

HUMBER RIVER REGIONAL HOSPITAL

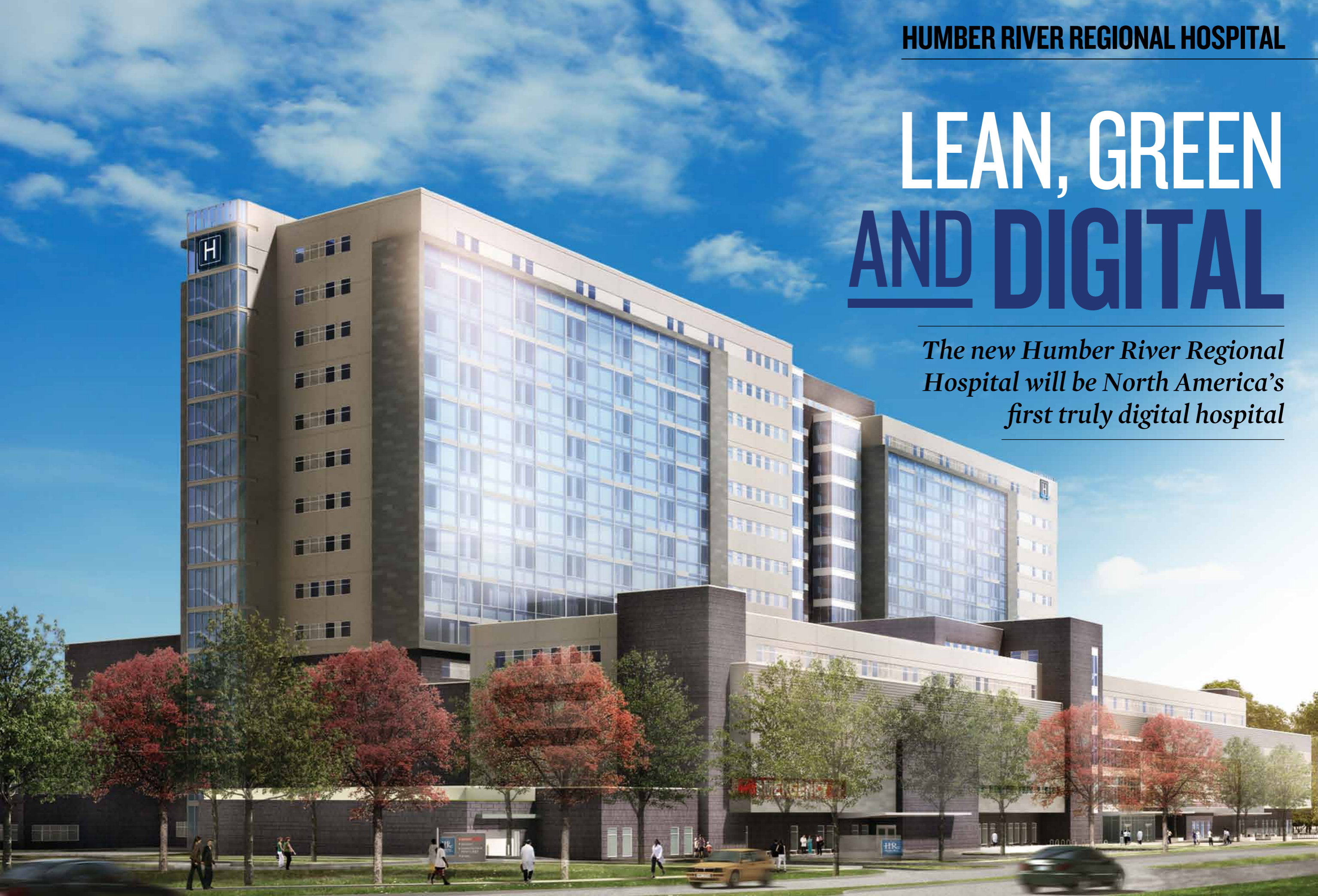
LEAN, GREEN AND DIGITAL



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The new Humber River Regional Hospital will be North America's first truly digital hospital



The existing Humber River Regional Hospital (HRRH) is one of Canada's largest regional acute care hospitals. Currently spread across three sites in the Greater Toronto region, it serves a catchment area of approximately 850,000 people. The challenge of how to deliver the best acute care to such a large population in line with modern healthcare practice became a pressing issue for the management team of Humber River Regional. Either renovate the current sites or explore the possibility of a new facility. The answer for Dr. Devlin and his team became an obvious one. Based on a measured business case alongside a desire to deliver something very special for patients, staff and the community at large, a decision was taken to move all the acute care to one new site.

What the executive team at Humber River faced next was the question of strategic direction. One of the main drivers related not to the question of what was needed now, but crucially what will healthcare look like in the future? Dr. Devlin challenged his team with this idea. "Tell me what healthcare will look like in 2030 so that we can build a hospital that gets there now, and enables evolution to whatever the future might bring. Create a plug and play hospital, so that I can interchange equipment and amend processes so we are adaptable in the future,' and this is how we came up with the concept of lean, green and digital."

Lean represents the core efficiencies and critical flows that have become vital to the running of modern hospitals. Green



East-west Concourse

acknowledges modern design, linking the physical building to the community and environment of which it will become part. Humber River will demonstrate this with grey water re-use, 100 percent fresh air, green roofing, heat recovery and an energy efficiency standard that will be 42 percent above the ASHRAE standard, all contributing to a LEED silver award. But the true headliner and what makes Humber

River stand above its peers is the way it has embraced a digital future.

