for the time they spend dealing with patient concerns via an EHR system, fee-for-service can be successfully adapted to a fully integrated system.

Tamblyn points to Denmark, where physicians are paid for electronic consultations via email, and where EHR usage is almost universal within a system where physicians largely rely on fee-for-service models. "If you restructure fee for service well, it can drive EHR use."

Brian Hutchison, a primary health care analyst at McMaster University in Hamilton, Ontario, thinks adoption of EHRs is fundamental to primary care reform. And he praises Ontario's efforts to shift physicians toward other payment models than fee for service, partly because such alternative models promote teamwork, which is further enabled by EHR usage.

But that doesn't mean Canada must immediately embark on Draconian measures to phase-out fee for service, Hutchison says, noting that many jurisdictions in Europe grafted EHRs onto fee-for-service payment models.

Although fee for service is "quite toxic" when it comes to enabling quality-of-care reforms, it is not fundamentally incompatible with EHRs, says Cathy Schoen, research director of the Commission on a High Performance Health System at the Commonwealth Fund, a New York City, New York-based private foundation, which produces an annual survey of primary health care measurements, including EHR usage in 11 countries.

"You want to free physicians up to do what they have been trained to do," Schoen argues, pointing to the successes in Europe.

EHRs can make sense even in a conventional fee-for-service model where physicians are not reimbursed for computer-based care, says Michael Hindmarsh, a Toronto-based consultant with two decades of experience tracking the dynamics of EHRs as associate director of clinical improvement at the MacColl Institute for Healthcare Innovation at the Center for Health Studies Group Health Cooperative of Puget Sound in Seattle, Washington.

Because EHRs vastly improve case-finding and reduce check-back from low-payment code visits in the US, Hindmarsh says, "many fee-for-service providers that integrated EHRs have made more money." — Paul Christopher Webster, Toronto, Ont.

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The pocketbook impact of electronic health records: Part 2

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Fee-for-service billing is compatible with EHRs: Disagreed

In the opinion of Dr. Karim Keshavjee, a Toronto, Ontario, family physician and associate member of the Centre for Evaluation of Medicines affiliated with McMaster University in Hamilton, Ontario, Canada's experience with EHRs has largely been a failure.

Part of the problem, Keshavjee says, is that EHRs are incompatible with the dominant model of physician payment in Canada — fee for service. If Canadian patients, physicians and taxpayers are to get the maximum benefit for their ongoing $10-billion investment in an EHR system, "reforms to the payment system are required," says Keshavjee, who has often advised both governments and primary health care organizations about how to adopt EHRs.

The power of EHRs is best harnessed when physicians use them to reduce patient-related workload, Keshavjee explains. EHRs reduce paper chases, which consume an estimated 30% of time spent with patients. They also enable physicians to delegate work to other caregivers.

But within a fee-for-service system, physicians who delegate patient contact to other caregivers lose income opportunities, Kashavjee says. "If you've got

Adoption of electronic health records has been associated with a 25% reduction in patient visits to physicians, as contact is increasingly done by telephone or online, and a 30% increase in patient contact with other care providers at facilities in the United States.

highly paid, highly trained people doing low-level work because they can't delegate, you can't gain the efficiencies that EHRs inherently present."

EHRs and fee for service don't easily mesh, agrees David Ludwick, general manger of the Sherwood Park Primary Care Network in Sherwood Park, Alberta.

Ludwick says his studies indicate that fee-for-service physicians are less likely to use EHRs than salaried physicians (*Can Family Physician* 2010;56:40-7). "We found that doctors don't have time, or make time, to select an EHR system. They're on a treadmill, seeing 40 patients a day," he explains. "I'm convinced that if you look at an alternate payment plan like capitation or a blended plan you will get a better EHR procurement."

There is also the question of physician motivation to invest time and money to adopt a system that may reduce their contact with patients, either because adopting EHRs draws physician attention away from patients during an appointment, or because it reduces patient throughput due to the time needed to learn a new system, says Ludwick. "There's a disconnect" between EHRs and conventional fee-for-service payment structures.

Kevin Leonard, associate professor in the department of health policy, management and evaluation at the University of Toronto in Ontario, agrees that fee for service hobbles EHR uptake. "The physicians have been reluctant to adopt them because they think all it does is waste time and create more work for doctors. That's the thinking. The funding model goes against it."

"A fundamental part of adopting EHRs is changing the payment model. In fact, a fundamental change in the payment model has been informally correlated with successful adoption of EHRs," adds Leonard, citing his studies of EHR usage in 21 medical clinics coordinated by the CMA and funded by Canada Health Infoway (www.cma.ca/EMRcasestudies).

EHR adoption is associated with a 25% reduction in patient visits to physicians, as contact is increasingly done by telephone or online, and a 30% increase in patient contact with other care providers at facilities operated by the Kaiser Permanente Federation, which provides health care services to 8.7 million Americans, notes Dr. Andrew Wiesenthal, the firm's associate executive director for clinical information.

Physicians who are paid on the basis of patient visits aren't likely to want to adopt EHRs, Wiesenthal says. "I think the incentives are aligned against it. As a doctor, you are likely to do the things that you are paid for. The physicians paid fee for service are being asked to pay for [EHRs] at the same time that they would reduce visits."

The "business case" for EHRs is vastly reduced within the fee-for-service model, says Robert Mechanic, senior fellow and director of the health industry forum at Brandeis University in Waltham, Massachusetts.

"The level of uptake has been very slow," among fee-for-service physicians in the US, says Mechanic. He argues that fee-for-service reimbursement "penalizes organizations that try to reduce unnecessary services or shift patients into low-cost settings with reduced revenues and profits, creating a sizable barrier to delivery reform."

Even in a recalibrated fee-for-service system, "providers will still be paid more for doing more rather than for achieving better outcomes," he adds. "The political challenges of recalibration are also great, as powerful interests will react negatively to potential income reductions."

David Blumenthal, the US government's national coordinator for health information technology, says payment reform seems inevitable. "A system that rewards good performance will create a natural market for EHRs. They are virtually unequal in that respect. I do think payment reform will be critical." — Paul Christopher Webster, Toronto, Ont.

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Parts four and five of a series on electronic health records.

Part I: Canada's electronic health records initiative stalled by federal funding freeze (*CMAJ* 2010. DOI:10.1503/cmaj.109-3183)

Part II: Ontario's plan for electronic health records is at risk, official says (*CMAJ* 2010. DOI:10.1503/cmaj.109-3193)

Part III: Electronic health records a "strong priority" for US government (*CMAJ* 2010. DOI:10.1503/cmaj.109-3218)