Columbus Regional Health

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ACUTE CARE CASE STUDY

Serving a 10-county region in southeast Indiana, Columbus Regional Health is the flagship facility within its health system. Like many hospitals, Columbus Regional began its Midmark CareFlow™ Real-Time Locating System (RTLS) journey to automate its nurse call communication system and improve patient flow in its emergency department. In June 2008, staff lost the use of RTLS when severe flooding devastated the region, damaging much of the hospital's infrastructure and technology systems. With staff clamoring to regain the benefits that CareFlow RTLS delivers, recovery efforts ensured that the solution was not only back online but expanded with facility-wide staff safety and asset management.

HISTORIC FLOODING FORCES STAFF TO RETHINK CARE DELIVERY

Sometimes it takes a wake-up call to reset your way of thinking. Although staff at Columbus Regional Health were content to use CareFlow RTLS to automate nurse call and gain visibility to patient flow through the Emergency Department (ED), they didn't give much thought to the solution. Perspectives changed when historic flooding prompted the evacuation of 157 patients and the hospital's closure.

Left with more than $180 million in damages and many critical systems destroyed, staff were forced to treat patients in mobile units and community centers while

INSTALLATION HIGHLIGHTS:

Midmark CareFlow RTLS Solutions
- Patient Flow
- Asset Tracking
- Staff Locating
- Staff Duress
- Nurse Call Automation

recovery efforts were underway. The strain of care delivery in less-than-optimal circumstances helped staff fully realize how valuable real-time visibility to patients and staff had been to their operations prior to the flood.

When the hospital re-opened its doors five months later, support systems like CareFlow™ RTLS were slated for a next-phase relaunch several weeks later. According to Christine Sullivan, emergency department manager, "On our initial return to the Emergency Department, we did not have RTLS up and running. We couldn't find anyone, we were knocking on doors looking for doctors, doctors were looking for nurses. We didn't know if a patient had gone to X-ray. It was a mess."

As Columbus Regional re-launched CareFlow, leadership opted to expand applications throughout the hospital. In addition to CareFlow Patient Flow in the ED, facility-wide CareFlow Staff Duress, Nurse Call Automation and Asset Tracking were implemented to enhance communications and staff safety, while improving asset utilization.

INCREASING PATIENT FLOW IN A HIGH-VOLUME ED
More than 45,000 patients visit the Columbus Regional Health ED each year, double its engineered capacity. Visibility to patient wait times and bottlenecks is crucial to streamlining patient flow in this high-volume care environment.

Patients arriving at the ED are assigned RTLS badges at check-in. Large screens positioned throughout the unit provide staff with details on patient locations, wait times, exam room availability and visit status. These "Glance-and-Go" boards allow staff to evaluate visit milestones and adjust resources in-the-moment to minimize patient waiting.

"The floorplan provides a very important visual of the unit, especially when things are chaotic," says Sullivan. "It is a great management tool for knowing where your resources are. Our patient satisfaction has been boosted tremendously by the 15-minute alert that a patient has not yet been seen by a nurse. This assures that we always connect with every patient to address their needs."

CareFlow Patient Flow has also added a measure of efficiency and organization to the busy ED. "Not long after we implemented the solution, the department had a major trauma involving multiple patients," shares Sullivan. "We were able to quickly allocate resources and move patients where they needed to be just by looking at the Floorplan View and seeing which rooms and staff were available. We quickly mobilized our department."

BEYOND THE ED: CAREGIVER SAFETY AND AWARENESS
The rates of violence reported against healthcare workers have been increasing. Since 2021, workplace violence against healthcare workers has increased 115 percent.[1] Although staff in emergency and behavioral health departments are more likely to be victims of violence, staff in all areas of care find benefit from an easy way to call for assistance.

On the Floorplan View in the Emergency Department at Columbus Regional Health, exam rooms turn yellow when patients enter. Upon discharge, the room turns red and a message sent by wireless phone alerts the ED Tech that the room needs to be cleaned. After the tech leaves the room, the room automatically turns green, signaling to staff that it is ready for the next patient.

