

Canadian Innovation with Heart

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Article from the customer magazine Medical Solutions, December 2008

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Guru Nanak Dev HEALING GARDEN

The Mazankowski Alberta Heart Institute's development centered on patient experience. One result: a healing garden at the center of the institute for patients to enjoy a relaxing atmosphere.

Canadian Innovation with Heart

With the support of Healthcare Consulting, Siemens is helping a new state-of-the-art cardiac care and research institute in Western Canada to set new standards of care. Their approach is simple: clinical and operational transformation. Their efforts will not only transform the medical options available to patients, but also the way in which healthcare providers approach patient care.

By Richard Cairney



“Healthcare Consulting took it all down to what’s best for the patient.”

Carol Manson McLeod, Senior Operating Officer,
Mazankowski Alberta Heart Institute, Edmonton, Alberta, Canada

Summary

Challenge:

- Identify performance measures and introduce technological and architectural improvements to support a patient-centered culture in a new cardiovascular institute

Solution:

- Employ Healthcare Consulting with its portfolio of room and functional planning, IT & technology consulting, process and performance optimization, concepts to increase patient satisfaction, and patient-centric care concepts
- Examine existing and planned cardiology practices as they relate to patients and introduce technological, structural, and cultural changes to the way care is delivered

Result:

- Intensive Care Unit constructed in a way that provides patient and family privacy while reducing the risk of spreading infection
- Integrated bedside terminals that allow for easier admitting, physician’s access to electronic patient records, and patient education
- Decentralized nursing stations and wireless communication devices that eliminate stress-inducing overhead pages, bringing patients and the care team closer together
- Coaster-sized pagers that allow clinic patients a new degree of freedom when waiting for treatment
- A sea change in culture necessary to deliver patient-centric care

The 600,000-square-foot Mazankowski Alberta Heart Institute in Edmonton, Alberta, Canada, is one of few North American heart institutes to handle both pediatric and adult patients under one roof. It will take on the most challenging cases, including transplants and artificial hearts, and houses a world-class cardiac research center to help speed the bench-to-bedside process. Other innovations include hybrid operating rooms where cardiologists and surgeons, armed with the latest medical technology, will work together to conduct minimally invasive procedures, while being prepared to change course and conduct a more invasive procedure if necessary.

The publicly funded Heart Institute, adjacent to the University of Alberta Hospital, the Stollery Children’s Hospital and the University of Alberta itself, will reduce patient wait times for clinical visits and surgical cases visits, meeting new guidelines established by the Canadian Cardiovascular Society. The former waiting time for nonurgent cardiac surgeries was about 14.7 weeks, and the new benchmark is six to eight weeks; the urgent out-patient electrophysiology waiting list of 120 days is expected to be cut dramatically, to 14 days. The new facility offers greater capacity – it is estimated that it could handle 600 to 700 more surgeries annually, up significantly from the 1,140 it performed during the past year.

Beyond increasing capacity to its community, the Heart Institute represents a radically different type of treatment center. By bringing diverse disciplines and

opinions together, the new institute will be changing the very culture of cardiac care. And while the institute is equipped with the very best in medical technology, it is also designed to achieve a gold standard of care, where patients’ needs come first.

“The most difficult thing is to get people to think outside the box,” says Carol Manson McLeod, the institute’s Senior Operating Officer. Healthcare Consulting, she says, has helped manage change and inspire a cultural shift. “The Healthcare Consultants helped people start thinking of ways they can do things differently – so the solutions are homegrown.”

Prior to the institute’s opening in 2009, some of the challenges practitioners faced were the result of their efforts to provide innovative treatment in the previous location, which created high demands on the existing space. “We had been scaling up our capacity to provide new services and increase volumes in the same space,” says Patient Care Manager Terry Hogan. “We added a lot of new services and new concepts that required new staff. Everyone was vying for the same space to do their work.”

