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"The reality is that an electronic practice environment is becoming the new norm, and every physician must think hard about when to make the move or come up with compelling reasons why not."


When my predecessor wrote that comment nine years ago, practising in a paper-based environment — and not making use of information technology — to provide patient care was still an option.

That choice is now gone.

For better or worse, Canadian doctors are all eventually going to be practising in a digital environment. Most feel the tools and connectivity provided by electronic medical records (EMRs), digital devices and telemedicine will eventually make them more productive and allow them to provide better care.

The sad news is that while many doctors may not want to continue working in a paper-based environment, they are forced to because EMRs and data-sharing systems are still not readily available (or supported) where they practise. Even those who have EMRs are often still forced to write prescriptions on paper, accept paper faxes or receive consultant reports or referrals on paper.

This reality is underscored by findings of the most recent National Physician Survey (NPS), profiled in this issue. Overall, the survey findings are a good-news story. The number of physicians using EMRs continues to steadily increase. In some provinces and territories almost every family doctor eligible to use an EMR has one.

But there remain significant gaps and inconsistencies. In provinces such as New Brunswick (37.9%) and Quebec (36.5%), more than a third of physicians are still using paper charts exclusively to capture patient information. Even in Alberta, where 39.9% of physicians report using EMRs exclusively to enter or retrieve patient notes, almost half say they still use a combination of paper and electronic charts.

At a time when half of all physicians report using a mobile application in their practice and many, including me, retrieve patient notes on a mobile or tablet device there are physicians who report they can’t even use a computer in their office to enter records because they don’t have access to the appropriate device or system.

Statistics from the NPS point clearly to the need for more to be done at the national level to ensure sufficient resources are made available for Canadian physicians to implement EMR systems.

Much effort must also go into helping physicians as they strive to make the best use of their EMRs to deliver better patient care. The NPS shows many doctors are still just using the EMR as a glorified data-entry tool. We must provide the support to show our colleagues how they can use the systems more effectively. Change management support is also vital, as the journey to integrate an EMR into a practice can be a slow, frustrating one — as even seasoned physician EMR users relate (see story page 9)

Significant work is also needed at the national level to help enforce standards on interoperability so that systems can exchange data effortlessly. Many dollars and much effort have been expended to bring us to the point where we can even talk about interoperability. We must continue this effort.

It’s all very well to speak about “one patient, one chart” as provinces including Alberta, Prince Edward Island and Nova Scotia are doing. But that road can be long and costly. Time may be better spent making incremental gains to lessen the frustrations facing physicians who must interact with seven different laboratory record systems or who cannot exchange data with their local community hospital.

What is needed now is good business sense, a collaborative spirit and consistent messaging from all stakeholders. Interoperability is a priority. We hope those who supply EMRs and those in government who can mandate standards are listening.

As Jennifer Zelmer from Canada Health Infoway notes: “At the end of (the) day, when the patient is in front of you, you care about the information and don’t necessarily care about the back-end platform.”

Dr. Chris Simpson is the president of the Canadian Medical Association.
EDGING TOWARD THE DIGITAL FUTURE
National Physician Survey findings reveal progress — but also gaps

Pat Rich

THE MOVE TOWARD DIGITAL health care in Canada continues inexorably, as results from the latest National Physician Survey (NPS) demonstrate.

What speaks volumes about the importance of digital health care in Canada today is the fact that the 2014 version of the survey of physician attitudes and practices focused almost exclusively on the adoption of electronic medical records (EMRs) and other facets of health information technology.

The questions physicians face are no longer whether they should implement an EMR in their practice, but rather when and/or how to make better use of the one they already have. However, despite this growth in implementation, Canada remains fragmented when it comes to assessing EMR use across jurisdictions.

The 2014 NPS — a collaborative effort between the Canadian Medical Association (CMA), the College of Family Physicians of Canada and the Royal College of Physicians and Surgeons of Canada — collected data from more than 10,000 licensed physicians.

FINDINGS
Probably the most significant statistic shows 21.3% of physicians still report using only paper charts to enter and retrieve clinical patient notes, down from 38% in 2010. The corollary of this is that 29.4% of physicians now report using electronic records exclusively, and the rest — about half of survey respondents — say they use a combination of paper and electronic records.

“I think it’s great to see the continued uptake in terms of the use of EMRs in Canada,” states Jennifer Zelmer, executive vice-president and head of clinical adoption at Canada Health Infoway. “I also think it’s good that..."
the survey shows continued momentum both in terms of adoption — particularly in those provinces with newer EMR programs — (and) in richness of use.”

Longtime EMR user and commentator Dr. Alan Brookstone, a Vancouver family physician and founder of the CanadianEMR.ca website agrees the NPS data show increasing and unstoppable progress.

But Brookstone also notes "we still have quite significant cohorts of physicians who have not adopted EMRs in any significant way.”

The sponsoring medical organizations of the NPS responded enthusiastically to this proof that EMR uptake continues to increase.

Noting that overall the number of physicians entering or retrieving at least some patient data electronically has tripled from 26% in 2007 to 75% now, Dr. Cecil Rorabeck, president of the Royal College of Physicians and Surgeons of Canada, says "a huge growth in the use of information technology is taking place across Canada.”

