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## Editor's Note

## Snapshots of Diabetes Care in Canada

The management of diabetes has become a very complex affair. The 2013 Canadian Diabetes Association clinical practice guidelines has devoted a chapter to the organization of diabetes care. One of the key messages is that diabetes care should be organized around the person living with diabetes who is practising self-management and who is supported by a proactive interprofessional team with specific training and expertise in diabetes (1). Because most diabetes care in Canada takes place in the primary care setting using the chronic care model, integration with collaborative, shared-care delivery models in the primary and specialist care settings are strongly encouraged to provide seamless care and care delivery (1). Although the evidence-based Canadian Diabetes Association clinical practice guidelines set the benchmarks for optimal diabetes care, there are inevitably care gaps in the real world. So how good is diabetes care in Canada? The answer depends on which metrics are used for the comparison. A recent survey of diabetes management in 5123 patients with type 2 diabetes, seen by 479 primary care physicians on a single day on or around World Diabetes Day in 2012, reported that only 38% of patients received dietary counselling, and only 13% of patients achieved the triple goal targets of glycemic, lipid and blood pressure control (2). However, the metabolic control achieved by these patients was considerably better than that in the patients reported in similar previous Canadian surveys. The mean A1C of the patients in the survey was 7.4%; LDL-C was 2.1 mmol/L and blood pressure was 128/75 mm Hg, which are quite close to the target values of A1C  $\leq$ 7%, LDL-C  $\leq$ 2 mmol/L and blood pressure <130/80 mm Hg, respectively. Nonetheless, the deadline-modification scan (DM-SCAN) survey highlighted that treatment gaps persisted among primary care physicians.

In this issue of the *Canadian Journal of Diabetes*, several Canadian studies provide a few more snapshots of diabetes care across the country. Khadilkar et al. evaluated the quality of care provided to members of the Canadian Forces (CF) who have diabetes by determining the extent to which healthcare providers adhere to recommendations outlined in the 2008 Canadian Diabetes Association clinical practice guidelines (3). Among the health records of the 400 subjects with diabetes reviewed, healthcare providers from 14 CF bases demonstrated high adherence (>75%) with 9 recommendations, moderate adherence (50% to 75%) with 7 recommendations, and low adherence (<50%) with 5 recommendations. The authors also suggested several strategies, such as providing feedback to physicians, promoting use of diabetes care flow sheets, and creating a diabetes registry, to further improve diabetes care in members of the CF. This study demonstrates the impact of clinical practice guidelines on primary care practitioners in providing good standards of care for people with diabetes. Whether the favourable quality of diabetes care delivered at other institutions,

such as the elderly in senior homes and the prison population, cannot be generalized, but it is clearly worth pursuing.

With broader and easier access to the Internet, the use of online tools has greatly facilitated knowledge and skills acquisition and has become an integral part of our daily lives. The impact of using an online portal by patients with diabetes for self-management on diabetes health outcomes was the subject of a retrospective observational study (4). Among the 50 users, a significantly higher proportion of them achieved A1C target glycemic control of  $\leq$ 7% than did non-users (4), linking the use of patient online portals to improved outcomes for people with diabetes.

Diabetes self-management is the subject of another cross-sectional research study, but this one explored self-management practices and diabetes care among Black Caribbean immigrants and Canadian-born counterparts. Because immigrants from South Asia, Latin America, the Caribbean and sub-Saharan Africa have a 2- to 3-fold greater risk for developing diabetes than the general population, access to care, self-management and self-management education and the support of these immigrant populations are crucial to prevent and optimally manage type 2 diabetes. This study reported greater use of community health centres and allied health professionals among Black Caribbean immigrants, which facilitated favourable and significant changes in health behaviours, as well as more regular A1C testing and eye and foot examinations (5). The results of this study are encouraging, and they underscore the important roles that community health centres and allied health professionals play in providing better access and care delivery to vulnerable populations who are at high risk for diabetes.

Two articles in this issue address the influence of hypoglycemia on people with diabetes. Harris et al. reported that any form of hypoglycemia, notably nocturnal and severe hypoglycemia, had a negative impact on the health-related quality of life of Canadians with type 1 and type 2 diabetes (6). This study reported on a cohort of more than 400 Canadians who participated in the much larger global study, which included participants from the United States, the United Kingdom, Germany and Sweden. The results of this study highlighted the importance of preventing hypoglycemia, especially nocturnal and severe forms, to optimize glycemic control and health-related quality of life. The second multinational cross-sectional web-based survey examined the attitudes of insulin-treated patients with type 2 diabetes and their treating physicians concerning dosing irregularities and hypoglycemia. Among the 156-member Canadian cohort and the 202 healthcare professionals surveyed, a quarter of the patients reported insulin dosing irregularities due mainly to hypoglycemia, with more than 90% of the healthcare professionals' being aware of the issues (7). This study

also underscored the need to educate patients about prevention, monitoring for and timely management of hypoglycemia and the healthcare professionals' need to ensure that patients' fear of hypoglycemia would not compromise optimal glycemic control.

Health behaviours play important roles in the management of diabetes, and several articles in this issue address this topic from different perspectives. Hui et al. conducted a qualitative survey to examine the food-choice decisions made by women with gestational diabetes during pregnancy (8). They found that personal food preferences, hunger sensations and cravings were the main factors that could override the desire to achieve optimal glycemic control affecting food-choice decisions. The authors recommended personalized and time-sensitive dietary counselling to promote confidence in self-control in healthier food-choice decision-making and adherence so as to achieve glycemic targets.

Two separate reviews focus on the increasing prevalence of cardiometabolic risk in children and youth, as well as in type 1 diabetes. Saunders et al. reviewed how sedentary behaviours may exaggerate cardiometabolic risk in children and youth and proposed helpful suggestions to tackle sedentary behaviours (9). They also identified areas for future research to gain insights into the impact of characteristics of sedentary behaviours on cardiometabolic risk so as to develop more closely targeted interventions.

The increasingly prevalent phenomenon of “double diabetes”—elevated cardiometabolic risk and insulin resistance—greatly threatens the health of young patients who have type 1 diabetes (10). Reducing the risk behaviours by teenagers and adults with type 1 diabetes remains an achievable, albeit somewhat elusive, goal.

Taken together, the articles in this issue provide snapshots of current access to care delivery and the quality of diabetes care in Canada. People with diabetes and healthcare professionals have to work together to strive for optimal diabetes care.

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