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CMA champions e-prescribing

Anna Reid, MD, CMA president

In a world full of computer and mobile applications (apps), the phrase “killer app” may already be outdated.

But for physicians the phrase can still resonate, as one of the “killer apps” that justifies greater use of electronic medical records (EMRs) is one that gives us the ability to prescribe medications without having to resort to paper, fax or phone.

E-prescribing has long been recognized as a fundamental requirement for the effective use of EMRs by the medical profession. This has been recognized in the United States, where the ability to prescribe electronically forms an important part of the current incentive program to speed EMR adoption. Here at home, on the other hand, an article published in the May 2011 issue of Future Practice noted that “asking why Canada does not have widespread electronic prescribing of patient medications can yield a multiplicity of answers, most of them less than satisfactory.”

That’s why a working group comprised of physician representatives from the Canadian Medical Association and pharmacists from the Canadian Pharmacists Association (CPhA) have been collaborating to move the yardstick forward. Together, they have committed to a vision that sees e-prescribing in place for Canadians by 2015.

A draft joint statement defines e-prescribing as the creation and transmission of a prescription between the prescriber and the pharmacy using the EMR and pharmacy management software, integrated with the Drug Information System in the relevant jurisdiction and Computerized Physician Order Entry (CPOE) systems in facilities.

The statement acknowledges there are a number of challenges to making this a reality and puts the onus on provincial and territorial governments to create a regulatory environment that supports e-prescribing and harmonizes business rules to help software vendors put in place the proper systems.

While this stance does not guarantee the nationwide adoption of e-prescribing, it goes a long way in demonstrating the CMA’s commitment toward adopting a digital agenda that supports the work of Canadian physicians in a meaningful way.

In fact, a succession of CMA presidents has supported a digital agenda and I am no exception. In the NWT, we often draw on new innovations to help us provide the best care possible under often challenging circumstances. In the North, innovation isn’t even an option. We have to be innovative to be able to treat our patients with the resources available to us.

IT is one of the fundamental tools that can help us provide that care. In this issue, you will read about how Canadian physicians are looking to use new technologies and new tools in caring for their own patients.

The CMA remains strongly committed to supporting a digital agenda that will do this, while at the same time ensuring IT innovations become a seamless part of the way you work. While it is just one component of this agenda, e-prescribing is nonetheless a very important one and we are going to keep it firmly in our sights.

“In the North, innovation isn’t even an option. We have to be innovative to be able to treat our patients with the resources available to us.”

— Dr. Anna Reid

Anna Reid, MD, CMA president

“In the North, innovation isn’t even an option. We have to be innovative to be able to treat our patients with the resources available to us.”

— Dr. Anna Reid
CMA still pushing for effective technology policies

Physicians attending the Canadian Medical Association’s (CMA’s) annual General Council meeting in Yellowknife in August made it clear that the medical profession still views information technology (IT) and the use of electronic medical records (EMRs) as key parts of the infrastructure needed to transform the health care system.

At the meeting, delegates adopted six resolutions ranging from the need for a national, interoperative network of EMRs to the use of IT to support better monitoring of controlled drugs and enhance the use of clinical practice guidelines. Most of the resolutions were adopted without substantive debate.

The most explicit statement relating to the perceived importance of EMRs came during discussion of a more general resolution dealing with the need for seamless transition of patient care from one setting to another. At that time, Dr. Gordon Mackie, a neurologist from British Columbia, talked of the importance of improving the capabilities of EMRs.

“I think that there are pathways that … might improve areas such as referrals, guidelines, continuity of care and pharmaceuticals,” he said, and all involve encouraging the use of EMRs. He urged the CMA to continue to advocate for the improved functionality of EMRs.

Dr. Ewan Affleck from the Northwest Territories echoed these sentiments. “We are currently addressing all of these issues in the NWT with our EMR,” he added.

“We are unable to practise patient-centred care until we can enable patients and their relevant health information to move seamlessly across the care continuum.”

IT-related resolutions adopted at General Council

- The Canadian Medical Association supports the integration of clinical practice guidelines with electronic medical records.
- The Canadian Medical Association promotes the harmonization and centralization, in electronic or written format, of all administrative forms that physicians must fill out on behalf of their patients.
- The Canadian Medical Association supports national standards for the electronic monitoring of information on prescribing and dispensing of opioid painkillers and other controlled prescription medications.
- The Canadian Medical Association advocates that costs generated by requests for diagnostic and laboratory tests be posted in electronic medical records.

Perhaps the most comprehensive resolution involving IT adopted at this year’s meeting came from Dr. Paul Rheault, a Sudbury family physician, who called for seamless, pan-Canadian communication between EMRs.

In the rationale for this resolution, which was adopted, Rheault noted that the lack of interoperability between systems “is a constant source of frustration (for me) as a practising physician.”