With family physicians outpacing specialist colleagues in terms of going completely electronic with patient records (42% vs. 17%), Dr. Garey Mazowita, president of the College of Family Physicians of Canada, states: “It’s great to see more family physicians moving to electronic record systems and electronic tools.”

Another promising statistic indicates that a third of physicians presently using only paper charts say they plan to implement an EMR within the next two years. Not surprisingly, it is the youngest cohort of physicians (under 35 years of age) who are most likely to say this.

As Dr. Richard Johnston, president of the Alberta Medical Association, noted in an interview, new medical graduates in Canada now expect to work in an EMR-supported environment. "Generational change is driving a lot of this,” he said.

The increase in the number of EMR users is accompanied by a concurrent rise in the number of physicians who say the EMR is helping make them more productive and increasing the quality of care.

Almost two-thirds (65%) of physicians using electronic records reported better or much better quality of care since implementing an EMR, up from 56% just a year ago. Almost 42% of respondents felt the implementation of electronic records has increased or greatly increased productivity within their practice. But even some seasoned EMR users (see story page 9) report challenges in successfully integrating the system in a way that helps them work better, and 17.1% of NPS respondents said the EMR had decreased or greatly decreased their productivity.

STILL PAPER-BASED

Not all numbers are positive. There are large areas across Canada in which EMRs are not anywhere close to becoming the standard means of dealing with patient data.

The most noteworthy of these is Quebec, where 36.5% of physicians state they still use paper charts exclusively — making Quebec second only to New Brunswick (37.9%) which has an active provincial program in place to help fund EMR implementation. Quebec comes second to Newfoundland and Labrador as a jurisdiction where the fewest physicians are using electronic records exclusively (10.9% vs. 10.2% in Newfoundland).

In a November 2014 Montreal Gazette article, Quebec health minister Dr. Gaétan Barrette described the provincial e-health program as “a disaster,” and has even advocated starting again from scratch.

"The province has lacked leadership," laments Quebec Medical Association (QMA) president Laurent Marcoux. "Choosing to approve several software programs and leaving physicians to select the one they like best has set in motion a process that takes a ridiculous amount of time.”

It would have been far better, and simpler, if medical experts had chosen a single EMR and provided support to physicians during implementation, doctors in the province say. "Humans can adapt to the tools they are given and then perfect them afterward," believes Marcoux.

Another obstacle: approved EMR systems are meeting with some opposition. Take the case of Dr. René Lavigueur, who practises in the Gaspésie region. He has nothing but
praise for the non-approved EMR that he currently shares with a small group of users — developed by Dr. Richard Leblond, an internist from Quebec City — because it is in sync with the clinician’s reality.

Lavigueur finds many faults with the approved EMRs: exorbitant fees, collection of sensitive data by private firms, major difficulties faced by physicians when they want to customize functions, the feeling of being held hostage by the company that owns the software and data, and contracts drafted solely by service providers.

He believes that a medical association should own the EMR system and promote it, as is the case in New Brunswick. “We can definitely develop the EMR at a reasonable price,” he assures. “The EMR must stay in the hands of the physicians who control its content and ongoing development.”

It is because of experience in jurisdictions such as Quebec that the CMA acknowledges work must still be done to support physicians who have not yet purchased an EMR. (A full summary of the Quebec situation follows in French after this article.)

“... Governments still need to keep their ‘pedal to the metal’ and continue to financially support physician efforts to implement EMRs so that we may fully unlock the promise of digital health system-wide,” said CMA President-elect Cindy Forbes when NPS 2014 findings were released.

In Newfoundland and Labrador, the provincial government in partnership with the Newfoundland and Labrador Medical Association (NLMA) and the Newfoundland and Labrador Centre for Health Information, issued a request for proposals (RFP) in October to develop a provincial EMR system to be used in physician practices. The project’s initial phase will target up to 300 physicians.

At the time of the announcement, NLMA president Wendy Graham said the association was pleased with the move.

“Physicians have been involved in the design of the RFP and we look forward to ongoing collaboration with the provincial government to select a vendor that will meet the needs of both physicians and our patients,” Graham stated. “The switch from paper to electronic medical records has become a standard of practice in today’s modern primary health care clinic. The use of EMRs supports a team-based approach to delivering primary health care. It also makes the province much more attractive to prospective physicians, including our own medical graduates, who want to practise at their full scope using state-of-art technology.”

Across Canada, the availability of an EMR or funding support to implement a system is the largest roadblock for physicians who have yet to make the transition to digital record-keeping. Data from the NPS showed 50.9% of those not using electronic records said it was because they were not available to them, while another 14.3% said there was no suitable product for their practice.

SUCCESS STORIES

Contrast Quebec and Newfoundland and Labrador with provinces such as Alberta, Ontario and British Columbia where well-established funding programs to put EMRs into physician offices have paid handsome dividends.

In British Columbia, Dr. Bill Cavers, president of Doctors of BC, says “the good news is I believe the figures in the National Physician Survey are out of date, and BC is farther ahead than those figures indicate.” Cavers states the association estimates 91% of eligible practising physicians are using EMRs; this figure could be as high as 95% if doctors within three years of retirement are excluded.