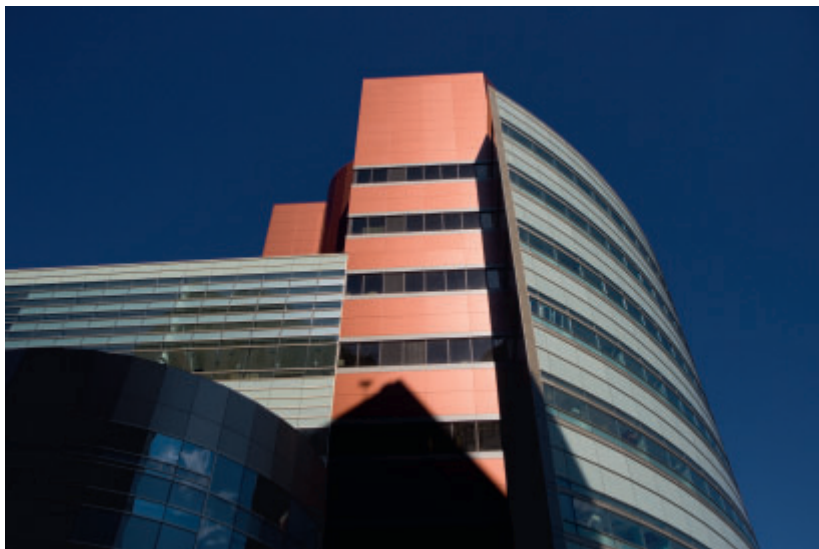
Patient-centered Care

The leadership team at the Heart Institute recognizes that moving into the new institute in 2009 involves much more than simply new equipment or treating patients the same way with more room. It means a sea change in the way the institute cares for patients. Siemens has installed one single-plane and two

biplane cath labs, as well as a magnetic resonance imaging (MRI) system. While this technology provides patients with the highest diagnostic capability on the market today, the Heart Institute engaged Healthcare Consulting to work with the team. Siemens experienced healthcare professionals helped to develop optimized workflows, where processes are refined and technology levers are planned. In addition, the facility was designed to create an environment focused on the highest quality of safe patient care, efficient utilization of valuable resources, and a positive experience for cardiac patients and the care team. The mutual goal was to create a center of excellence and an environment where optimized, patient-centered processes are in place. Nurses, for example, will carry wireless phones to eliminate overhead pages. This enables patients to contact nurses directly. In clinics, coaster-sized pagers will be given to patients, allowing them to leave the waiting area. "They'll be able to go anywhere they want to without worrying about missing their appointment," says Patient Care Manager Donna Daniec. Nursing stations, traditionally the hub of a treatment unit, have been removed. Instead, nurses are situated at alcoves adjacent to patient rooms, according to Daniec.

"We're taking everything we need to care for the patient directly to the patient," she says. "When you look at the spectrum of inpatient and outpatient care, we were making patients travel around to get the services they needed."

Even information will be brought directly to patients via bedside terminals provided by Siemens, says Manson McLeod. "We've talked about being more focused on the patient. We want to do the same thing if you are a planned or unplanned admission. If you're coming from a clinic and need to be admitted, you would normally have to go hither and yon to find admitting. But with the terminals, we're able to provide bedside registration – the patients will actually be admitted at the bedside in their room," she says. "In the future, we'll even be able to have access to electronic patient records at the bedside terminals."



With the greater space and improved workflows, the Heart Institute hopes to handle 50 percent more cardiac surgeries and thus, reduce wait times for patients.



Turned to Siemens to help optimize the University of Alberta's new cardiac hospital (from left): David Johnstone, MD, Clinical Director; Donna Daniec, Patient Care Manager; Terry Hogan, Patient Care Manager; Carol Manson McLeod, Senior Operating Officer

“We’re taking everything we need to care for the patient directly to the patient.”

