



Artificial Hype

GE HEALTHCARE
SPECIAL SUPPLEMENT

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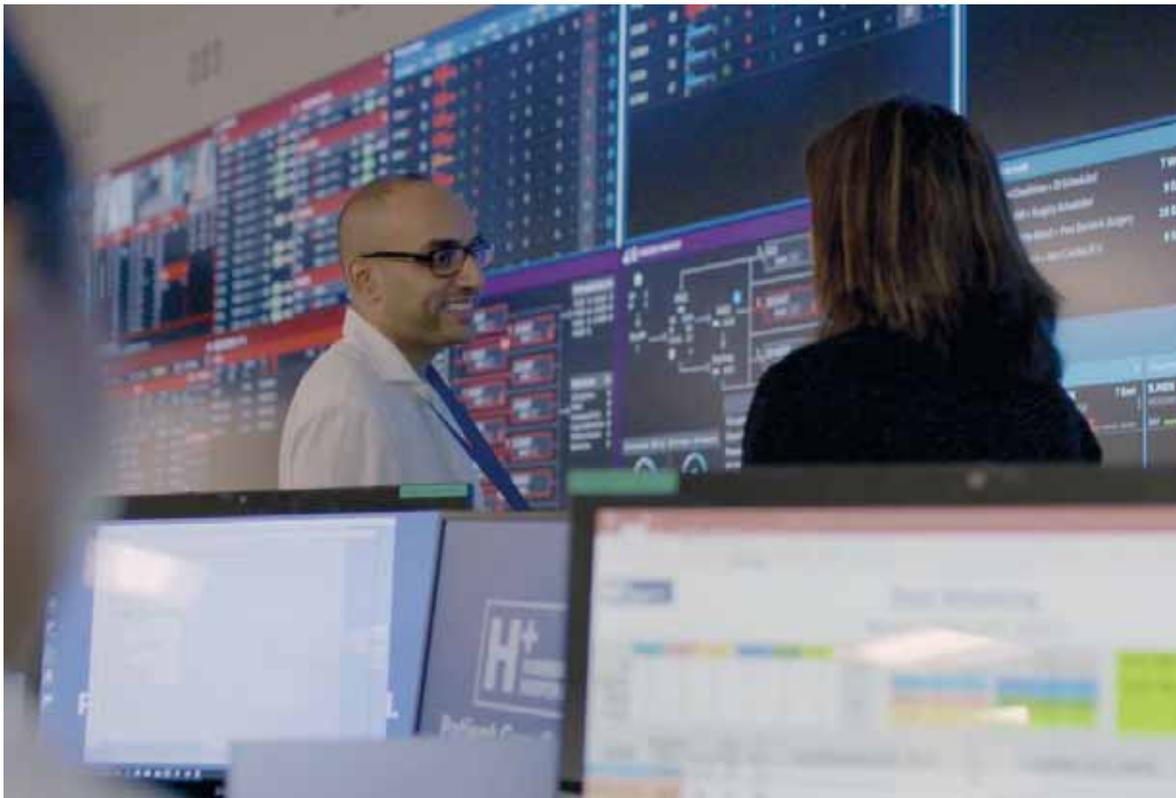
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How do you serve more patients without adding staff or beds? Here's one hospital's answer

UK hospital announces first-of-its-kind hospital Command Center in Europe to improve efficiency and patient care



Every day, up to 400 people come through the Emergency Department (ED) doors at Bradford Royal Infirmary (BRI) in northern England. The hospital serves 500,000 people who live in Bradford and communities across Yorkshire, one of the largest regions in all of England. Over the last decade, ED attendances have grown by more than 40% to 125,000 ED attendances, driving a bed capacity rate that routinely exceeds 96%*.

It all paints a clear picture of the growing demand on the region's healthcare system. That's why BRI, part of Bradford Teaching Hospitals NHS Foundation Trust, is pioneering the first Command Centre of its kind in collaboration with GE Healthcare.