“The not-so-good news is we also have a significant proportion of those 91% who are still going through the Valley of the Shadow of Almost Death,” Cavers adds, meaning they are recent converts to EMRs and still struggling to convert their old records and workflows to the new technology.

The PITOO program, which helped support provincial funding for EMR hardware and software, concluded a year ago, but Cavers said a last-minute push prior to it winding down meant more than 100 additional physicians benefited from the funding assistance.

Similarly, the grandfather of EMR funding programs in Canada — POSP in Alberta — also concluded a year ago despite efforts by the Alberta Medical Association (AMA) to negotiate its continuation.

While recent comments in government hearings — in one instance from the registrar of the provincial college of physicians and surgeons — have raised questions about the value of POSP, the NPS shows Alberta tops the list for the percentage of physicians using electronic patient records exclusively (39.9%).

“The switch from paper to electronic medical records has become a standard of practice in today’s modern primary health care clinic.”

— Dr. Wendy Graham
Johnston says while POSP was never intended to fund EMR hardware and software indefinitely, the loss of programs to help ensure physicians are compliant with privacy and data use legislation in the province has been a real setback.

In Ontario, it has been stated that any primary care physician who wants to have an EMR now has one and the adoption rate among family physicians in the province is estimated to be 85%. For other specialties the number is estimated to be about 55%.

The current agreement between OntarioMD — a subsidiary of the Ontario Medical Association responsible for managing EMR adoption in the province — and the provincial government expires in March 2015. At the time of writing, negotiations between the OMA and the provincial government had broken down so it is uncertain what type of funding mandate OntarioMD will have starting in April.

However, like other major EMR funding programs such as PITO and POSP, OntarioMD to date has concentrated on supplying the hardware and software to allow physicians to implement EMR systems and build the required infrastructure. Those involved say the aim now is to evolve what OntarioMD is doing to focus more on change management and helping physicians get more value from their EMRs.

ENHANCED FUNCTIONALITY

With all this progress in EMR implementation, it is worth noting that many physicians are still primarily using their systems for patient-record keeping or getting lab results, rather than tapping the more advanced functionality their systems may offer.

Asked which EMR tools they use when at a desktop or laptop computer, 75.1% of NPS respondents cited entering and retrieving clinical patient notes; 79.9% said getting lab or diagnostic test results. A slight majority indicated they also use the EMR for assessment of all medications the patient is using and receipt of hospital visit and discharge information.

However, only one in five of this group said they’re using it to interface with pharmacies, and 43.1% for referrals.

Brookstone admits he is surprised e-prescribing is not more advanced in Canada, especially given that 60% of prescribing in the United States is now done electronically.

“My sense was we would be a lot further ahead in two areas — system-to-system or clinician-to-clinician information-sharing — and I thought we would be more sophisticated around medication management, which is such a big gap. We have so much work to do in change management … around electronic prescriptions, which I think will ultimately bring some of the greatest value.”

Zelmer sees the survey figures in a more positive light, reflecting increased sophistication in how some doctors are using the systems.

“When we looked at the more detailed questions in terms of functionality we’re seeing increases there … That maybe is what is partly driving the improvements and gains in terms of the reported benefits for quality and productivity.”

Providing the infrastructure and support to help physicians use their EMRs for more sophisticated functions such as population health is an underlying theme for many physician observers.

For example, Cavers recalls the PITO program was very successful in helping coach physicians in this regard; Infoway’s peer network has shown similar success.

With most physicians now having EMRs in their offices, Brookstone notes “we really have to train people and improve their capabilities around workflow and integration and how they use these tools effectively.”

DATA SHARING STANDARDS

Virtually all commentators dealing with health IT in Canada point to the interoperability of EMR systems and data sharing standards as critical problems that need to be solved.

With only a third of physicians in the NPS indicating they can securely transfer patient information with their EMR, even provinces with relatively mature EMR networks consider the inability of physician EMRs to interface smoothly with other physician, hospital and lab systems as still being a critical gap.

“I would say the province probably has the substantive role in what data standards for interoperability are adopted, but the profession deserves to have an influence in how the IT solution using those standards actually works for patient care,” is how Cavers phrases it.

“We don’t have full interoperability, so I can’t send clinical information electronically to my colleague to whom I refer a patient. He can’t receive it or send it back electronically.”

Cavers adds that while some regional health...
authorities are starting to deliver admission/discharge information and data on surgical procedures electronically, these data are not coded and are just provided as a PDF.

If the interoperability issue is not solved satisfactorily in Alberta, Johnston warns, “we will have little islands of data in different offices — and no ability to move data around properly.”

Zelmer says the issue is ensuring that physicians have the data they need in an electronic format to make patient-care decisions.

“What everybody is saying is that clinicians need information and tools to care for patients, and not all of it will come from within their practices. They need a combination of information and there’s different ways of getting there. What works in the Northwest Territories may not work in downtown Vancouver or downtown Montreal and vice versa.”

Physicians also have to have a substantive influence on the workflow of how their systems operate, Cavers points out.

“I have had IT solutions that have made my life worse, not better, and we can’t afford to have that happen in health care right now. (The) IT should make my life easier and provision of care to patients easier … I don’t care about standards (but) I want them done.”

