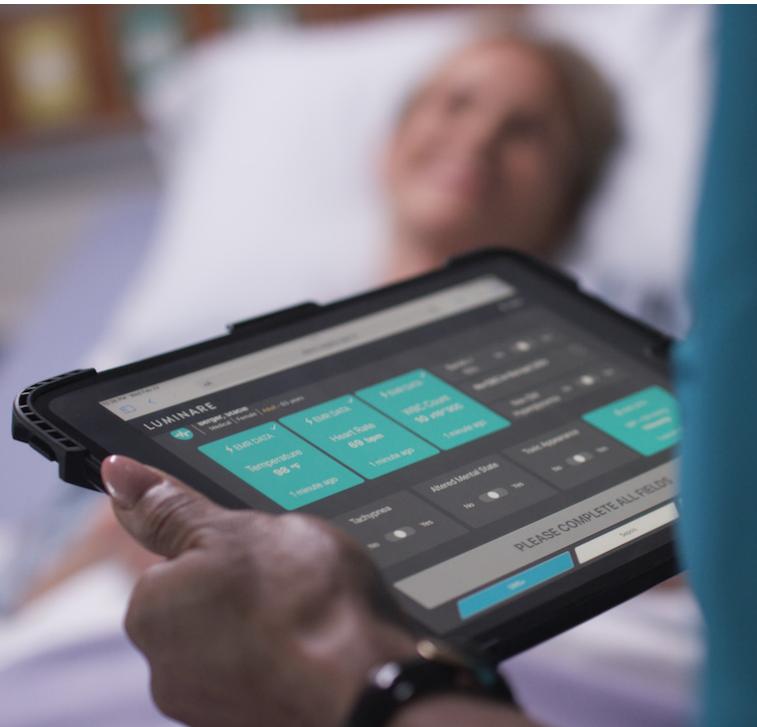
Cornerstone Healthcare Group (CHG) hospitals admit patients that are often times transferred from a nearby short-term facility after a complex surgical procedure or medical stay requiring extended medical care. CHG Hospitals in Conroe, TX and Clearlake, TX, support community hospitals by providing a speciality acute care environment for patients requiring a hospital stay of 21 days or more.

Challenge & Solution

THE CHALLENGE: DETECTING SEPSIS FAST ENOUGH

CHG hospitals in Clearlake and Conroe, Texas were dealing with an increased rate of patients returning to short-term acute care facilities due to sepsis.

The organization's leadership team understood they did not have an effective way of quickly identifying sepsis in patients coming into the facility and during their stay. This impacted patients with poorer outcomes and CHG was stuck with unpaid hospital stays due to the patients being sent back to their originating facility. The poor patient outcomes and resulting loss of revenue prompted the leadership team to look for a solution.



THE SOLUTION: LUMINARE WAS IMPLEMENTED IN 2019

LUMINARE was implemented at CHG Clear Lake and Conroe beginning in 2019. Luminare's proven, patented workflow integrates EMR data and streamlines communication and sepsis protocol compliance with observable bedside data to detect sepsis before it becomes fatal.

In less than a minute, LUMINARE processes information from a patient's medical record in combination with the nurse's clinical assessment in real-time to provide clear, actionable steps for hospital staff to intervene. This improves clinical team dynamics, resulting in enactment of the sepsis protocol which prevents fatality and poor outcomes (i.e., loss of limbs, intubations, organ failure).

With LUMINARE, a nurse has all the information required to provide a SBAR formatted update to the physician. This keeps the information structured in a way that nurses are used to delivering it and that doctors are used to receiving it.

Prior to finding LUMINARE, the organizations used a paper-based screening tool to identify sepsis in patients. While effective at bringing different components of care into one view, a paper-based approach does not take advantage of existing technology to aid in the communication of key information between clinical team members. Nurses that identify a sepsis episode in a patient with a paper tool used to reach out to the doctor and provide an update on the patient's condition: "The patient has a fever; I need a Tylenol order."

The Outcome

After implementation of the tool, CHG achieved 95% compliance to the best practice of screening every patient at least once per shift. The data reviewed includes patients that screened positive for sepsis at CHG's Clear Lake and Conroe facilities in the year 2020.

For the Clear Lake location, 482 patients screened positive for sepsis. 90% of the patients screening positive for sepsis received a timely, broad-spectrum antibiotic. Among patients that received a timely, broad-spectrum antibiotic, 89% of the patients screened negative for sepsis at their next shift screen (an estimated 12 hours later).

At the Conroe location, the results are similar. 493 patients screened positive for sepsis. 88% of the patients screening positive for sepsis were placed on a timely, broad-spectrum antibiotic and 89% of those patients screened negative for sepsis at their next shift screen.



15x
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SEPSIS DETECTION**



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METRIC	CHG CLEAR LAKE	CHG CONROE	NATIONAL AVERAGE
Received timely antibiotics ¹	90%	88%	57% ²
Resolved condition within 12 hours	89%	89%	<43%

¹This also indicates that the physician agreed 89% of the time that the call from the nurse to the doctor was appropriate.

²CMS Hospital Compare data

The Outcome

The average hospital in the US provides timely care to sepsis patients 57% of the time.

Because of its ability to kill silently and quickly 90 day sepsis mortality rises by 10% for every hour that care is delayed. Treating sepsis within the first hour eliminates the risk of sepsis mortality of 30-40%. Patients at the CHG Clear Lake and Conroe locations benefited from Luminare's sepsis solution by resolving their sepsis condition during the early inflammatory phases instead of succumbing to it.

Expected to observed mortality, per the hospital's self-reported data, showed a decrease of 97% - a relative risk reduction of 15 times. Given that risk for sepsis death is directly related to time to treatment this result can be looked at as a 15x improvement in time to treatment.

**IMPLEMENTATION
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The Outcome

This increase in the speed of early detection of sepsis saves patient lives, prevents lost hospital resources, decreases patient length of stay, increases throughput and improves team morale, and eliminates readmissions. By using LUMINARE to screen and treat patients for sepsis, CHG Clearlake and Conroe have achieved remarkable outcomes for patients and an efficient care delivery episode for sepsis patients.

Create better patient outcomes.

Reduce unnecessary strain on nursing staff.

Increase revenue and reduce wasted resources.

About Sepsis

270,000 people die of sepsis in U.S. hospitals each year. The systemic response to an infection known as sepsis can go undetected in a victim, killing in less than 12 hours. Without standardized workflows and efficient communication, clinical teams find it challenging to initiate treatment actions that can resolve sepsis. The problem with sepsis is not that it is hard to detect—the problem is that it is hard to detect fast enough. Failure to detect sepsis quickly leads to poor outcomes—including death.

LUMINARE

For more on how you can increase speed to sepsis treatment in your hospital go to www.luminare.io.