Achieving Situational Awareness With Real-Time Data

Command center-level awareness improves patient experience, helps organizations prepare for the unknown.

"We can no longer manage to yesterday's news—we need to have predictive analytics that allow us to not only know what is happening this second but also what is going to happen in one, two or four hours from now."

—April Giard, DNP, NP-BC, NEA-BC
Vice President/CIO
Northern Light Health
Brewer, Maine

While navigating the COVID-19 pandemic, health systems across the U.S. experienced firsthand the importance of having real-time situational awareness to help track patient surges, bed capacity and more. Organizations that have the capability to use information instantaneously are better positioned to respond to—and recover from—unexpected events, like the pandemic. They're also able to improve day-to-day operations and patient experience in the current environment—better positioning themselves for what's ahead as the healthcare landscape evolves.

A More Seamless Experience Across the Continuum
Health systems that use real-time, advanced analytics are better able to achieve situational awareness across the continuum, connecting operational and clinical silos to create a more seamless experience for patients, clinicians and staff. Having access to data in real time helps unify leaders at all health system levels, reducing potential friction and shortening the time between when data is available, when operational decisions are made and when actions are taken.

"Achieving situational awareness allows a health system to know every minute of the day how many patients are presenting for service, what kinds of services and care teams they need, and what equipment is needed to provide the care," says Lisa Gulker, RN, DNP, ACNP-BC, senior director,

Health System Operations, Cerner, Kansas City, Mo. "It also allows the health system to know if it has supply to meet that demand and, if not, where it needs to remove bottlenecks or smooth out supply chains so patients can get to the right level of care in a timely way."

Before the pandemic even hit, Northern Light Health, a 10-hospital system based in Brewer, Maine, planned to innovate and provide the best care to patients through use of real-time data and predictive analytics.

"We can no longer manage to yesterday's news—we need to have predictive analytics that allow us to not only know what is happening this second but also what is going to happen in one, two or four hours from now," says April Giard, DNP, NP-BC, NEA-BC, vice president/CIO, Northern Light Health.

Starting in fall 2019, Northern Light Health began implementing two tools to improve situational awareness. Working with supplier partner Cerner, it first deployed the CareAware CareView™ dashboard, which clinicians use at the unit level within the health system. Then, right before the pandemic hit, the health system launched the Cerner Command Center dashboard, a cloud-based technology that provides system-level awareness of capacity, staffing needs and other resources. The health system can now respond more efficiently to the pandemic across its multiple hospitals that span a wide geographic area.

"We are able to quickly isolate our COVID patients and align our COVID and non-COVID care zones for safety," Giard says. "The use of real-time data enabled us to manage volumes across several of our member hospitals."

Adds Gulker, "Before implementation of the Command Center dashboard, that would have taken many data analysts and a lot of manual report creation."

Information in the Command Center dashboard is pulled from several data systems within Northern Light Health, including its EHR, bed management system, transfer center solution and workforce management system. The dashboard is used by executives, bed management and transfer center teams, environmental services staff, transport leaders and nurse leaders.

Transforming Care, Patient Experience

The clinical team's decision-making processes are streamlined, resulting in an improved experience for patients and staff, says Giard.

"We used to make decisions after printing and running reports, organizing information from several different areas, and then having a meeting to review it, but by that time it was old news," she says. "Using the dashboard, we can make decisions in real time, allowing us to spend more time on resolution and less time pulling data together and explaining it."

During daily unit huddles, the team can use the CareView dashboard to quickly see patients' statuses and potential barriers to discharge. Using interactive touch screens, clinical staff can drill down into the data to make informed decisions about next steps in a patient's care journey. The aim is reducing patient frustration over when they might be discharged or moved to the next level of care.

"The CareView dashboards are automated, meaning they access data from other systems, such as the EHR," Gulker says. "They're also manual in the sense that clinicians can manipulate, or 'gamify,' the board for discussions, such as when the team needs to resolve barriers to help a patient meet their discharge date."

Health system leadership also benefits from using the Command Center dashboards, as they can get an at-a-glance sense of key issues such as ED boarding and inpatient length of stay. "Leaders have the dashboard on large displays on the wall in the C-suite as well as on a desktop monitor in their offices, and it's on their laptops," Giard says.

Achieving Situational Awareness

For healthcare executives wishing to evolve their organizations to become real-time health systems, Gulker suggests they focus first on digitizing key operational functions such as bed management or patient flow.

Prior to going live with the dashboards, Northern Light Health implemented several foundational technologies that were "important because we needed to automate throughput and workforce optimization," Giard says. "You need those in place so the dashboards can access data from those systems."

Tools such as the dashboards help health systems manage what Gulker calls the "bookends" of care: on the front end, admitting a patient effectively and efficiently, and on the back end, discharging them in the same way. There is also opportunity, however, to further improve patient care and experience by addressing care workflows during the middle of a patient's stay.

"We need to address what happens in the middle—making sure the patient isn't going to experience an unexpected event during their hospital stay—and to look more holistically at providing the best outcomes for patients and their families," Gulker says. "This involves using data science to monitor a patient's clinical course and providing decision support both at the point of service and, when needed, from the command center."

For more information, please contact Lisa Gulker, RN, DNP, ACNP-BC, senior director, Health System Operations, Cerner, Kansas City, Mo., at lisa.gulker@cerner.com.