PATIENTS

One NPS question relating to patient use of digital tools was illuminating. It showed 87.6% of respondents indicated their patients could do none of a list of online tasks, ranging from viewing their own records to requesting appointments or prescription renewals. Only small percentages indicated their patients were able to do each of the tasks (4.6%, 5.8% and 3.7% respectively).

The numbers are better when it comes to physicians giving patients recommendations about websites to access more health information.

Sixty-two percent of physician respondents who provide clinical care said they recommend websites to patients, with this number rising to 74.4% in Prince Edward Island. Some 16.5% nationwide said they recommend apps to patients.

The most common website referral was for patients to acquire information about a disease (88%). But referrals to sites that provide patient support (70%) were prevalent, followed closely by treatment information sites (69%) and lifestyle/disease prevention information (64%).

Just 4.8% of respondents said they are paid to offer email contact with patients, while another 0.7% said they charge the patient to do so.

MOBILE

The use of mobile devices by physicians to access information and deliver care is clearly growing.

The NPS findings indicated 17.1% of respondents are using clinical decision support tools on a mobile device, and 14.4% are looking up drug interactions through a mobile device. For tablet devices, the equivalent statistics are 10.4% and 8.1%.

Half of all physicians polled said they have used a mobile app for their medical practice, with family physicians being slightly ahead of other specialists (58% vs. 43%). This trend is significantly increased among younger physicians; 74.8% of those under 35 reported they have used a mobile app.

The choice of favourite apps varied, with broad-based clinical support tools such as UpToDate and Epocrates topping the list.

Many of those interviewed for this article confirmed that mobile technology is playing a bigger role for many physicians.

“There’s no question that mobile access to data is absolutely key,” Brookstone agrees. In fact, he observes: “I think that the mobile services … are beginning to create tools that are better than what can be accessed on an EMR.”

At a system level, telemedicine was also explored in the NPS. One-quarter of respondents indicated they have used telehealth or telemedicine technologies at some point in their practice.

Among those who reported using telehealth technologies, most reported using it in real time rather than storing and forwarding images or information for later review. Training and consults with other physicians or health care providers were the most frequently cited live uses for telehealth, at 44% and 45% of respondents. The next most prevalent uses were consulting with the patient for diagnostic purposes (30%) and follow up with patients (29%).

“There are opportunities to do so many things well using telemedicine,” Brookstone states. “It’s a natural step in the right direction because it’s an extension of care. Remote access … improves safety and quality of care.”

However, with telemedicine and virtual care through teleconsults: “I suspect it’s going to take a lot of guidelines about how to use it appropriately.”

Pat Rich is editor of Future Practice.
DMÉ au Québec

Retard et manque de direction

Guy Sabourin

Le dossier médical électronique (DMÉ) est un puissant outil de travail et de productivité médicale. Les médecins qui y ont goûté ne veulent plus s’en passer, même s’ils ont fait l’expérience avec des logiciels pas toujours au point et dans un environnement loin d’être interconnecté et convivial.

Pourtant, la route sera encore longue avant que tous les médecins du Québec utilisent cet outil incontournable. « La province a manqué de leadership, déplore le président de l’Association médicale du Québec (AMQ), le Dr Laurent Marcoux. En décidant d’homologuer plusieurs logiciels et en laissant les médecins choisir celui qui leur convient, on s’est embarqué dans un processus qui prend un temps fou. »

Les années passent, les fonds d’Inforoute Santé du Canada s’épuisent et environ la moitié des médecins n’utilise toujours pas de DMÉ. L’actuel ministre de la Santé, le Dr Gaétan Barrette, parle d’un fiasco coûteux (1,6 milliards $ jusqu’à maintenant) et suggère même de tout recommencer depuis le début ! Le DMÉ, qui devait être un outil commun, reste encore un patchwork d’applications qui souvent ne communiquent pas entre elles.

Il aurait été préférable et beaucoup plus simple que des experts du milieu médical choisissent un seul DMÉ et soutiennent les médecins dans son déploiement. « L’humain peut s’adapter aux outils qu’on lui offre et les perfectionner ensuite », croit Laurent Marcoux. Dans le contexte actuel, l’informatisation se fait au compte-gouttes.

Autre écueil : les systèmes homologués ne font pas l’affaire de tous. C’est le cas du Dr René Lavigueur, qui pratique en Gaspésie. Il ne tarit pas d’éloges envers le DMÉ non homologué qu’il partage actuellement avec un petit groupe d’utilisateurs. Le système a été mis au point par le Dr Richard Leblond, un interniste de Québec, et D’Lavigueur affiche qu’il colle à la réalité du clinicien.

« J’ai 1 650 patients et je ne pourrais jamais les suivre sans un bon logiciel », illustre-t-il. La clé, selon lui : la reconnaissance vocale, pour écourter le temps que le médecin consacre à son obligation légale de tout noter. Les nombreux automatismes que permet le DMÉ — par exemple les conseils aux diabétiques ou le remplissage automatique de cases dans certaines situations — font aussi gagner beaucoup de temps.

Le Dr Lavigueur trouve plusieurs défauts aux DMÉ homologués : leurs frais exorbitants, l’accumulation de données sensibles par des firmes privées, les grandes difficultés auxquelles les médecins se heurtent quand ils veulent peaufiner des fonctionnalités, le sentiment d’être prisonnier d’une compagnie qui détient le logiciel et les données, les contrats rédigés uniquement par les fournisseurs de service.