Donna Daniec, Patient Care Manager,
Mazankowski Alberta Heart Institute,
Edmonton, Alberta, Canada

ing materials onto the system and at the same time, we’re uploading the same content on our website so that what they see on the screen at bedside is what they will be able to see from home, after they’ve been discharged,” Manson McLeod explains. The terminals will also serve as the patient’s television, telephone, and allows them to surf the net or communicate via email. She acknowledges that some patients will be tentative about using the technology, but adds that the patient-centric outlook at the institute will help them become comfortable with it. “We are going to make sure that all the members of our staff and volunteers – from housekeeping to nutrition personnel – are able to help patients use this technology.”

Designed for Safety, Comfort, and Synergies

Manson McLeod credits Healthcare Consulting with helping ensure that the institute adopts a commitment to patient care that is embraced by all staff. Advice from the Consulting team even resulted in a significant architectural change in design of the Intensive Care Unit (ICU). Initially, part of the ICU was to be built in a traditional way, with eight of the beds sharing a common space. But with new concerns about infectious disease,

The Heart Institute is working with Siemens to develop a system in which doctors can call up a patient’s medical images on the bedside screen to explain diseases and treatment plans. “The bedside terminal is a device for us to teach our patients – we are uploading teach-

“Having kids under the same roof really changes the focus of the institute, in that you need to pay attention to their unique needs.”

David Johnstone, MD, Clinical Director,
Mazankowski Alberta Heart Institute,
Edmonton, Alberta, Canada

Siemens suggested a design change. “The Healthcare consultants looked at our ICU, and even though we were in the midst of construction, the organization agreed that it was important enough to make the changes,” Manson McLeod says. “Healthcare Consulting took it all down to what’s best for the patient.” That’s not surprising, considering that the priority on the patient experience was at the forefront of many other elements in the design of the building, which does not resemble a traditional hospital. Every patient room, for example, has natural light coming either from exterior windows or from the institute’s indoor Healing Garden – a placid environment that has an immediate soothing effect. Steps are being taken to improve the experience of outpatients, too. “Siemens was very influential – they helped us deal with some fundamental issues,” adds David Johnstone, MD, Clinical Director for the institute. Armed with a worldwide perspective and experience, Healthcare Consulting helped the institute develop performance indicators. “They got us thinking on that level, and as a result, we’ve adopted targets for our services, allowing information to drive policy.” Johnstone notes that the institute’s location, at the heart of Edmonton’s nationally respected health and medical research

center, is another of its strengths that lends to its distinct nature. Many cardiac patients, for example, are also diabetics. The Heart Institute has the advantage of being affiliated with the Alberta Diabetes Institute, a world-leading diabetes research center. Similarly, the institute and University of Alberta Hospital are attached to the Stollery Children’s Hospital. “Having kids under the same roof really changes the focus of the institute, in that you need to pay attention to their unique needs and not just replicate what is done in the Stollery,” he says. Johnstone adds that the focus on patient needs is also being applied through new services designed to keep patients close to their home communities. The Heart Institute serves a population scattered across a vast geographic area, with some patients coming from remote settings. “Heart clinics work, but does it make sense that patients have to wait months for an appointment and need to drive several hours to get here?” he asks. “Is it fair that they have to park so far from the building that they’re having chest pain by the time they make it through the door?” Telehealth sessions solve some problems, and Manson McLeod says the institute’s staff is brushing up on the principles of adult learning in order to eliminate eight-



Bedside terminals are used for everything from patient admission to patient education and entertainment, to file replacement during ward rounds.

hour days for patients in presurgery assessments and education. “We were doing that because it suited us – not the patient,” she says. “The Healthcare Consultants helped us to change our way of thinking. We’re now creating a culture where we think of the patient first. We are on the cusp of some fundamental changes.”

Medical and technology writer Richard Cairney also serves as the Communications Officer for the Engineering Faculty at the University of Alberta in Edmonton, Alberta, Canada.

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