This BRI Command Centre will operate like an air traffic control centre, using advanced technology and Artificial Intelligence (AI) to efficiently move patients coming into the ED into, through and out of BRI. With this advanced functionality, the Centre should help BRI cut waiting times, treat more patients, improve the patient experience, and reduce pressure on staff.

Specifically, the Command Centre aims to decrease patients' length of stay, reduce the need for additional wards and beds – especially during peak winter times – and reduce cancellations for non-emergency surgery. It should also help the Trust meet national emergency care access standards, which require that 95% of patients are treated, admitted or transferred



within 4 hours. What's more, it will shine a light on increasing demand, pressure and risk that may affect the quality of care that patients receive – prompting interventions and proactive action.

“Demand for services is growing at Bradford Teaching Hospitals every year” said Professor Clive Kay, Chief Executive of Bradford Teaching Hospitals NHS Foundation Trust. “The Command Centre will enable us to optimise our use of resources and improve how we move patients around the hospital for treatment and successful discharge. Around 350-400 patients come through our A&E every day, and relieving pressure on our 6,000 staff means they can spend more time delivering care, and less time organising care.”

The BRI Command Centre

One of the secrets to the Command Centre's internal workings is what GE Healthcare calls a Wall of Analytics, a literal wall visible to all who step inside the centre that processes real-time data from multiple source systems across the hospital and triggers cross-functional staff co-located in the Command Centre to take action.

This constantly pulls in streams of data from multiple systems at the hospital. Advanced algorithms will help staff to anticipate and resolve bottlenecks in care delivery before they occur, recommending actions to enable faster, more responsive patient care and better allocation of resources. The data will be displayed on multiple high-definition screens in the Command Centre, as well as on tablets and mobile devices, providing 24/7 support to busy medical teams across the hospital.

A combination of historical Trust data and real-time data will be fed through the system. Using GE's proprietary Hospital of the Future simulation, algorithms and AI, the system will generate predictive analytics that will help staff recognise patterns in real-time and predict what will happen in the next 24 to 48 hours.

With the data they need at their fingertips, staff will spend less time navigating through different IT systems to get the information they need to make quick decisions. The Command Centre also provides a single, agreed view of the status of the hospital and helps staff to prioritise tasks.

The future of healthcare

Industry experts say that this type of digitisation is not only inevitable but is only the beginning. Deloitte's Center for Health Solutions report cites centralised digital centres to enable decision-making as one of

the major changes the hospital of the future will need to implement in order to function in a world of evolving technologies, demographic shifts and economic changes.

In 2017, Humber River Hospital (HRH) in Canada implemented a Command Centre to address similar patient flow problems as BRI. Despite an 8% increase in patient visits to the Emergency Department, the Centre helped HRH reduce the time a patient in the Emergency Department waited for an inpatient bed by 33%.

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Relieving pressure on our staff means they can spend more time delivering care and less time organizing care.

The Command Center will enable us to maximize the use of resources and improve how we move patients around the hospital to successful discharge.

Professor Clive Kay,
CEO of Brandford Teaching Hospitals NHS
Foundation Trust.

Johns Hopkins Hospital was an early adopter of the Command Centre, which helped them transfer patients to other hospitals 60% faster, reduce wait times in the ED by 25%, and time spent waiting in the operating room for a post-surgical bed decreased by 70%.

Oregon Health & Science University (OHSU) was first to leverage GE Healthcare's Command Centre to support better management of sepsis care. Each patient within OHSU's electronic medical systems gets a sepsis risk score. If the score is higher than a given level, it will display on the sepsis tile, indicating that the patient may have sepsis or is at risk, at which time the “mission controller” actively monitors if the appropriate actions are being taken by the bedside nurse and provider teams to assess for sepsis and treat sepsis if present.

The Command Centre at BRI is scheduled to open in spring 2019 and expand services over a four-year period.

cqc.org.uk/sites/default/files/new_reports/AAAH1903.pdf. ■