À ses yeux, c’est une association médicale qui devrait posséder et promouvoir le DMÉ et en détenir les droits, comme au Nouveau-Brunswick. « On peut très bien développer le DMÉ à prix raisonnable », assure-t-il. « Le DMÉ doit rester entre les mains des médecins, qui président à son contenu et à son évolution », croit celui qui est aussi fervent défenseur d’un seul DMÉ pour tous.

« Le DMÉ est le moyen capital pour devenir plus efficace et c’est avec cet outil qu’on fait aujourd’hui de la médecine », rappelle Laurent Marcoux. La voie est tracée, certes, mais le chemin sera encore cahoteux pour un moment…

Guy Sabourin est un journaliste montréalais.
EMR peer leaders sum up their experiences

Marla Fletcher

In 2008–09, the Canadian Medical Association — with financial support from Canada Health Infoway — addressed a knowledge gap around how physicians were embracing information technology by commissioning academic research that examined EMR adoption at the primary care level. The result was 20 case studies that were published in Future Practice in 2009; we’ve now reconnected with physicians at six of those sites for an update.

FIVE YEARS IS AN ETERNITY IN THE world of health information technology and electronic communications — so asking doctors who were early adopters of electronic medical records (EMRs) how things have changed since they implemented one 5–10 years ago startles them. It’s like asking how life was in the Stone Age. Who remembers, or cares?

The reality is the practice environment has altered so dramatically that physicians immersed in EMRs know there’s no going back to paper-based systems and acknowledge that the systems have improved patient care. They can’t imagine how they’d function in today’s environment without their EMR. But the tool isn’t universally loved and hasn’t progressed far enough or fast enough to suit most users.

“It’s the single part of our practice life that we can’t function without,” declares Dr. John McDonald, a primary care physician in Paris, Ont., who works within a FHO/FHT

Canadian physicians rate quality of care since EMR implementation

Canadian physicians rate productivity since EMR implementation

Source: National Physician Survey, 2014
NATIONAL OVERVIEW

10 MARCH 2015

daily patient visits, leaving more time open for development — and better scheduling prescriptions direct to the pharmacy, access to ton, Ont. There is now connectivity for sending had one at her small group practice in Hamil-
evolved and expanded over the 14 years she’s

PROGRESS AND IMPROVEMENTS

EMR functionality but also some areas in which the last five years have seen some advances in EMR systems “push” all test results into physicians’ EMRs, with notifications to alert the practice of the information she needs from hospital records, x-ray labs and other external sites is “piecemeal,” often difficult to find and bring into the EMR. She’d like to see the provincial electronic health record (EHR) and related systems “push” all test results into physicians’ EMRs, with notifications to alert the practice that new information has arrived.

For his part, Dr. Éric Paradis who practices in the Bas-du-Fleuve region of Quebec notes the last five years have seen some advances in EMR functionality but also some areas in which anticipated progress has not been made.

KEY FRUSTRATIONS

e-prescribing
In most areas, true electronic prescribing is still not available.

All pull, no push Physicians often have to go looking for consult notes and x-ray and clinical test results. Even when information is available electronically, in some jurisdictions very little is sent automatically. Physicians or clinic staff must search for and upload it or have it scanned into the EMR — an inefficient, costly process that can create waste and duplication if physicians then need to reorder tests for which no results are found.

Clunky, not physician friendly
Using the EMR is not always user-friendly, the doctors complain. As Brooks states: “EMRs need to be less click-heavy ... Waiting 2-3 seconds for a window to load is totally unacceptable.” Our correspondents also note that the time required to input new details is excessive, built-in clinical guidelines are too limited in application or are out-of-date, annoying pop-up windows present information (about drug interactions, for example) of little value ... The list goes on.

Consultants not on board
More than one of our six correspondents fret about receiving handwritten letters from specialists and other health care consultants or having to fill out the practitioner’s online form in addition to forwarding their own detailed consult request. Mielke says provincial standards should require a digital response and not a “handwritten note (sometimes with incomplete information) that we can’t read!”

Not a government priority
While political will and resources are required to advance legislative and policy changes that will establish standardization and make disparate EMR/EHR systems fully interoperable, there’s little government interest. “Classification systems (like ICPC2 and SNOMED) exist, but without there being a universal standard that’s set by government (at the national level) ... we are not collecting useful information that would support the health care system,” observes Dr. Tom Bailey, a community family physician in Victoria.

Paradis speaks to the particular situation in Quebec where he said software has not yet been made available that meets the needs of all clinicians or allows interconnectivity between EMRs or different clinical systems in the province.

Costly for physicians
There’s little or no compensation for the time physicians spend entering patient information into or maintaining EMR systems, interacting with patients or providing services through online channels — or for paying specialized technical and administrative staff/consultants to help maintain the systems and maximize effective use. When a technology shift forces system upgrades, that’s also an unexpected expense.

— Dr. Jane Brooks

Marla Fletcher is on the editorial staff of Future Practice
EMR vendors tell you what they think

Pat Rich

THE VENDORS OF EMR SYSTEMS and other digital technologies comprise one of the major stakeholder groups in the move toward digital health care in Canada. In this article we provide their perspective.