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REAL DATA, REAL IMPROVEMENTS

- Patient waiting reduced 74 percent (from 54 minutes to 14 minutes).
- Arrival to discharge dropped from 2.4 hours to 1.8 hours
- Left without being seen rate decreased from 2.75 percent to 0.5 percent.

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Columbus Regional deployed CareFlow Staff Duress to enhance staff safety. When someone feels threatened or needs help, they simply press their RTLS badge button and alert messages are immediately sent to department phones and workstations.

"[CareFlow] gives staff an added sense of security that they can get help at any moment just by pressing a button," says Sullivan. "In the ED, one of our patients cornered a nurse and a nurse practitioner with a weapon and they were able to hit the badge button and get immediate help from security and other staff members."

In Behavioral Health, which is a large unit with several isolated areas, staff often relied on shouting for help. They now have greater peace of mind knowing they can press the badge button to let people know who they are and where they are.

CareFlow also helps housekeepers working in the behavioral health unit. Many are not trained in de-escalation techniques, so having the badge as a panic device has helped integrate more support staff into these complex work areas.

Beyond duress events, the solution also aids nurses who simply need a helping hand. "In the birthing center, if a nurse found a new mother in the bathroom who needed help, there wasn't a good way for her to request assistance," shares Sullivan. "[CareFlow] has been well-received by nursing house-wide."

ELIMINATING STEPS FOR NURSES + ENHANCING COMMUNICATIONS
When a nurse walks into a patient room, being present automatically clears the patient's call, eliminating the need to reach behind the bed to press a button. A nurse's presence is also reflected on color-designated dome lights located above the patient room door. At the same time, nurse location is updated in real-time in the CareFlow RTLS software, allowing others to see this on floorplan and list views.

Documenting caregiver presence in patient rooms is also important. According to Sullivan, "We never had the ability to verify a nurse's activity relative to patient calls or complaints. Now we do! Reporting details show actual nurse activity. This solidifies what nurses are doing and verifies interactions with patients and responses to patient calls."

IMPROVING ASSET EFFICIENCIES AND PM PRODUCTIVITY
In the same way that staff gained visibility to one another, Clinical Engineering uses CareFlow Asset Tracking to locate equipment for repair and cleaning. Quickly locating equipment for preventive maintenance, corrective action or recalls has shortened the length of time that technicians spend searching for equipment, enabling the Clinical Engineering team to improve productivity.
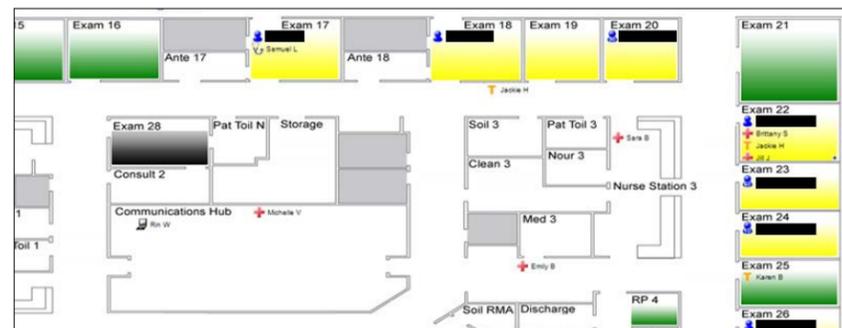
Reports enable staff to analyze asset locations and frequency of movement to improve equipment re-distribution. Each care unit has a Periodic Automatic Replenishment (PAR) level, or minimum equipment count, before alerts are generated to signal low inventory. In high-volume areas like the ED, PAR levels are reviewed every morning to ensure each exam room has an available IV pump with channel.

INNOVATION FUELS CULTURE OF CARE EXCELLENCE
Columbus Regional Health believes that innovation is central to delivering care. From medical practice to technology integrations, a culture of excellence is evident in their quest to be the best at everything they do.

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Christine Sullivan
Emergency Department Manager
Columbus Regional Health

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1 "Managing the risk of violence against health care workers: Effective solutions needed." Medical Economics. July 2023.

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