“We are both encouraged and incented to adopt technology to improve patient care and yet there remain significant barriers to communicating with colleagues. Seamless referrals between primary care and our specialist colleagues remain a source of frustration for physicians and patients alike and yet the health care system is calling for clear reform.”

— Dr. Paul Rheault
Doctors taking lead role in social media

When did Twitter enter the mainstream for physicians? An argument can be made that this moment came at the 5th World Congress on Social Media, Mobile Apps, and Internet/Web 2.0 in Health, Medicine, and Science (Medicine 2.0) at Harvard Medical School, Boston, where two of the most active and cited tweeters at the conference were physicians. No mean feat considering the conference (#med) trended as one of the top subjects of interest worldwide over the weekend and featured several thousand tweets.

While individual doctors have carved out strong reputations on Twitter in recent years and have shown a willingness to engage the broader health care and public communities, such a public expression of interest in the tool by doctors in a face-to-face milieu is unusual. And while earlier world congresses have sometimes contained an anti-physician bias in some presentations, this year’s meeting saw doctors strongly involved as partners in new forms of health care delivery.

For example, in addition to being two of the top “tweeters” during the two-day conference — with 500 delegates from 36 countries — Dr. Alex Djuricich (@MedPedsDoctor), associate dean of CME at Indiana University, and Dr. Ryan Madanick (@RyanMadanickMD), a gastroenterologist at the University of North Carolina School of Medicine, participated actively in live discussions.

Djuricich described how he uses Twitter effectively during grand rounds, while Madanick participated in a panel discussion on the value of Twitter in medical education and as a lifelong learning tool.

“The collaborations that have emerged as a result of Twitter and Medicine 2.0 will be priceless,” Madanick wrote in his blog the evening after the conference.

The contrary view — that social media are not a productive use of time for physicians — was also aired at the meeting and given short shrift by another physician on Twitter.

“As someone who spends a lot of his time on Twitter, it hurts to think that the majority of my colleagues might think I might be wasting my time,” Dr. Ronan Kavanagh, an Irish rheumatologist and active blogger and tweeter, posted the day after the conference.

He was prompted to comment by a tweet from the conference noting that an audience member said a survey of his large medical practice showed that 86% of physicians feel social media are a waste of time.
“Engaging in health-related activities on social media channels is the most important thing I have done for my medical life since completing my specialist training,” Kavanagh wrote.

“It has renewed my fascination for health care in a way I haven’t felt since I was a medical student, and doing so has undoubtedly quelled a mid-life ennui with my career. It has transformed the way I learn (where I had all but stopped learning) and introduced me to new and interesting friends.”

It is worth noting that, although the conference featured researchers from a wide range of specialties as well as physicians, it is the brainchild of a physician — Dr. Gunther Eysenbach, a professor at the University of Toronto and a pioneer in the use of Twitter for public health surveillance.

Among the numerous conference summaries posted online after the meeting, this one by Hoda Masmouei, a third-year pharmacy student at Southeastern University College of Pharmacy, perhaps best encapsulates the optimism prevalent at the meeting.

In a blog, she stated, “This conference was focused on the importance of patient-centered, participatory, and cost-effective care using emerging technology in medicine. It was a platform for medical practitioners, scholars, researchers and entrepreneurs from all over the globe to exchange their most up-to-date research, innovations, and business ideas to help refine their work and contribute to the progress of this emerging field in health care and medicine.”

She also commented, “In the era of time-deprived doctors and high health care costs, the use of social media, Internet and mobile apps has the potential to improve communication among everyone involved in the process of care and provide support to patients with goals of reducing the health care costs and optimizing the health outcomes.”

One social media issue that has attracted a great deal of attention from physicians — most of it negative — is websites that review physicians. This topic received a good hearing at Medicine 2.0, with much of the information offering some consolation to doctors.

At the conference, the most comprehensive paper on these websites came from Dr. Guodong Gao (PhD) from the Center for Health Information and Decision Systems, University of Maryland, and colleagues, who analyzed patients’ online ratings of physicians on RateMDs.com over a five-year period.

Gao noted that, although more than 60 physician-rating sites now exist, RateMDs.com was used for the analysis because of its growing popularity, especially in the United States. Their analysis showed that more than one in six U.S. doctors (16%) had been reviewed online during the study period.

According to Gao, 46% of physicians had received only one review and obstetrician/gynecologists were more than twice as likely to be reviewed as other specialists.

Evidence from the analysis suggests that the site is not dominated by disgruntled patients, Gao noted, as the average rating of physicians (on a scale of 1 to 5) is 3.93. “Basically, patients seem to be relatively happy with their doctors,” Gao said.

A comparative analysis of patient ratings and the characteristics of 18,386 physicians in Virginia showed that board-certified physicians and those without a malpractice claim had better ratings.

In another analysis of 1,425 primary care physicians in three U.S. cities, physicians who scored highest in terms of patient-perceived quality were more likely to be rated online.