You would expect a brand new hospital to utilize the very latest technologies. It makes perfect sense. What impresses in the case of Humber River is how all the digital aspects of the redevelopment are intrinsically tied to all the ideologies of the original mission statement, none more important than the delivery of the best

“THE IDEA IS THAT YOU HAVE DIRECT FACE TIME THROUGH A VIDEO APPLICATION WITH YOUR ASSIGNED NURSE”



Patient room



South allee

patient experience. This isn't a case of technology for technology's sake. All the new technologies are being introduced to deliver better results and performance in all aspects of the hospital's function.

When examining the technologies being installed that evidence HRRH's claim to be the first fully digital hospital, you can split them into two broad categories. Firstly technologies that relate directly to the patient in terms of what they see and interact with, and secondly the automation side that applies to the internal workings of the hospital.

In the first instance a prime example is the patient's bedside terminal—an entertainment and control system that allows the patient to order food, set the

environment of the room, call a nurse, review their chart or video conference with family. “The idea is that you have direct face time through a video application with your assigned nurse, which allows our nurses to be far more productive as they are able to direct the relevant services to attend the patient's need. This is patient-centered but also ties in with how the clinical side becomes more productive,” says Bak.

Communication is a hot topic in healthcare and it transcends right through the entire organization at Humber River Regional. These push technologies don't just connect the patients to staff but also the staff from all sectors of the facility to each other. This includes services such as portering and housekeeping that both play



a key role in keeping the hospital operating efficiently. “Having mobility devices and people connected to keep information flowing so they can react is a key component to using people in the most effective way,” concludes Bak.

Automation is the watchword at the heart of Humber River’s operations. Again we see everything designed and implemented to deliver maximum efficiencies both in terms of productivity and cost effectiveness. It’s apparent that Humber River has learned from other industries such as retail and adapted their solutions to its own needs.

“On the automation side, it’s a big facility and it’s about productivity and operating cost. That’s going to cover the logistics as well as the clinical side. This is how we integrate what we call clinical and business systems in with the whole building itself,” explains Bak.

One clear example of the integration of such systems is the automated guided vehicles that deliver supplies throughout the facility. These are the vehicles at the sharp end of a just-in-time supply chain network which uses a bar code system to ensure all operations are both timely and accurate. This is part of the same integrated system which is used in patient interactions where

Electronic Health Records (EHR) play a central role, as Dr. Devlin explains.

“Each pill becomes bar coded, so when the physician makes the electronic order it goes to pharmacy, where the automated pill picker selects the drug. When the drug is administered it is scanned, the patient’s armband is scanned, the provider gets scanned and the EHR automatically updated. Not only that, the whole flow

of information ties back to the pill picker and the supply chain so that stock levels are automatically replenished as required. This way we make sure it’s the right drug at the right time, and the right product is available when needed.”

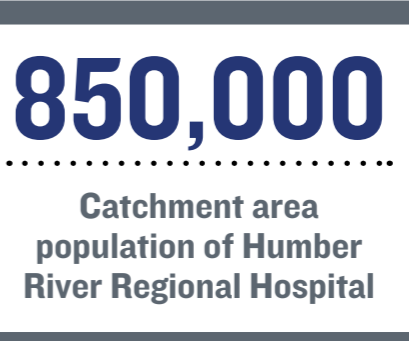
These examples all highlight how digital technologies are being unified to make each part of the hospital work together to deliver the best service to the patient. It is very much a win-win scenario. This multi layered system clearly demonstrates how serious HRRH takes the practice of safe patient care. But it also highlights how the same technology facilitates an open

forum of communication and information sharing, allowing the patient direct access to their records through the EHR. Therefore a patient can view their results and data directly from their bed and consult with the relevant physicians

electronically. This interoperability of information extends further still, beyond the boundaries of the hospital itself.

“We’re looking at this from a different angle, by communicating with the community also. We’ll expose information and services out to allow patients to communicate with us as they come in or go home, plus allow the provider community

North-south allee



“THE WAY WE’VE DESIGNED THE OUTSIDE OF THE HOSPITAL IS ALL ABOUT GETTING PEOPLE TO CARE QUICKER”

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that refers the patients to us to be far more efficient in communicating with us—this is a key piece of e-health strategy around the world,” explains Bak.

A full and thorough inspection of all the digital advancements being implemented at HRRH would extend far beyond the pages of this article, as there are so many. It’s perhaps fitting to look also at how a number of low-tech solutions have been included in the design which will also add great value to the patient experience, what Dr. Devlin refers to as ‘the people piece’. The layout of the building itself to enhance way finding is a great example of this and again highlights how they have intelligently drawn from a number of sources to deliver excellence.

“The way we’ve designed the outside of the hospital is all about getting people to care quicker, using what we call portals of care. We’ve taken the concept from the airports so you know where you have to drop someone off at our hospital, they only have to walk 30ft to the relevant clinic. You’ll even be able to register from home. People don’t want to sit and wait for the care,” explains Devlin.

Humber River Regional Hospital is scheduled for completion in 2015. It’s clear that the people of Toronto will not have to wait long before they have a new hospital of which they can be truly proud. **BE**

For more information about
Humber River Regional Hospital visit:
www.hrrh.ca

Portals of
care drive





Humber River
REGIONAL HOSPITAL

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