

THE FUTURE OF WORK

Doctors embrace the digital workplace

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The Globe and Mail

Published Monday, Jun. 10 2013, 5:48 PM EDT

Last updated Monday, Jun. 10 2013, 5:49 PM EDT

Rafi Setrak takes his office along with him wherever he goes.

“These days I can put everything I need on a push cart,” says the deputy chief of emergency medicine at Niagara Health System’s St. Catharines Site Hospital, which opened last April.

The cart’s top features a tablet computer, a clipboard, an alcohol dispenser and disinfectant wipes and a coffee mug. In drawers below are scissors, scalpels, disposable gloves and miniature diagnostic equipment, including a tiny ultrasound device.

Using a portable X-ray, he can get a digital scan displayed on his computer screen instantly. And when he takes a blood sample, it’s sent to a lab where robotic devices process the test within minutes and send the results to him wirelessly.

It’s not yet the hand-held diagnostic “tricorder” gadget that doctors in *Star Trek* carry in their coat pockets, but for physicians, that future is coming faster than almost anyone can imagine, Dr. Setrak believes.

“I’ve been practising for 20 years and the biggest change in medicine has been the ever-increasing pace of change itself. Every time there’s a new technology and a new treatment, I think that’s the way things will be in the future. But two years down the road, things have changed again,” he says.

That presented a challenge to the designers of the new St. Catharines Site Hospital, who were told to plan a facility that could be kept up to date for decades to come, says Jeff Wilson, the hospital’s manager of information and communication technology.

“We built with a significant ability to expand and grow. The cabling and switches had to be planned so that they will still be functional in future generations,” he says.

The antenna system and cabling was built with more than 80 or more per cent spare capacity. “The last thing you want is to need to have cabling contractors pulling out walls in patient areas for an upgrade.” All areas of the hospital are connected to a network whose information routing devices in secure rooms can be easily accessed for replacement or upgrading as technology advances.

“Most doctors are now using wireless devices and we are the first hospital to use an antenna system

built into the building that carries encrypted wireless signals from all sources,” Mr. Wilson says. Physicians can also get test results while they’re still talking to the patients.

But doctors don’t have to be working in big hospitals to feel the winds of change. Even the work of general practitioners in local clinics is being transformed by technology.

Family physician Stephen McLaren recalls how cluttered his neighbourhood medical office in Markham, Ont., was when he started practice in 1984.

“Medical records were stored in folders on bookshelves and eventually they became big files that required more shelves.” He had to laboriously hand-write notes and add them to the file, while there was pressure to move on to the next patient. That meant the notes were often sketchy and not very legible, says Dr. McLaren, who is part of the Markham Family Health Team, which has privileges at the Markham Stouffville Hospital northeast of Toronto.

Every time he saw a patient for a follow-up, he had to flip through piles of pieces of paper clipped together. “It was like putting together a puzzle,” he recalls.

Moving to electronic health records in the past few years has transformed how he provides care and how his office is organized, Dr. McLaren says.

That electronic revolution is happening everywhere. In Canada, 56 per cent of physicians have switched completely to electronic medical record keeping. That’s up from 23 per cent in 2006, according to Canada Health Infoway.

Canada is actually ahead of the United States. According to data from the U.S. Centers for Disease Control, just 17 per cent of U.S. doctors offices and 9 per cent of hospitals were using an electronic health record system in 2008. By this year, 50 per cent of U.S. physician practices and 80 per cent of hospitals have gone electronic.

Electronic records reduce turnaround time for getting test results and reduce the need for retesting because of lags in receiving results. “That’s better for patients, but also a boon for medical professionals in terms of job satisfaction,” Dr. McLaren says. The doctors in the group can see more patients and at the same time diagnose problems more quickly, he’s finding.

His team practice has grown from a family clinic with three partners to a family health care group with four locations that includes 19 doctors, three social workers, a dietician and eight nurses and 40 part-time staff.

In the clinics, space that used to be full of files has been freed up for patient examining rooms. “It would be impossible today to keep up with the patient load – and find space for all that staff – if patient information was all still being tracked and stored on paper,” he says.

Dr. McLaren hopes a bigger transformation will be coming soon.

“In the future I would really like to see computer portals that contact patients directly. It would make it possible for them to do their own preventive care and schedule tests and boosters [immunization

shots]. Patients with questions could tap into a trusted electronic source of information rather than just Google.” That could help patients make better decisions for themselves and would take some time pressure off of care providers, he says.

For doctors, mobile technology will help them make faster and better decisions, Dr. Setrak says. “Your decisions are only as good as your data, and if you can get them fully and quickly you are going to make better diagnoses.”

Technology will also help hospitals build bigger networks to tap into expertise that may not be on site, for immediate consultation with specialists and second opinions, he adds. The Niagara Health System links six hospitals in Southern Ontario.

“I can already consult live with a neurosurgeon in our sister hospital in Hamilton. I’m a geek at heart and I hope one day to be able to see medical records from Victoria within seconds,” Dr. Setrak says.

All this will make the pace of change faster, he foresees. “But as long as it makes for more effective encounters with patients and makes the diagnosis more accurate, I say bring on the future.”

How electronic medical records change the way doctors work, based on the Canada Health Infoway electronic health records benefits study:

56: Percentage of Canadian family physicians who use electronic medical records (EMRs).

23: Percentage using EMRs in 2006.

3.8: Estimated number of hours saved a week by a doctor using EMRs, on average.

4.5: Estimated millions of hours saved by Canadian doctors using EMRs in 2012.

15.6: Number of minutes saved, on average, managing a lab report.

6.5: Millions of duplicate lab and imaging tests prevented in 2012 because of better electronic tracking.