This rosy picture was challenged somewhat by research presentations from Europe. For example, Uwe Sander from the University of Applied Sciences, Hannover, Germany, presented an analysis of the content of popular English and German websites and concluded that the information was insufficient for patients to assess physician competence adequately. As a result, he said, such sites should not be used by patients to choose a physician.

Although this year’s Medicine 2.0 conference did feature many outstanding physicians, as noted above, much of the focus remained on the needs of patients for better information and more interaction with physicians, online or through social media, so that they can take more control of their health.

The closing speaker at the conference, who strongly reflected these themes, was Dave Bronkart, (ePatientDave) who has become somewhat of an icon in the e-patient community for his advocacy work on patients’ right to access their own records. Bronkart had been diagnosed with stage IV kidney cancer and, in an effort to take control of his own health, embarked on a lengthy and eye-opening campaign to obtain access to his medical records, which were found to contain significant errors.

Bronkart’s speech at the conference was a restatement of his earlier presentation three years ago (“Give me my damn data”) in which he continued to emphasize the importance of patients having access to their own records and making decisions about their own care.
EMR funding programs still expanding

While the future of Canada’s longest running electronic medical record (EMR) funding program for physicians is uncertain, it’s business as usual in other jurisdictions with such programs, and there is expansion into at least one province that has lacked a program to date.

As this issue of Future Practice was going to print, the Alberta Medical Association (AMA) still had no agreement with the provincial government on the continuation of the Physician Office Systems Program (POSP) to replace the agreement that expired at the end of March. The grandfather of all provincial EMR funding programs, POSP has been running since 2001.

The AMA is involved in ongoing discussions with government about implementing an EMR strategy for the province including funding arrangements for physicians.

According to AMA President, Dr. R. Michael Giuffre, negotiations to reach an agreement on fees and a number of other items including POSP are providing “an opportunity for us to reassess where we are” when it comes to the best way of supporting doctors in implementing EMRs in their practices.

Canada’s two other major EMR funding programs — in Ontario (OntarioMD) and British Columbia — remain unscathed by the uncertain negotiating environment characterizing current relations between some provincial and territorial medical associations and governments.

**Ontario**

As of the end of September, unofficial estimates show that, in Ontario, 6,600 family physicians and 2,400 community specialists have adopted EMRs. These include physicians who are in the process of choosing and implementing an EMR, as well as those who are actively using EMRs.

OntarioMD is also working with eHealth Ontario to roll out the Ontario Laboratories Information System (OLIS) to physicians using Ontario’s EMR specification 4.1, the latest version. Although physicians will need to retain their direct connections with the three major community laboratories, the OLIS will include a new feature: the patient query. This will provide all lab results in the system for a particular patient from any provider, not just the results for the clinician doing the query. This feature will be of particular benefit to specialists.

OntarioMD is also ready to roll out the Hospital Report Manager toward the end of the year. This will send patients’ hospital reports (e.g., a discharge summary) electronically to their physician’s EMR within 30 minutes of it becoming available on the hospital information system.
**British Columbia**

In British Columbia, the Physician Information Technology Office (PITO) reports that, as of mid-October, 73% of eligible physicians in the province were using an EMR (3,665 of 5,014). This includes 78% of general practitioners and 64% of the 1,791 specialists.

Currently, one of PITO’s goals is to assist physicians who have adopted EMR to make the most of their system’s capability. Working with physician and medical office assistant peer mentors, PITO’s practice automation coaches have recently piloted the use of a clinical value assessment tool to help clinics understand their own patterns of utilization and, subsequently, identify opportunities to improve practice efficiency and clinical effectiveness.

The pilot project involved 250 physicians across the province, and the preliminary findings with regard to completing the assessment and then making the necessary workflow changes are very positive. How to proceed with the next steps — rolling out the assessment tool to all physicians with EMRs and then identifying appropriate resources (peer mentor assistance and vendor training, for example) — is currently being determined.

The Integrated Practice Support Initiative (IPSI) is a collaborative partnership among PITO, the Practice Support Program, the Attachment Initiative and the division of family practice of the British Columbia Medical Association. Its primary purpose is to support a group of seven prototype communities in testing coaching methods. IPSI’s quality improvement method uses small tests of change that are evaluated before work is elaborated on or expanded to other communities.

Three divisions of family practice (Cowichan Valley, Prince George and White Rock–South Surrey), which are also prototype communities for the Attachment Initiative, form the first wave of IPSI prototype projects.

PITO is also working with four communities of practice across British Columbia on small-scale proof-of-concept explorations of what is possible using EMR-based data sharing among physicians.

PITO has just completed EMR-to-EMR data transfer and conversion specifications. A dedicated Clinician Stakeholder Panel and a Vendor Stakeholder Panel worked with a project team from Gordon Point Informatics to develop the specifications, which will be published on the PITO website. A pilot implementation project will be conducted, working with two or more vendors to test the specifications in practice. This will be followed by a broader rollout.