It should come as no surprise that representatives of some of the major EMR vendors in Canada truly sympathize with physicians facing challenges implementing EMRs into their practices. What’s more, they’re supportive about the need for more coordinated regulations or standards to ensure better interoperability between EMR systems to facilitate data sharing.

“Interesting” was how two of three vendor representatives characterized the current EMR environment in Canada in a recent interview.

Dr. Brendan Byrne, vice-president and general manager, Provider Solutions at TELUS Health, and Mike Hall, national sales manager at QHR Corporation, note that while statistics indicate 75% of Canadian physicians are now using EMRs the situation is complicated by the patchwork nature of adoption across the country.

Hall, whose company operates in six provinces, said although the environment is different in each jurisdiction, the industry is as regulated as it has ever been. However, while past requirements focused on the functionality of EMRs this has now shifted to a focus on “meaningful use.” He said he thinks this is “the right way to go.”

“We see it as a competitive industry right now,” said Silvio Labriola, general manager for Intrahealth Canada Ltd. He noted there has been some consolidation of vendors across Canada and predicts this will continue.

“We really can’t continue to support the number of vendors that are currently available in the market,” Labriola said, speculating that there will soon be just three to five vendors serving all Canadian physicians. Byrne agreed market consolidation is taking place, and described it as an “organic” process.

All three interviewees agreed on the need for better standards to ensure interoperability and allow different EMR systems to share data and connect with other electronic networks.

“We would love to see some sort of standardization,” said Labriola, whose company presently operates in three provinces. “I look at British Columbia, and now that PITO has stepped away it is basically up to the vendors to do what they want to do.”

Labriola said it’s difficult to have vendors voluntarily come up with data sharing standards. “It would be really nice if there was a mandated standard, at least on a provincial level, but it would be wonderful to have it at a national level.”

Hall and Byrne agree, but favoured a more voluntary approach by vendors to arrive at common standards.

“We firmly believe at QHR that our physician clients must have access to that data whenever and however they want it,” said Hall.
Byrne, who sits on the interoperability working group for Canada Health Infoway, stated “the majority of EMR business is concentrated with four to five vendors, and it makes sense for (them) to come together to develop standards that … can be used across the country. That’s the phase I think we are in now.”

For physicians who are making their first EMR purchase or who are changing systems, the message from these vendor representatives is remarkably similar.

“There’s a bit of a misunderstanding sometimes on the physician’s part about the amount of time and work that is involved on their side … for an optimal experience,” said Labriola. Physicians need to recognize “that they are not just going to walk in to work one day and everything is going to be there and they are going to be as efficient as they always were.”

Added Byrne, “I think the most important thing is recognizing you are on a journey with EMR. It’s not something you buy and you’re done … Your needs in Year 1 will be different from your needs in Year 2 (and so on).”

Hall talked about attitude over aptitude, and advised: “Let the vendor worry about the nuts and bolts. You really don’t need to be a computer whiz to have a successful migration to EMR as long as you really embrace the journey.”

“I always remember that the first thing the physician is there for is patient care, and the challenge that you have with EMRs is how you can support (that) without taking time away from patient care,” said Byrne. “It’s a delicate balance.”

Labriola noted that with many more physicians already using EMRs, a physician who is just starting out can benefit from their advice. “There’s much more opportunity to go and see how their neighbours have adopted a system and ask … what they would have done differently and what they would do the same.”

Hall said: “I don’t think their (physicians’) expectations are unrealistic or that they are too demanding… They have an important job to do and the EMR is a vital piece of delivering that care.”

In addition, “the more seasoned EMR users are using the EMR as a connected platform for the future to see how this allows them to connect to the greater IT world.”

“We’re still relatively early (in EMR adoption) and the majority of doctors are probably underutilizing what their EMRs are capable of,” said Byrne. “We’ve tended to think of EMRs as stand-alones, and I’d encourage doctors who are looking at it now to ask ‘How is the EMR that I’m going to buy going to connect to other systems — pharmacy, patients, other doctors, etc. — how’s that going to work?’”

Byrne also discussed the growing importance of mobile devices and the successful recent launch by TELUS of a mobile EMR platform that connects with all TELUS systems. “Mobile is a great paradigm because it is much easier to use than desktop applications, just by its very nature.”

The importance of patient portals was also raised, as was the growth of technology to support virtual patient visits.

“One of next frontiers is going to be virtual care and video conferencing and how you fit this into the regular workflow of community doctors,” said Byrne.
Learning in the modern era

Eve Purdy

BEING A MEDICAL STUDENT IN THE 21ST CENTURY IS A UNIQUE EXPERIENCE.
Learning networks are no longer dictated by geography, and learning environments are not limited by the walls of a classroom or hospital. We are privileged to be able to leverage technology to individualize the medical education experience. What does this look like?

The diagram is a single medical student’s Personal Learning Environment (PLE) involving many technologies and resources to facilitate the network (apps, social networking sites, blogs, podcasts, etc.). The technologies are fascinating, but more important are the relationships they allow and the motivation they cultivate.

What are PLE features?

