on Prince Edward Island, who designed his own custom software in the 1980s.

Nor do administrators typically consult physicians when purchasing EMRs for hospitals and other facilities, Visser adds. "People that are in the know and have experience front-line aren't always asked to input when it comes to vendor selection and that just doesn't make sense to me. If you haven't used, you don't know what to look for."

Others say governments have exacerbated the problem by failing to introduce suitable procedures for certifying software.

Certification authorities don't test the software, so it doesn't always meet clinical requirements, says Dr. Karim Keshavjee, CEO of InfoClin, an EMR consulting organization.

A system can pass certification to do chronic disease management without being able to do so in a practical setting, he says. For example, when Keshavjee tried to help a practice use its certified EMR to create a list of diabetic patients whose hemoglobin levels were greater than eight, the software didn't produce the right list. "Certification should mean something," he says. "It shouldn't be a technical definition. It should be a clinical one."

Brookstone says that in developing EMRs, vendors often seek to meet provincial certification requirements, so as to qualify for development funding, rather than clinical needs. "Under the current structure, every time a province releases an update to their specifications, there's a significant cost that gets loaded onto the vendor in order to meet that specification."

Brookstone believes what's needed is an "outcome focused" national certification program, complete with some form of requirement to demonstrate that "meaningful use" can be made of the software.

Other problematic EMR areas that need to be addressed include the transfer of health information between systems, as well as the transfer of prescription information between doctor's offices and pharmacies, Brookstone adds. Improving those areas would increase the value of EMRs in Canada "two hundred fold."

EMRs that have limited clinical value put into question the billions of dollars spent by Canada Health Infoway to establish a national health infrastructure, Brookstone says. "So much money has been invested in creating this infrastructure, [but] if you can't get clinicians to use it, then what is the point of the investment?"

Some manner of national certification program, though, may soon be in the offing. Canada Health Infoway recently indicated that it will begin certifying EMR systems, based on privacy, security and interoperability criteria (www.infoway-inforoute.ca/about-infoway/news/news-releases/743).

"Physicians have told us they want a simpler approach to selecting an EMR system for their practices, one that they can trust to maintain the privacy and security of information and allows them to share patient information with authorized health professionals in various health care settings," said Richard Alvarez, president and CEO of Canada Health Infoway in the press release. "Certification of EMR systems will signal to users that the product they are considering is a trusted solution that conforms to Canadian and international standards." — Erin Walkinshaw, Ottawa, Ont.

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Challenges of family practice: using electronic records

The office is rewired. The holes have been patched where the electricians gouged out the drywall and all is freshly repainted. Patients' health records are glittering on the new laptop and all the fancy but pricey toys are humming away doing things that no one in the office completely understands but the salesman insisted were absolutely integral to the smooth operation of the electronic medical records (EMRs) system.

Now what?

Well, for most doctors, it turns out that the path to becoming a thoroughly modern electronic physician has a few more twists and turns. In fact, there are even some obstacles on the road.

Foremost among those may be the training of staff to operate the fancy new systems and the impact that initial adoption of EMRs has on the volume of family practice.

A lot of training must be provided to staff to use EMRs effectively, says Ann Alsaffar, president of the Canadian Family Practice Nurses Association, who along with husband Dr. Heath Alsaffar recently introduced EMRs into the couple's Ottawa, Ontario-based practice (www.cmaj.ca/lookup/doi/10.1503/cmaj.109-3929).

Contrary to common belief, the Alsaffars soon discovered that EMRs don't necessarily yield immediate office efficiencies because the challenges, and the time required, to implement an electronic system actually mean that less time is available to see patients.

Needless to say, that has a detrimental impact on financial bottom lines, notes Dr. Robert Boulay, president of the College of Family Physicians of Canada (CFPC).

While the upfront costs of introducing EMRs can be manageable, many physicians are unaware that doing so can result in a decrease in the number of patients seen for a period of time up to 12 to 18 months, Boulay says. "I think that's the real crux of the implementation issue. So what the CFPC really has been trying to advocate for is for increased support for physicians while they're making that transition," including financial support to hire additional required staff.

