

## Canadian hospitals make uneven strides in utilization of electronic health records

Published at [www.cmaj.ca](http://www.cmaj.ca) on June 16

Canadian hospitals lag behind their United States counterparts in the use of electronic medical record systems, according to new data which also indicate an increasing technology gap between large and small hospitals that could dramatically impede efforts to modernize and integrate health systems within provinces.

The data, marshalled by HIMSS Analytics, the research arm of the Healthcare Information and Management Systems Society (HIMSS), an industry advocacy group based in Chicago, Illinois, also reveals that rates of progress among Canada's 13 provincial and territorial health care systems are remarkably uneven. Newfoundland and Labrador, New Brunswick and Alberta are far ahead of other provinces and territories. Ontario, Prince Edward Island and Nova Scotia are in the middle of the pack, while Quebec is far behind ([www.himssanalytics.org/hc\\_providers/emr\\_adoption.asp](http://www.himssanalytics.org/hc_providers/emr_adoption.asp)).

But Canadian hospitals have begun to catch up to their US peers in the adoption of electronic medical records (EMRs), says Patrick Powers, director of Canadian research for HIMSS Analytics.

"We're seeing progress all across Canada," Powers said while delivering the results of a survey of EMR use to a Canadian Health Informatics Association gathering in Vancouver, British Columbia, on June 2. "Canada is far less different from the US than it was just two years ago."

Through comparative evaluation of standardized reports from hospitals on their utilization of a broad matrix of electronic records systems, including such innovations as electronic drug prescribing, computerized physician order systems and automated decision-making capabilities, HIMSS claims to be able to assess and rank the level of



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Hospitals that make extensive use of electronic health records achieve dramatic gains in cost efficiencies, reductions in medical errors and improved patient health outcomes, according to HIMSS Analytics.

electronic sophistication achieved by hospitals with considerable precision.

The firm ranks hospital progress on a scale from 0–7 "stages" of automation of clinical services. The findings have been used by US hospital managers, health professionals and patients to achieve dramatic gains in cost efficiencies, reductions in medical errors and improved patient health outcomes, Powers says.

It's hoped such benefits will ultimately accrue to Canadians as well. Provincial health information managers say a benchmark will help.

"We really do need to have proof that what we are doing [by investing in EMRs] is moving the health system in the right direction," says Sandra Cascadden, Chief Health Information Officer for the Nova Scotia Department of Health. "This is the start of a really good path where we can actually measure progress on e-health."

Using the HIMSS approach to analyzing hospitals' progress in EMR adoption, "you can really do a lot of robust benchmarking," says Anthony Jonker, director of hospital business initiatives for the Ontario Hospital Association. "It's a very useful tool to have." The association began tracking EMR adoption among 150 Ontario hospitals in 2005 and now partners with HIMSS.

"The HIMSS staging model covers acute care only," Jonker cautions. "It doesn't do everything. But it does provide a significant roadmap."

Jonker also expresses concerns about the findings that large- and medium-sized hospitals are pulling ahead of small hospitals in EMR adoption.

The data indicate that fewer than 20% of small Ontario hospitals have reached stage two on the HIMSS scale, whereas 56% of larger facilities have achieved stage three. Small hospitals,

which serve as referral centres for larger facilities, may have trouble integrating into regional and provincial health infrastructures, Jonkers warns.

Some 34.2% of 660 Canadian hospitals surveyed by HIMSS have yet to automate one or more of their laboratory, pharmacy and radiology information systems, which constitute the foundation of an integrated electronic patient record. In the US, only 11.4% of hospitals have yet to attain this level of information automation.

Just under 30% of Canadian hospitals achieved stage-three status on the rating scale, while 50% of US hospitals made that grade.

At stage three, hospitals have electronic laboratory, radiology and pharmacy systems, which feed patient information to a clinical data repository. There is some level of clinical decision support, electronic medical vocabulary is automated and hospitals are capable of participating in integrated hospital information exchange. At least one clinical unit must have automated those capabilities.

The median rating for Canadian hospitals is stage two, according to the findings, whereas the US median is stage three. While Alberta, New Brunswick and Newfoundland and Labrador achieved a median rating over three, Saskatchewan rated 0.02 and Manitoba rated 0.07. "We have 67 hospitals but not much information technology," says Wilma Arsenault of Manitoba eHealth.

Powers says that "it's only at stage three that hospitals begin to get serious about EMR adoption." The firm's findings suggest that hospitals begin to see a measurable return on their EMR investments when they reach stage six.

Just 1% of Canadian hospitals have achieved ratings at stage four or higher,

whereas 13% of US hospitals have done so, while 91 facilities have achieved a rating of six, Powers says. "There are a number of Canadian hospitals that have achieved stage four, and a number of hospitals and regions are working toward it."

Some facilities, though, are more advanced, he adds. St. Boniface Hospital in Winnipeg, Manitoba, for example, is currently rated at 5.1 and will eventually reach "stage seven in our ratings."

Arsenault says St. Boniface associates EMR adoption with a reduction in length of stays and a reduction in its standardized mortality rate.

Canada's mixed progress on EMR adoption is likely the result of numerous barriers, Powers says, adding that

Canada Health Infoway's focus on developing interregional and inter-provincial EMR compatibility by Health Canada Infoway has done little to propel hospital upgrades.

The highest-rated Canadian hospital is the 18-bed South Okanagan General Hospital in Oliver, BC, which achieved a stage-six rating. "We faced a steep learning curve to get to this stage, but it was well worth it," says Brent Kruschel, director of Clinical Information with BC's Interior Health Authority. "We know we are preventing at least one significant medical error a day." — Paul Christopher Webster, Toronto, Ont.

DOI:10.1503/cmaj.109-3288

#### Tenth in a series on electronic health records

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