- It is dynamic.
- It changes and morphs as the learner does.
- The learner consumes from it and contributes to it.
- It is learner initiated but network supported.
- The learner can access it whenever and wherever.

Why are these features important in medical education? A new theory of motivation, based on self-determination theory and described by Daniel Pink in his book Drive: The surprising truth about what motivates us makes the advantages of the PLE obvious.³

Pink postulates that the pillars of motivation are autonomy, mastery and purpose.

AUTONOMY
Medical schools must transmit a large volume of information, and this often involves lectures, assignments and readings. The medical student has little say in the process. A PLE allows the student to seek resources that work for her, and enables her to access these resources when she desires. The student can use this learning environment to fulfill, support, supplement and replace more traditional methods — so PLEs introduce a degree of autonomy to the medical education process.

MASTERY
PLEs also provide a network where the student can contribute. This further fuels a desire to learn, as like-minded individuals interested in creating and learning interact. The product can be as simple as the archive of an online debate about a contentious topic or as extensive as the creation of an online curriculum with associated modules, show notes and podcasts. The creation can be whatever size the learner desires; even by engaging with the PLE one is creating.

PURPOSE
Most medical students and physicians have a deep sense of purpose. We share a strong desire to help our patients and further our profession, and PLEs promote the ability to do both.

PLEs are collaborative. They facilitate knowledge translation, reflection on the profession and the sense that an entire community is committed to the cause.

THE FUTURE IS BRIGHT
As PLEs broaden, they will intersect. A rural family doctor working in Sioux Lookout, Ont., will learn from a dermatologist in downtown Toronto, and that dermatologist will learn from the rural family doctor. Using PLEs will promote collaboration, understanding, better patient care and more motivated, satisfied practitioners.

Patients are online and our profession is online. The intersection of these PLEs will happen. While the practicalities have not yet borne out, exciting opportunities for mutual education exist.

We will continue to be driven by autonomy, mastery and purpose: technology will support our efforts to satisfy these motivations.

References

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Med 2.0: Canadian research shines in Hawaii

Pat Rich

RESULTS FROM NEW CANADIAN RESEARCH — AS WELL AS GROUND-BREAKING work from other countries such as New Zealand — involving social media and digital health were profiled in many sessions during Medicine 2.0: World Congress on Social Media, Mobile Apps, Internet/Web 2.0, held last November in Maui, Hawaii.

The meeting attracted 220 delegates from 24 countries, and was the second iteration of the 2014 conference — and the eighth overall since its launch in 2008. An earlier version was held in Malaga, Spain, with a European focus.

The brainchild of University of Toronto associate professor Dr. Gunther Eysenbach, from the Institute of Health Policy, Management and Evaluation and senior scientist at the Centre for Global eHealth Innovation, the conference profiles academic research using new media and digital tools in health care.

In his introduction, Eysenbach stated: “Medicine 2.0 is the science of applying technology for next generation medicine.”

Presentations at the conference followed through on this. They ranged from the general — such as use of Internet data for answering questions about health and health care, and the widespread prevalence of Wikipedia use for accessing medical information — to the very focused. For example, Norwegians use the Internet to support exercise or diet, and there’s an online intervention in New Zealand available to help to young people after earthquakes.

One of the most high-profile projects profiled was work from the SPARX group at the University of Auckland, New Zealand, which has designed and successfully piloted a youth-friendly online therapy program (including gaming elements) designed to help young people deal with depression. However, from a Canadian perspective it was the richness of homegrown research that stood out. Canadian presentations included the following:

DIABETES GUIDELINES DISSEMINATION

The first analysis of results from the comprehensive dissemination strategy for the Canadian Diabetes Association (CDA) 2013 Clinical Practice Guidelines was presented by Drs. Catherine Yu and Calvin Ke, from St. Michael’s Hospital, Toronto, and the University of British Columbia, respectively.

As the authors state in their abstract, “... for guidelines to have an impact on patients, they must be effectively integrated into clinical care. In this digital era, this necessitates electronic point-of-care tools, usable and immediately accessible information resources and a recognized web presence.”

Yu, who chaired the dissemination and implementation committee for the guidelines, noted that the CDA used the Internet as the basis for its dissemination strategy. The association has a detailed website offering information and tools across a number of categories, such as screening and diagnosis and reducing vascular risk. Electronic tools

Figures from SPARX, featured in a New Zealand video game designed to help young people with depression. Results from the approach were presented at Med 2.0.
available on the site include interactive decision-support algorithms, flow sheets, reference guide, communication logs and patient resources.

Early analysis showed heavy use of the website immediately after its launch in April 2013, Ke said, with 700,000 visits in the first few months. Most of these site visits were from Canada (76.3%). While the web pages tended to be viewed most often from laptops, Ke said mobile devices and tablets each accounted for 12% of page views.

Yu said one of the most challenging aspects of disseminating the guidelines has been the effort to integrate them with electronic medical records (EMRs). She noted that this was due to the large number of vendors and the costs involved.

**YOUTUBE TO EASE THE PAIN**

A preliminary evaluation was presented on acceptance for a YouTube video developed at the IWK Health Centre, Halifax, designed to provide parents with information to help reduce pain and anxiety related to receiving injections.

