Investing in prevention: Funding foot care specialists and offloading devices

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The number of Canadians with diabetes is increasing, and consequently, cases of diabetic foot ulceration are also climbing. Access to foot care specialists and offloading devices have been shown to reduce the onset of foot ulcer complications such as gangrene and amputation by over 50%. The people of Ontario would benefit from a model of care that includes access to foot care specialists and offloading devices. Investment in effective treatments for diabetic foot complications will ultimately improve health outcomes and quality of life, and reduce healthcare costs.

Foot ulcers are the most devastating complication associated with diabetes, putting many individuals at risk of gangrene, bone infections (osteomyelitis), numerous visits to clinicians and the emergency room, longer healing times, and even preventable lower limb amputations (Botros and Grinspun, 2014). In short, foot ulcers can lead to serious health problems, impact quality of life, and strain the healthcare system.

Additionally, clinical evidence shows that even with the best dressing, foot ulcers will not heal normally without an offloading device to redistribute pressure (Thompson et al, 2014). In order to effectively treat diabetic foot complications, the government of Ontario should extend universal funding to cover foot care specialists (ie, wound care nurses and chiropodists), and expand the Assistive Devices Program (ADP) to cover offloading devices. Investing in this coverage will not only greatly improve the quality of life for individuals with diabetic foot ulcers, but will ultimately reduce health care spending by reducing the use of emergency rooms and preventing costly lower limb amputations.

Growing cost of diabetes

According to the Canadian Diabetes Association (CDA), more than nine million Canadians – one in four – are living with diabetes or pre-diabetes, and more than 20 people are diagnosed with diabetes every hour of every day (CDA, 2009).

The healthcare costs associated with managing diabetes are soaring. In 2010, the healthcare costs of people with diabetes in Ontario were estimated to be $4.9 billion, and this number is expected to reach $6.9 billion by 2020 – a 42% increase in 10 years (CDA, 2009, Ministry of Health and Long Term Care [MOHLTC], 2012). Consequently, the number of diabetic foot complications, including infections, ulcerations and amputations will increase proportionally and threaten the health and quality of life of millions of Canadians with diabetes.

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Immune cells to combat infections (Orsted et al, 2006). All of these factors can lead to foot ulcers that will be difficult to heal.

The consequences of foot ulcers

It is estimated that 15–20% of people with diabetes will develop a foot ulcer at some point during their lifetime, mainly because of underlying peripheral neuropathy and peripheral vascular disease, and 25% of those cases will end in amputation (Singh et al, 2005; Armstrong et al, 2014).

Amputation leads to loss of independence, livelihood, and heightened mortality; half of those with an amputated limb survive for only two years after surgery (Rayman et al, 2013). The relative probability of death within five years following amputation is greater than mortality rates of colon, prostate and breast cancer (Robbins et al, 2008; Van-Baal et al, 2010).

In Canada in 2011, diabetic foot complications were associated with 16,883 hospital admissions, 31,095 emergency room or clinic visits, 41,367 rehabilitation clinic visits, and 26,493 interventions, including 6,036 amputations and 5,796 surgical debridements (Hopkins et al, 2015). This usually happens because “people with early signs of diabetic foot complications often have no place to go, beyond the emergency room” (Botros and Grinspun, 2014).

Evidence into practice

Clinical evidence shows that DFUs without appropriate plantar pressure redistribution are predisposed to serious complications.

Offloading devices facilitate the healing of foot ulcers by distributing pressure over the entire plantar surface of the foot, decreasing the peak plantar pressures to more than 80% and shear forces in any one location (Litzelman et al, 1997; Armstrong et al, 2005; Thompson et al, 2014).

Furthermore, ulcers treated with appropriate offloading devices have a significantly shorter healing time compared with those without any kind of pressure redistribution (CDA, 2015).

Government policies are needed

The Ontario government has attempted to address health issues related to diabetes, but there is much still to be done.

In 2008, a 4-year, $741 million Ontario Diabetes Strategy was launched to expand services and improve the health of Ontarians with diabetes. However, auditors noted that 97% of the funding was earmarked for treating diabetes, but only 3% was invested in preventive initiatives (MOHLTC, 2012). In a survey of professionals involved in diabetes education programs funded by the strategy, auditors found that "60% … identified foot-care specialists as the most-needed professionals, but 40% said their patients had no access to these specialists” (MOHLTC, 2012).

Similarly, the Assistive Devices Program, which provides funding for equipment and supplies to individuals with long-term disabilities, does not currently include offloading devices.

Interestingly, the Registered Nurses’ Association of Ontario best practice guideline (2013) targets reducing foot complications for people with diabetes and advocating funding support through ADP for appropriate footwear and orthotics for people with diabetes.

The rise in both the number of individuals with diabetes and those experiencing complications demonstrates the need for a comprehensive policy to address the unique needs and costs associated with DFUs.

Diabetes Charter for Canada

The Canadian Diabetes Association has developed the Diabetes Charter for Canada to ensure that people living with diabetes are treated with respect and dignity; to advocate for equal access to high-quality diabetes care and support; and to enhance the health and quality of life for people living with diabetes and their caregivers (CDA, 2014).

The charter advocated that governments must assume the following responsibilities:

- Guarantee fair access to diabetes care, education, prescribed medications, devices, and supplies to all Canadians, regardless of their income or where they live.
- Ensure that regulatory and reimbursement processes across jurisdictions support all Canadians living with diabetes in accessing the care and supplies they need at affordable costs.
- Work with people with diabetes in vulnerable communities to support policies and programs to address complications (CDA, 20014).
In addition, it is crucial to strengthen systematic and ongoing diabetes surveillance that will help governments, interest groups, and other stakeholders to plan, implement, and evaluate diabetes plans and programmes.

The Canadian Association of Wound Care and Registered Nurses’ Association of Ontario have joined forces to advocate for public support on diabetic foot care in Ontario. Their joint letter of 6 December 2014 to MOHLTC advocates for increased funding and access to preventive supplies and foot specialists for people with diabetic foot complications in Ontario (Botros and Grinspun, 2014).

Recommendations to the ministry
To address diabetic foot complications in Ontario, the MOHLTC should commit to:

• 100% coverage of foot care specialist for all individuals living with diabetes in Ontario for at least once a year and or longer for those at high risk.
• 100% coverage of offloading devices for all individuals living with DFU, after indication from a foot care specialist.
• Support key stakeholders and Local Health Integration Networks to ensure that individuals have access to services and offloading devices.
• Include key stakeholders in assessing cost reductions and increased efficiencies such as cost-benefits and cost-effectiveness of these recommendations.
• Make funding available to measure the outcomes, such as development of research to examine the trends in incidence and prevalence rates of DFU, healing process, and hospitalization rates due to foot ulcer infection and amputation.

Conclusion
For people with DFU, access to foot care specialists and offloading devices have been shown to reduce the onset of foot ulcer complications such as gangrene and amputation by over 50%.

The people of Ontario would benefit if the MOHLTC collaborates with organisations, such as CDA, the Canadian Association of Wound Care and the Registered Nurses’ Association of Ontario to create a model of care that includes access to foot care specialists and offloading devices. The investment in effective treatments for diabetic foot complications will ultimately improve health outcomes, quality of life and reduce healthcare costs for Ontario.


Registered Nurses’ Association of Ontario (2013) Assessment and Management of Foot Ulcers for People with Diabetes. 2nd ed. RNAO, Toronto.