Still another obstacle lies in the tricky distinction between EMRs and electronic health records (EHRs). The former refers to recordkeeping systems at the doctor–patient level that are used primarily as an aid in the clinical diagnosis and treatment of disease. The latter refer to national electronic architecture that is used to aggregate health information in such a way that it would be valuable for policy-makers, researchers and health administrators.

Although some believe that the greatest value to the health care system lies in EHRs for population data searches, Boulay notes that doctors can also use EMRs for similar, but smaller-scale searches of their own patients. EMRs can "help doctors look at their own patient demographic, you know the patients they are directly responsible for, and [see] if there are particular needs within that group."

He adds, though, that the value of EMRs is "hobbled," if you can't search data effectively across different systems.

And as many family doctors implementing EMRs have discovered, Canada's development of EMRs and EHRs hasn't exactly been done in tandem. Systems are often incompatible, often use different standards, and often aren't capable of connecting with one another, whether that's to a provincial network, or to a hospital or pharmacy.

Even connecting between EMRs, as between those of an office and a hospital, can be problematic, says Alsaffar, noting that to connect with a local Ottawa hospital, it's necessary to "get a password, a grid card, and some other kind of key to get into the hospital to have a look at the labs and the reports in the hospital system."

Connectivity can be easier in smaller communities because there are often just a handful of systems with which to connect, she adds. "For a group like us that are connecting to different hospitals, different pharmacies, so many other different resources that we need to access, it gets very complicated."

That's only magnified when it comes to connectivity between EMRs and EHRs. Data migration from one system to another can be "troublesome," even in a province like Nova Scotia which is a leader in connecting EMRs to hospital-based EHRs, says Dr. Jane Brooks, a rural family physician in a collaborative practice in the small community of Middleton, Nova Scotia. Even in Nova Scotia, there are physicians who can't transfer data between the province's three preferred vendors, and if the government ever changes systems, it will mean that a lot of data will have to be re-entered, she adds.

In many parts of the country, data transfer is possible but it's a "very manually intensive process and even when the transfer takes place, the data needs to be checked for consistency and accuracy and reliability," says Alan Brookstone, CEO for CanadianEMR, a resource organization that provides a forum for ratings and reviews of EMR systems.

Basic data can usually be transferred but auxiliary information in different systems is often stored in different formats, he adds. And while some provinces, such as Alberta, have done system-to-system transfers, Canada as a whole has not addressed such issues as data transfers when patients relocate within the country. Typically, doctors still have to make a PDF version of a patient's EMR, or print out a hard copy for the patient to take to their next physician.

For the average doctor, all that lack of connectivity, at every level, essentially translates into the nightmare known as data entry.

"Without this type of connectivity, I think the workload for family physicians in their office likely increases substantially because it really means that you have to subsequently enter a lot of data," Boulay says.

"I think some people worry they won't have all the information they need at their fingertips," Brooks says. "For people who have looked after a patient for 20 years, do you scan the whole paper chart into the EMR or do you just pick parts out or do you just keep the paper chart and refer to it if you want to."

Boulay says that the data migration problems are further compounded by concerns that doctors have about ensuring confidentiality of patient records. "I think family physicians, rightly so, have some concern about the security of data. Despite assurance from EHR folk and EMR vendors, I think we nonetheless have this undercurrent of anxiety."

Some doctors find that the solution to many of the difficulties lies in backing up their EMRs with old-fashioned paper records kept in the basement, says Dr. Hendrik Visser, a family physician in Crapaud, Prince Edward Island. But Visser says that adding a parallel system is inefficient and paper records should only be referred to if absolutely necessary.

Visser, who developed his own EMR system in the 1980s, says he never imagined that health information technologies would still be lagging in the new millennium and still be plagued with obstacles. "I think it's shameful that for human health we're so far behind in information technology that we're still relying too heavily on paper with the duplication and all the inefficiency that goes with the old-fashioned record," he says. "Veterinarian medicine here on the island is far further along than human medicine." — Erin Walkinshaw, Ottawa, Ont.

Family doctors who think introducing electronic medical records to their practices will immediately help them to more efficiently empty their waiting rooms may be in for a surprise.

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