Dr. Christine Chambers (PhD), a clinical psychologist and former Canada Research Chair in Pain and Child Health at Dalhousie University, Halifax, described the development of the two-minute video titled “It doesn’t have to hurt” and the strategy for increasing viewership. She said the need for such a video was demonstrated by data indicating fewer than 5% of children received assistance in managing the pain from needles and that most children have more than 20 injections before age 18.

The video uses a lighthearted approach to demonstrate how evidence-based techniques such as distraction, taking deep breaths and the use of topical anesthetic creams can help children deal with the discomfort related to receiving needles.

Posted to YouTube on Nov. 4, 2013, the video clip got more than 26,000 views in the first two weeks — and viewings had topped 86,000 by January 2015. Chambers said use of Twitter appeared to be the most effective way to get people to view the video.

**WIKI IN THE ER**

Dr. Patrick Archambault, from Université Laval, Laval, Que., described using a Google Sites wiki tool to develop electronic order sets for emergency physicians in a computer physician order entry system.

“Emergency departments and ICUs are hostile environments to implementation of best practices,” Archambault said, but he noted that using a wiki platform facilitated the development by 28 participating emergency physicians of 68 order sets for various conditions seen in the emergency department.

A quarter of participants had used a wiki for professional reasons in the past; 68% had used a wiki for personal reasons, but only one participant had been involved in editing a wiki.

Over a six-month period at the Centre de santé et en services sociaux Alphonse-Desjardins (CSSSAD) in Lévis, Que., there was a significant increase in the positive attitude taken by study participants toward using a wiki.

Canadian poster presentations also provided other useful nuggets.

- A survey of 885 members of the Canadian Medical Association showed use of social media for professional purposes by physicians is extremely low, with the main barriers being perceived lack of value and concerns about privacy and security.
- A Memorial University of Newfoundland study showed radiology residents were more aware — and made more use than radiology staff — of Internet-based collaborative technologies such as email online calendars, social media and online file-sharing tools.
- A scoping review of 37 studies assessing web-based health care interventions for caregivers, conducted by researchers from the University of Toronto, showed most to be descriptive, with few randomized controlled trials to assess effectiveness. Almost half of the studies focused on Alzheimer’s disease or dementia.
“Don’t worry, you won’t break it”
Helping seniors use mobile health tools

Pat Rich

OLDER PEOPLE CAN MAKE GOOD USE OF MOBILE DEVICES TO IMPROVE THEIR health and well-being if the proper approach is taken, according to a Canadian pharmacist who presented at the Medicine 2.0 conference in Maui in November 2014.

Dr. Kelly Grindrod (PharmD), assistant professor at the school of pharmacy, University of Waterloo, Waterloo, Ont., made it clear that while seniors may often be challenged when it comes to using mobile technologies, barriers can be overcome.

Grindrod said although there has been an incredibly rapid increase in the availability of mobile devices and applications for health, most of these are designed for people who are healthy and want to monitor their fitness, diet or other health parameters. In fact, she noted, of 43,000 mobile health apps studied, 80% simply provide instruction. Only one-third are directly related to health and treatment.

The use of mobile health tools follows the health innovation curve, she said, with early and late adopters of the technology. With mobile health, a digital divide does exist, Grindrod declared. Those who have lower income, less education or who are older are less likely to have access to or use mobile devices or apps for health.

She quoted Statistics Canada data showing that while 99% of individuals between 16 and 24 years of age and with an annual income of more than $87,000 have Internet access, only 28% of those with an income of less than $30,000 and who are over 65 have this access.

In addition, because many of the current mobile health apps are designed for healthy individuals Grindrod noted that they may not be ideally suited for seniors with deficits in dexterity, vision or hearing. For example, many apps or devices that track activity levels provide inaccurate readings if the individual has a slow, abnormal or shuffling gait.

Grindrod’s basic message is that no matter what device you’re proposing, the intended client or patient should be able to see and hear the information being provided.

In encouraging seniors to use mobile devices or apps for health, she said, it’s important to remember that many don’t learn by trial and error, and they fear activating a device because they don’t know how to use it properly.

“Don’t worry, you won’t break it” is one key reassurance that instructors should give when making mobile health tools available to seniors. In addition, “instruction manuals are not out of style” with this population. Printed instructions and extra support are often needed.

“If you have a new technology, make a nice, slow video that can be watched at home. Include the things that can go wrong (e.g., look at what happens when I insert the battery upside down),” Grindrod said.

Grindrod described a University of Waterloo project in which a group of 32 seniors over age 50, with a chronic disease that can be managed by exercise, was asked to try a variety of wearable activity tracking devices.

These ranged from a basic pedometer to the Fitbit Zip, Withings Pulse and Jawbone UP24. Participants wore each device while conducting daily activities for at least three days and then provided their evaluation.

“They had no idea activity-related trackers existed but loved the idea,” said Grindrod.

All the wearable activity trackers rated higher than the basic pedometer and were seen as being useful and acceptable by project participants.

In her conclusions, Grindrod argued that mobile health tools could be used to lower barriers to health care access for lower-income individuals or seniors with chronic conditions who have mobility issues.

She advised: “Ask (elderly patients or clients) what they want, not what you think they need.”

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"Don’t worry, you won’t break it" is one key reassurance that instructors should give when making mobile health tools available to seniors.
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