Many physicians in solo practice or working in small clinics have difficulty envisioning how they will accomplish the transition from paper to EMR, given their limited resources. PITO is launching a pilot project to introduce the concept of phased implementation, whereby a clinic introduces components of the EMR at selected intervals, making the transition easier and the learning curve for staff less steep. The implementation begins with automating front-office functions, such as billing, scheduling and e-faxing, before moving into the realms of the examination room and clinical documentation.

**New Brunswick**

New Brunswick is the most recent jurisdiction to announce plans to develop an EMR funding program for the province’s doctors.

As part of the government’s primary care strategy, unveiled in August, a formal partnership was announced with the New Brunswick Medical Society (NBMS) that enables the society to create a physician-driven company called Velante.

According to NBMS’s CEO, Anthony Knight, “Velante will be the conduit for change management support and provincial and federal government funding to physicians who implement eligible EMRs.”

Velante has sent out an open request for proposal and will select eligible EMR programs.

Many physicians in solo practice or working in small clinics have difficulty envisioning how they will accomplish the transition from paper to EMR, given their limited resources.
products in the late fall. Knight said the EMR requirements were created by doctors and technical experts, specifically to integrate with existing and planned provincial department of health solutions. The first group of physicians to receive support will begin implementation in January.

“We are convinced that the use of electronic medical records will go a long way toward enabling team-based, patient-centred primary care in New Brunswick,” said Knight. “Our goal is to increase our adoption rate from below 10% to above 50% in a few short years. We believe strongly that the real improvements will come when these EMRs are fully integrated into the ‘one patient, one record’ system being developed by New Brunswick’s department of health.”

**Manitoba**

The province’s funding program, Manitoba eHealth, was established in 2010 in partnership with Canada Health Infoway.

The EMR adoption program reimburses up to 70% of eligible EMR implementation costs as well as two years of eligible operating costs, up to a maximum of $20,000 for new adopters. The actual amount of funding depends on a practitioner’s ability to achieve certain milestones set out by Manitoba eHealth in the physicians’ EMR funding agreement. Eligible costs must have been incurred after Apr. 1, 2009, and include hardware, software, implementation and change management services. The two years of operating costs include support and maintenance fees for EMR software and associated hardware, hosting services and disaster recovery procedures.

Funding for the EMR adoption program was capped at 1,000 community-based physicians in primary and specialist clinics who implement (or had implemented) an EMR from one of Manitoba’s four approved vendors. To date, 968 physicians have been formally enrolled in the program and signed an EMR funding agreement with Manitoba eHealth. There is a waiting list for the remaining funded spots.

**Nova Scotia**

Doctors Nova Scotia estimates that, as of February 2012, about 50% of family physicians and 20% of eligible community-based specialists were using EMRs and received master agreement EMR incentive funding. About 75% of EMR physicians use the Nightingale solution, which is sponsored and hosted by the provincial government’s Primary Healthcare Information Management Program. The other two most implemented EMR solutions are Practimax (local vendor) and QHR/Clinicare.

The provincial government has declared that EMR vendors must be an Application Service Provider (ASP) and Infoway certified. Nightingale has both these credentials. Practimax EMR has been provided with the opportunity to transition their solution to an ASP model and achieve Infoway certification, and has indicated that it will do both.

Doctors Nova Scotia has also conducted an analysis of community-based specialist requirements and is working with the provincial government to determine whether a more specialist-oriented solution is required for Nova Scotia.

**Saskatchewan**

In Saskatchewan, the EMR program is funded by both the Saskatchewan Medical Association (30%) and the Saskatchewan Ministry of Health (70%).

To apply for funding, a clinic must implement an EMR from one of the three approved vendors and use it according to guidelines. To qualify to receive payments, physicians must maintain a qualifying EMR system and use it to produce a longitudinal patient record that can be integrated into the province’s EHR through standard interfaces as they become available. Payments include:

- A fee of $1 for each visit/consultation service (approved EMR fee code), documented in the EMR with sufficient information to meet the profession’s generally accepted standard for medical records
- A monthly fee of $300 (paid quarterly) to commence once the physician successfully documents and maintains 50% of approved visits in an EMR. The EMR must be used for a variety of transactions, including:
  - recording patient appointments and patient demographics in the scheduling and patient info modules of the EMR
  - maintaining patient encounter notes within the EMR for patient visits
  - capturing lab orders, diagnostic imaging orders and prescriptions relating to patient visits
  - generating referral/consultation letters using medical information in the EMR.

**Quebec**

According to medical associations in Quebec, the provincial government has committed $15.4 million annually to provide funding for family physicians to implement EMRs.

The new program implemented effective Aug. 1, 2012, has been merged with the previous Quebec Health Record Program and is available to any family physician with at least 300 registered patients or part of a group that averages at least 300 patients per physician. At least 50% of doctors in the group practice must participate in order for them to be eligible for funding.

