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EHealth Ontario CEO Sarah Kramer says modernization means using technology to improve health care access.

## Technology improves health care delivery

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MyChart, eHealth Ontario, mHealth, mydoctor.ca, ePrescribing...the writing is on the screen: Health care is going digital.

"There are quality, safety and access issues that are not fully able to be managed without technology," says Sarah Kramer, who, six months ago, was appointed president and CEO of eHealth Ontario. That's her official title. Unofficially, she's the maven of modernizing the health system in the province.

And "the modernization of health care," she says, "means using technology to improve the way health care is delivered."

Modernization means Robyn Fulkerson, a London, Ont.-based case manager for Sykes Assistance Services, on her way home from dinner with her husband on Valentine's Day, gets an alert on her BlackBerry in her purse informing her that a woman in Goderich whose glucose she's monitoring electronically has exceeded her normal range.

Modernization means a woman who lives in Edmonton can access the medical information and test results of her father, who is a prostate cancer patient at Sunnybrook hospital in Toronto.

It means you can travel the world and instantly access your medical records and medication information anywhere there's a computer connected to the Internet.

And it means that, without leaving your home, your pedometer readings, sugar levels, blood pressure, weight and expiratory flow (for patients with asthma and lung disease) can be monitored daily by a health care professional.

And soon, says Boston-based medical technology expert C. Peter Waegemann, much of what seems modern now will be surpassed. "The revolution is a change in communication between patients and health care providers using the Internet and mobile phones."

People will be using their cellphones to check into hospitals in advance; to get test results, lab reports and access medical records; to get reminders for appointments or times to take medication; to carry their secure medical records anywhere in the world; and to send to their physicians, in advance of an office visit, their questions, their agenda and their data.

Waegemann predicts physicians will find that "cellphones are the most prized tool any doctor can have, providing better disease management and better communication with the patient."

Dr. Jay Mercer, an Ottawa family physician who helped develop the mydoctor.ca portal for the Canadian Medical Association, doesn't depend on his cellphone as a health care tool but, he says, "Take away my hand-held computer at a house call and I have a problem." He's got it loaded with a program with drug information, a drug interaction checker and reference material he can look up on the spot.

Mercer doesn't enter data while with the patient because, he says, it takes too much time and the keyboard is too small. Instead, he still uses a voice recorder, followed by transcription directly into electronic medical records. Nor does he use the device during the visit to access the patient's record, which he brings as a printout summary. He says the screen on his hand-held computer is too small to display all the information he might need for a complex situation – as is usually the case with house calls – and the patient's privacy could be compromised if it were lost or stolen.

But in his fully automated office, Mercer has large screens in every examining room to call up patient data from the electronic medical records. And he's a big user of mydoctor.ca, which provides for secure email interaction with patients. "The agreement is I'll get back to them in two or three days."

And, while it's not linked electronically to any measuring instruments in the patient's home, the mydoctor portal does allow him to monitor data, such as blood pressure, weight and sugar readings, which the patient enters. By having the patient enter it, he says, it may be more involving for the patient and have more impact.

However, Igeacare Systems, based in Richmond Hill, through its Healthanywhere division, is promoting mHealth, or mobile health: wireless electronic reporting using a BlackBerry or smart phone and Bluetooth technology. Blood oxygen, blood pressure, pulse, temperature, lung capacity, blood glucose and weight can be sent wirelessly from the measuring devices to the portal through which they're being monitored by a health care professional – who may be at home or getting an alert on her BlackBerry.

The MyChart system, developed at Sunnybrook and now part of Telus, is a secure electronic personal care record that can be accessed, with permission, by members of a medical team as well as caregivers, parents and adult children of elderly patients anywhere in the world.

Eventually, suggests Jerry Zeidenberg, editor and publisher of *Canadian Healthcare Technology*, a monthly publication, all health care facilities, including labs, x-ray and digital screening clinics, pharmacies and physicians' offices will be linked electronically and patients will be able to access their records, enter data or have them entered wirelessly and monitor their care.

But, he says, "Unless you have those links to lab systems and pharmacies, then there's no bang for the buck." Zeidenberg hopes the \$2.1 billion investment by the province in eHealth Ontario will provide "a huge thrust" in the right direction.

Indeed, Kramer of eHealth Ontario says one focus of the initiative is "for all lab reports in the province to come into an electronic repository" rather than arriving by fax or by paper at physicians' offices. Using technology to remotely monitor diabetes patients is another priority, as is converting medical records into electronic records. And soon to start as a pilot program is ePrescribing, which will transmit prescriptions electronically from physician to pharmacist.

While all this may seem daunting, Mercer likes to quote the observation that "technology is only technology if it was invented after you were born."