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Hospital data could help in patient care

Technology Vast amounts of information lies untapped in computers

JENNIFER PRITCHETT

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SAINT JOHN - New Brunswick's largest hospital has 30 years of patient data that would help improve quality of care if only physicians could tap into it, says the chief of staff at Saint John Regional Hospital.

Dr. John Dornan, who is also an endocrinologist, said the facility has a leading hospital computer system, but mining that data or using that information to affect clinical care isn't possible because of the way the system is set up.

"It's silly that we have all this data and that we don't use it," he said. Dornan said the hospital is in the process of undergoing an \$8-million computer upgrade and still, there aren't any immediate plans to include changes that will enable better access to patient data, which includes blood work results, test results, x-rays, medications used and diagnoses.

The new computer system, which includes digitized medical charts for patients, will go

PLEASE SEE **-HOSPITAL, A2**

Article Continued Below

See HOSPITAL on Page A02

Quick access to information could result in better outcomes

HOSPITAL - A1

live in March.

"We have every bit of clinical information you could have on a given person and most people have interacted with the health care system at some point in time," said Dornan.

The medical specialist made the comments on Thursday following the T4G Big Data Congress, a one-day conference that attracted experts from across Canada and the United States to talk about how large information sets can be used to better manage health-care systems, government processes, business and commerce.

Chris Baker, a University of New Brunswick professor in computer science and applied statistics, said there is great potential to tap into large banks of information about health, but there are challenges associated with building infrastructures to facilitate the analysis of "big data" sources such as hospitals in real time on an ad hoc basis.

"We want to give people real-time access to information," he told the conference.

Baker, who is also CEO of IPSNP Computing Inc., an applied research company that develops products for bioinformatics and clinical intelligence, is working with McGill University and the Ottawa Civic Hospital on a study about hospital-acquired infections and the use of knowledge infrastructure to extract information from hospital data banks to more quickly detect them.

"We can integrate the data with the knowledge-based terminologies in the medical field and this really helps us in a much more rapid diagnosis and identification of cases," he said.

Dornan said the Saint John Regional Hospital has "an awful lot" of information, but it requires user-friendly software that would allow physicians to access it. And if physicians were able to do that, he said there would be immediate impacts to patient care.

"We need to have programs where I can go to a desk tomorrow and say, 'how many patients that have diabetes have had a certain type of infection over the last three months' and I should get an answer back within 24 hours," he told the

Telegraph-Journal. "Then I can approach the people who care for those folks with diabetes to give them the best advice and level of care that we can." Quick information such as this would enable clinicians to change practices for better outcomes, said the specialist.

"Guidelines and best practices have a degree of interpretation by clinicians and if we could actually see what we're doing and what practices best suit this environment, then we would all do it and we wouldn't have such a wide range in our approach to clinical problems," he said.

Dornan said the hospital has "led the country" for 30 years in its approach to digitized medical charts and computerized patient information.

"It's why I came here," he said.

But, there's so much more the system can do - it can provide information about which antibiotics work best for a particular type of patient and it could even tell the hospital which surgeons have the best outcomes for patients, he said. It would also allow clinicians to be more efficient with health care resources.

"The possibilities are infinite because we use so many data sets," said Dornan.