Physicians who qualify are entitled to reimbursement for up to 70% of their EMR expenses. In is anticipated that by the end of 2015 about 4,500 family doctors in Quebec will be using an EMR.

According to the specialist association in Quebec, no provincial funding program yet exists for doctors who are not family physicians.

**Other provinces**

Prince Edward Island and the territories remain without formal EMR-funding programs for community-based physicians; however, the government of the Northwest Territories has ensured that all salaried physicians in its jurisdiction have access to EMRs.
Physicians want electronic health records (EHRs) to improve the quality of care by providing accurate, timely and complete information.

This statement will come as no surprise to any Canadian physician, and was one of the key findings from a series of focus groups Canada Health Infoway conducted with physicians across the country a year ago to help it develop an effective value proposition for adoption of EHRs and electronic medical records (EMRs).

The initiative was one of several engagement strategies that Infoway has embarked on recently to gain clinician and other stakeholder input into the eHealth agenda in Canada, as well as to provide enhanced support for physicians embarking on the implementation of EMRs. “We heard from clinicians across Canada that they are looking to electronic systems for easier access to information needed for care, improved connections with colleagues, more efficient ways of working and other benefits,” says Jennifer Zelmer, senior vice-president, clinical adoption and innovation at Infoway.

“Learning how to practise effectively in a technology-enabled environment while in training, followed by support from experienced peers once in practice, can help make this happen,” she says.

To accomplish this, Infoway has helped establish a comprehensive peer-to-peer network across all regions to enable physician champions to assist their colleagues. Projects related to clinicians in training have also been developed in partnership with the Association of Faculties of Medicine of Canada (AFMC).
An orientation guide for clinical champions provides educational resources for physicians as part of the successful “Knowing is Better than Not Knowing” campaign. The resources consist of a series of videos and supporting documents including:

- an overview of the plan for a network of EHR systems and a clinical scenario illustrating how team-based, collaborative care would work within a fully functional EHR network
- clinicians outlining the benefits of using technology in practice.

Although Canada continues to lag behind other countries in terms of EMR adoption by doctors, Infoway remains upbeat about the progress being made. A statement in a recent summary report of stakeholder consultations around Infoway’s strategic plan noted, “While Canada and the U.S. lag globally, the use of EMR systems by community physicians in Canada is increasing. With current investment in EMRs, up to 65% of community-based physicians in Canada will be using EMRs in the next 24–36 months.”

In addition, the Infoway focus group sessions — 23 groups of physicians in six centres across Canada — revealed more positive attitudes toward EHRs/EMRs than had been reflected in 2009.

According to a summary of those sessions, compiled for Infoway by Harris Decima, most physicians believe a switch to electronic records is inevitable, and most specialists have already had generally positive exposure to health information technology (IT) in hospital settings.

One key finding was that individual physician choice about adopting electronic records often depends on how long he or she intends to be in practice.

In discussions about the value of electronic records, physicians were most concerned about having access to complete information for improving the quality of care for their patients, and then about improving the efficiency of their own practice or that of the system as a whole.

The statement that an EHR would give you instant access to complete, accurate information was ranked as the most important or second most important benefit by almost half of those surveyed, with many noting that this would benefit patients and the system as well as physicians.

Among general practitioners, the ability of the EHR to improve collaboration with other physicians was often ranked as the most important benefit, with participants stressing that electronic records were really only of value if they connected with other parts of the system.

**Note:** Value statements dealing with patient-directed functions, such as the ability of patients to schedule appointments electronically, have e-consults or manage their own care using health IT, were less compelling to the physicians in the focus groups. This is in contrast to surveys of the public, who ranked accessing laboratory test results, requesting prescription renewals and scheduling appointments as aspects of online health information they would be most likely to use.

… up to 65% of community-based physicians in Canada will be using EMRs in the next 24–36 months.
Mobile devices are becoming more important for medical students than the stethoscope.” This statement by Dr. Simon Moore, a resident at the University of British Columbia and president of the Canadian Association of Internes and Residents, is more than just hyperbole. It demonstrates that, contrary to what smart epidemiologists might tell you, the statistics don’t lie: use of mobile devices, such as smartphones and tablets, by Canadian physicians really is increasing rapidly and transforming how care is delivered.

In a parallel development, more and more doctors are using online clinical tools and resources or mobile applications (apps) to access reference materials at the bedside or during the patient visit. In some instances, they are using these resources to work with patients to deliver more detailed disease-management strategies. (See accompanying story,”CMA strengthens online tools and resources” p. 16.)

“When you’re a medical student, you’re using [a mobile device] to look up new drugs you never heard of before; you’re going on Wikipedia to find out a term the professor just used,” says Moore. “When I’m at the clinic, I’m using it at point of care. Drug interactions are probably the most common thing I am using a mobile device for. And, when I’m not on the ward, I’ll look up diseases I’m not familiar with and use it as an educational tool.”

