

Integrated diabetes management program provides rapid improvements in patient care

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In Canada alone, almost 2 million people are known to be living with diabetes. And around a million more have the disease but are not aware of that fact, and have not been given the tools they need to control their blood sugar and safeguard their health. The Heart Institute will be presenting the results of an innovative pilot program on October 29, at the Canadian Cardiovascular Congress in Toronto, Canada.

Diabetic patients have a much greater risk of dangerous [cardiovascular events](#), including recurrent heart attacks and development of [heart failure](#). "Patients with [diabetes](#) account for a disproportionately high number of hospital inpatients globally. At the University of Ottawa Heart Institute, over 40 percent of all our inpatients are diagnosed with diabetes," reported Bonnie Quinlan, an Advanced Practice Nurse at the Heart Institute.

Heart Institute staff recognized that hospitalization for heart disease provides a valuable opportunity to identify patients with uncontrolled or [undiagnosed diabetes](#) and connect them with the care they need—similar to how the Ottawa Model for [Smoking Cessation](#) uses hospitalization as a unique opportunity to help smokers quit.

In May of 2011, the Institute rolled out a pilot program to identify and manage every patient with diabetes admitted as an inpatient. The program trained 15 nurses to serve as "diabetes champions" on the wards, led by a newly hired Diabetes Nurse Specialist, Kim Twyman.

These champions in turn provided peer-to-peer training to other nurses, doctors, dietitians, and medical and surgical residents, centered around a new guideline and educational 'tool box' designed to walk staff through the steps to identifying and managing diabetes with every patient. In February 2012, this optional guideline became a mandatory medical directive. By March, the number of patients referred to the diabetes nurse specialist had doubled.

The effort paid off: for example, after implementation of the program 85 percent of patients had their doctors notified of their diabetic status compared with only 26 percent before the program. Thirty-four percent received a referral to a community diabetes management program compared to none before the program started.

And most importantly, average blood sugar levels in diabetic inpatients dropped by almost 2 points, to the target level considered reflective of adequately managed diabetes, "which is amazing," recounted Amy Charlebois, one of the program's nurse champions.

The remarkable HbA1c drop of 2% demonstrates the success and effectiveness of a diabetes management program within our tertiary inpatient environment. The development of a systematic plan to educate staff on the management of diabetes, identifying on admission those affected by diabetes, diagnosing diabetes and standardizing the treatment of diabetes within our institution and ensuring timely, seamless transition to the community for self management care of diabetes with our community partners resulted in a dramatic improvement of HbA1c.

The United Kingdom Prospective Diabetes Study, a large randomized study trial of intensively, managed people living with Type 2 diabetes compared to usual care showed significant benefits of A1c reduction. 43% lower risk of amputation or death from peripheral vascular disease, 37% lower risk of blindness and kidney failure, 21% lower risk of

diabetes complications, 21% lower risk of death related to diabetes, 14% lower risk of [heart attack](#) and 12% lower risk of stroke with each 1% drop in A1c.

Challenges still being addressed include how to fit all the pieces of the program into patient care for brief stays, such as overnight or elective day surgery, and how to influence patients who refuse to accept an unexpected diagnosis.

"There was also the challenge of 'this is just one more piece of paper' in an already busy day, or one more thing to do," said Quinlan. "This barrier seemed to become less of an issue as the program gained momentum: staff felt empowered by being able to manage their patients' diabetes and felt tremendous positive feedback from patients and families who in many cases for the first time were receiving support to assist them in managing this chronic disease."

Provided by University of Ottawa

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