

GE Healthcare's "Wall of Analytics" Delivers Complex Medicine



If you think hospitals have nothing in common with air traffic control rooms

may want to think again.

Highly sophisticated ["command centers"](#) that manage the complicated, ever-changing flow of patient and facility dynamics may be a new, isolated addition to the healthcare scene, but the concept is in process of expanding its reach. And it is likely to have more staying power.

Jeff Terry, a managing principal at GE Healthcare Partners, said the group used the idea of an air traffic control-type command center when it designed this sophisticated workflow technology for hospitals, a system that would lay the groundwork for medical decisions delivered more expediently, efficiently, and effectively.

From ORs to EHRs, the wall can be shaped to meet facility demands

Earlier this year, GE Healthcare equipped Johns Hopkins Hospital in Baltimore with a "Wall of Analytics," featuring nearly two dozen electronic tiles that collect data from more than a dozen different sources, including admission software, operating room scheduling applications, and patient electronic health records (EHRs). This is GE's first such hospital command center, but the company is presently working with other facilities to install the technology. It expects to get four more off the ground in 2017 and double that in 2018.

(Among those future recipients are the Rush University Medical Center in Chicago and the Humber River Hospital in Toronto.)

Some of the "near-real-time" information the command center display provides to staff includes status of ORs, incoming ambulances, and patients next in line for discharge. And the wall itself, like the hospital environment, is dynamic rather than static, designed to adjust to shifting demands. For instance, staff can view any tile on a mobile device or computer away from the command center, and the wall can be arranged to focus on a particular circumstance needing more attention.

Predictive usefulness as well as present usefulness

The command center's usefulness extends beyond the organization and display of immediate data—it also utilizes information to allow for important predictions.

For example, by analyzing the facility's historical data and its current system (a juxtaposition referred to as a "digital twin"), the technology can predict the point when the hospital might near or exceed its capacity. Further, the staff can be notified when something out of the ordinary occurs—something that might make a unit vulnerable to a safety breach.

Last year the GE consulting group expanded its capabilities by acquiring the Camden Group; the group worked with Johns Ho



to improve admissions workflow and to overhaul OR scheduling. The collaboration included regular “status huddles” within units and also educated staff in utilizing command center technology to effectively cooperate in responding to situations made apparent via the Wall of Analytics.

Johns Hopkins is the first, will not be the last

GE does not intend to adopt a cookie-cutter approach to implementing this technology. Rather, the company will customize command centers according to a facility’s particular needs. Johns Hopkins had a focus on making improvements to hospital capacity, but GE says that other walls may highlight patient experience, avoiding unnecessary delays, diagnostic measures, and coordination with other facilities.

The Johns Hopkins command center has been active for under a year, but already there are measurable results: the hospital reports a one-third reduction of the number of emergency room patients required to wait for an inpatient bed, as well as more a two-thirds reduction in the number of patients who must be retained in the OR due to a lack of available inpatient or recovery room beds.

Jim Scheulen is Johns Hopkins Hospital’s chief administrative officer for emergency medicine and capacity management. “If the healthcare system is going to constantly pressure academic centers and hospitals in general to be efficient—to make the most of every bed every minute—then I don’t think we can do it without these tools,” he said. “You have to do this in order to reach the levels of efficiency that are going to be required to operate successfully.”

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