“Many physicians are now turning to their mobile devices for medical calculators (e.g., MedCalc), quick reference apps (e.g., Tarascon Pharmacopeia), PEPID, MD on Call), data storage systems (e.g., Evernote, GoodReader) or for hard-to-memorize algorithms (e.g., ACLS),” says Dr. Naheed Dosani, co-chief of the family medicine residency program at St. Michael’s Hospital, Toronto.

“We’re really seeing a big push on the physician use of mobile devices,” confirms Mark Farrow, CIO of Hamilton Health Sciences Centre, and he says this has occurred especially since the advent of the iPad.

“Certainly what we’re hearing from our colleagues is that use of portable, handheld devices is the norm,” says Dr. Jonathan Kerr, a Belleville, Ont., family physician and chair of the College of Family
Physicians of Canada’s First Five Years in Family Practice Committee.

The most robust and recent data on Canadian physician uptake of mobile devices comes from the CMA’s baseline survey conducted online this spring with a random sample of medical students, residents and practising physicians. It demonstrates clearly that mobile use is not just a phenomenon among young physicians.

Among all 2,140 respondents, 53% indicated they use the iPhone professionally, 32% said they use the iPad professionally and another 32% use a BlackBerry or other smartphone or tablet device professionally (as many physicians own and use more than one device, the numbers total more than 100%). The numbers are even higher for personal use.

Looking at those who plan to use such devices professionally in the coming year, the numbers rise to 60% for the iPhone and 45% for the iPad. For practising physicians — excluding students, residents or retired doctors — the numbers are even higher, with 63% and 51% indicating they plan to use the iPhone or iPad, respectively, in the coming year for work. These numbers also demonstrate the medical profession’s well-known affinity for Apple products.

Overall, 68% of the CMA survey respondents said they use a mobile or smartphone on a daily basis and 29% said the same of tablet devices, such as the iPad. In this instance, daily use is highest among residents.

Confirmation of these figures and the incredibly rapid adoption of this technology is demonstrated in a smaller survey of 792 family physicians conducted by Prism Healthcare Intelligence earlier this year: 67% of those survey respondents said they own a smartphone. That number was up from 12% in a survey conducted by the same group a year previously. The Essential Physician Survey, conducted in 2011 by Essential Research, confirms the same trend at an earlier stage. According to those data, 62% of Canadian physicians own a smartphone and 17% own an iPad.

These figures mirror much-quoted findings from the United States in polls, such as Manhattan Research’s respected Taking the Pulse annual survey, which reported this year that 85% of physicians use a smartphone or mobile device for professional purposes.

“Health is mobile,” says Dr. Michael Evans, associate professor, family medicine and public health at the University of Toronto and a leading thinker in health care innovation.

“Health isn’t something that happens very occasionally, it’s an all the time kind of thing,” he adds. “So, as medicine changes from being hospital/doctor centric to the model of the medical home and being about the patient, I think we in medicine are going to have to get on the [mobile] bandwagon.”

Evans points to the benefits of mobile devices in helping people adapt and maintain healthy behaviour. “We know people have different levers for change and different ways of sustaining change. So if you’re someone who needs data feedback, mobile can help you. If you need inspiration from a YouT ube video, mobile can help you. If you need expert advice or coaching advice from a social network, mobile can help you.”

“Technology is an enabler,” said Dr. Bill Crouse, worldwide health director for Microsoft, when interviewed earlier this year. “I’m very adamant that the conversation should not be about the device. It should be about what you do with it.”

Crouse says that Canada and other developed countries could take lessons from the developing world where wireless, handheld devices predominate over landlines and are being used much more creatively in delivering health care.

Use of mobile devices is certainly not confined to family physicians.

“The advent of the smartphone — whatever platform you want to use — has really been quite useful in bringing more information to the bedside for physicians,” says Dr. Gordon Searles, president of the Canadian Dermatology Association and an Edmonton-based dermatologist.

“From a dermatologist’s perspective, it has encouraged more access in terms of documentation. By that I mean, since ours is a visual specialty, in times of old if you had a wart or something and you wanted to take a picture of it you had to run and get a camera or find a camera on the ward. Now, with the quality of the cameras that are part of the smartphones, frequently you can just snap the picture with the smartphone and get quite serviceable quality.”

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Crouse says that Canada and other developed countries could take lessons from the developing world where wireless, handheld devices predominate over landlines and are being used much more creatively in delivering health care.

Use of mobile devices is certainly not confined to family physicians.

“The advent of the smartphone — whatever platform you want to use — has really been quite useful in bringing more information to the bedside for physicians,” says Dr. Gordon Searles, president of the Canadian Dermatology Association and an Edmonton-based dermatologist.

“From a dermatologist’s perspective, it has encouraged more access in terms of documentation. By that I mean, since ours is a visual specialty, in times of old if you had a wart or something and you wanted to take a picture of it you had to run and get a camera or find a camera on the ward. Now, with the quality of the cameras that are part of the smartphones, frequently you can just snap the picture with the smartphone and get quite serviceable quality.”

“So, as medicine changes from being hospital/doctor centric to the model of the medical home and being about the patient, I think we in medicine are going to have to get on the [mobile] bandwagon.”

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Some systems use encrypted software and with an attachment for your smartphone that allow you to take close-up photos of your skin and send them to a dermatologist for analysis.

Overall, 68% of the CMA survey respondents said they use a mobile or smartphone on a daily basis ...
"Physicians are finally seeing that being connected to information ... is the only way they are going to survive."

— Dr. Alan Brookstone

"Health is mobile"

— Dr. Michael Evans
Online clinical tools critical to keeping up to date

If you’re not using online clinical reference tools or resources to stay on top of the latest medical developments in your practice, you probably should be. And that much-quoted statement about it being impossible for one person to stay current with all the latest published medical knowledge is a mathematical fact.

Evidence of just how fast clinical knowledge is changing and requires updating was presented at the recent Medicine 2.0 conference at Harvard University, Boston, on uses of new media in health care. An analysis of the Dynamed online clinical resource showed that, of the 59 topics analyzed to date, 91% had been changed over the past year or two as a result of the publication of new evidence or guidelines.

Dr. Brian Alper, editor-in-chief of Dynamed and medical director of EBSCO Publishing, told the conference that when the Dynamed material was evaluated on a line-by-line basis, 35% of lines had been changed because of new evidence or guidelines over a study period of about 20 months.

Alper said these findings demonstrate how risky it is for physicians to rely on textbooks or other materials, which are not updated regularly, in order to provide the best patient care.

However, the variability of the content-updating process demonstrates the need not to rely on just one online source. An evaluation of 10 online medical texts, including Dynamed and the popular UpToDate resource, published by Dr. Brian Haynes and colleagues from the Health Information Unit, Department of Clinical Epidemiology and Biostatistics, McMaster University, Hamilton, showed that the average time for updating the clinical resources ranged from 3.5 months to 29 months.

Variability in the quality of the updates, as well, caused the researchers to argue that using federated searches to search multiple resources simultaneously is a wise strategy.

There is every indication that Canadian doctors have, indeed, recognized the benefits and practicality of online clinical tools and mobile apps to stay current. The most comprehensive and extensive Canadian data on this topic come from the 2010 National Physician Survey of the entire Canadian physician population.

In that survey, 66% of all physicians said they use online access to journals, clinical practice guidelines and medical databases on their personal computer or laptop for the care of patients. A definite age-related gradient was seen in response to this question, with the percentage going...
from 45.3% in the over 65 age group to 74% in doctors under age 35. In addition, 29.7% of all physicians said they use online disease management tools in a similar manner.

Perhaps reflecting the dated nature of this survey — it was conducted more than two years ago — the percentage of respondents indicating they use such resources on a handheld wireless device was far lower. Only 8.5% said they access clinical resources in the care of patients in this manner and only 4.6% were using online disease management tools on mobile devices.

The importance of online clinical resources and services to Canadian Medical Association (CMA) members was clearly demonstrated by responses to another baseline survey question. Asked why they belong to the CMA, 43% of all respondents said they agreed or strongly agreed that access to online clinical or reference materials on the CMA website (cma.ca) is why they belong. This number jumps significantly for residents (51%) and students (64%).

Use of online tools is not confined to medical databases, although drug information and databases may well be the most used features.

Dr. Gordon Searles, president of the Canadian Dermatology Association, describes how Canadian dermatologists use popular mobile apps to obtain drug information, “whereas before you had to schlepp back to the nursing station and pull out the big CPS.”

“Physicians have found the utility for using these kinds of tools at point-of-care — instant query access when they need the information just in time. If you can’t quite remember, you can pull out the app and get the information,” he adds.

Other Canadian associations, such as the Canadian Cardiovascular Society (CCS), have gone so far as to develop their own clinical apps for their members. Under the leadership of Dr. Chi-Ming Chow, a cardiologist and associate professor of medicine at the University of Toronto, the CCS now offers several of its clinical practice guidelines as downloadable apps.

Medical resident Dr. Simon Moore is more cautious about apps for patients, noting that there is no quality control on the development of medical apps and there is the potential for them to contain inaccurate medical information.

Belleville, Ont., family physician Dr. Jonathan Kerr makes the same point. “There are thousands and thousands [of apps] out there. If the best ones were recommended by category that would be helpful.”

Just how well clinical decision-support tools are being integrated into electronic medical record (EMR) systems is open to debate, and Vancouver family physician and EMR expert Dr. Alan Brookstone describes it as “a little bit spotty.”

“The term clinical decision support covers such a spectrum from simple stuff, like notifications and reminders, all the way up to the more sophisticated tools, such as the ones that would be integrated into drug systems, such as drug interaction checking,” he says, and he notes that such support can be one of the main strengths of an EMR.

However, Brookstone adds, “The tools are still fairly light in what they can actually provide to the physician. In fact, in many cases, what is happening around clinical decision support is that the sensitivity levels need to be very finely tuned. If you don’t do this … you start to tune them out.”

![Image](image-url)

“"If you can’t quite remember, you can pull out the app and get the information."” — Dr. Gordon Searles

Dr. Michael Evans, a Toronto family physician, has taken the next logical step. “More and more in my work, I’m prescribing apps to patients,” he says. For example, he notes, “I do a lot of work around the hockey rink and there’s a nice concussion app. So, if I don’t remember all the questions that I’m supposed to, I can ask the parents to download the app, and it tells you what to look out for after you take little Johnny home.”

Use of online tools on laptop or PC for patient care

<table>
<thead>
<tr>
<th>Physician age</th>
<th>&lt; 35</th>
<th>35-44</th>
<th>44-54</th>
<th>55-64</th>
<th>65+</th>
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</thead>
<tbody>
<tr>
<td>Online access to journals, clinical practice guidelines, medical databases</td>
<td>74%</td>
<td>68.5%</td>
<td>62.3%</td>
<td>32.5%</td>
<td>19.7%</td>
</tr>
<tr>
<td>Online disease management tools</td>
<td>33.9%</td>
<td>31.5%</td>
<td>28.4%</td>
<td>45.3%</td>
<td>19.7%</td>
</tr>
</tbody>
</table>

Source: National Physician Survey, 2010
Brookstone notes that while turning off clinical alerts can have medical–legal implications, the alerts are often so intrusive that they interfere with office workflow and are more of a hindrance than a help.

“When you tune them out, you actually create increased risk because now you’re starting to ignore the stuff because it’s so much work to click through all those screens over and over and over again. You start to miss some of the elements you should be identifying.”

“More and more in my work, I’m prescribing apps to patients.”

— Dr. Michael Evans

According to Brookstone, integrating clinical decision support into an EMR is a complex issue and involves more education for the users than is usually acknowledged. Keeping material current is also an issue, he says, if the information resides within the EMR itself.

“The optimization of clinical decision support is very complicated and requires a lot of work and … a lot of training. With community-based EMRs, you can’t determine are people getting enough updated and ongoing training about how you correctly use clinical decision support tools.

“Most vendors offer basic reference tools — because of the work that’s been done around chronic disease in many of the provinces. The challenge around these databases is that many of them are third-party tools, and they have to be kept updated all of the time. Frequency of updating of reference materials is something people should be thinking about.”

He adds, “What you see is people moving much more towards third-party solutions, such as UpToDate, in which you know you can find information on about anything that you will need that is current.”

CMA strengthens online clinical tools and resources

The Canadian Medical Association (CMA) is making major strides in strengthening and consolidating the suite of online clinical tools and resources it is making available to its members.

The initiative is part of a major strategic drive by the CMA to offer members the tools they need to provide the best clinical care for patients.

The CMA is no stranger to innovative clinical services, as one of the first medical associations in the world to have its own website. This online presence strengthened the already leading role the association played in the professional lives of physicians through publication of the country’s leading peer-reviewed medical journal, CMAJ.

Now, the association has made it a priority to enhance and promote its existing accredited clinical tools and resources, along with other popular point-of-care tools and continuing medical education and professional development resources.

For example, the CMA now offers:

- BMJ Best Practice, a point-of-care tool with a user-friendly interface that provides decision-support information on a large number of topics — more than 10,000 diagnoses, 3,000 diagnostic tests and 4,000 guidelines
- A CMAJ app that enables members and subscribers to browse articles in CMAJ as they are released, either as an early release or as part of an issue. The app is available from the App Store.

“I believe innovation is a critical factor for improving on the care that we can deliver to patients,” says CMA President Dr. Anna Reid, “and the approach CMA is taking in consolidating its clinical offerings will truly be innovative.”

Over the next two years, the CMA will be offering more new tools as well as redesigning cma.ca to provide a more substantial member experience and allow members to customize and personalize content.

“Imagine being able to go to one website and access clinical information as quickly as you need it, personalized to your specialty and your personal preferences, and complemented by the outstanding peer-reviewed information available through CMA. That is the CMA vision,” adds Reid.

As of the end of September, almost 4,400 CMA members were using one or more clinical resources offered on cma.ca, and the new CMAJ app has been downloaded over 1,700 times from the App Store. As well, close to 1,500 CMA members have accessed BMJ Best Practice through cma.ca.
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- Searchable databases, textbooks and journals such as CMAJ
- Patient information, including customizable handouts
- Updates on the latest research findings, delivered right to your inbox

- CMA Infobase: database for Canadian clinical practice guidelines
- High-quality accredited online learning
- CMAJ, DynaMed and STAT!Ref also available as mobile apps!

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