

Implementing Best Practice in Alberta: A Diabetes Foot Care Clinical Pathway

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Background

Our team found significant variations in foot screening practices in Alberta. Despite best practice guidelines,¹ many primary care providers do not perform the recommended annual foot examination on their patients with diabetes. Reasons cited include lack of time; insufficient knowledge, resources and skill; and a false assumption that good glycemic management automatically ensures healthy feet. This information highlighted the need for a systematic approach to increase screening practice across Alberta.

Pathway Development

To address this need, a clinical pathway was created with tools and resources for screening and preventative care guidelines to reduce diabetic foot ulcers. Clinical pathways are tools used to enhance uptake of clinical practice guidelines. Broad engagement with stakeholders from a variety of health disciplines and from across health-care sectors informed the development of this clinical pathway.

The goal of developing and implementing this pathway was to increase screening rates in Alberta with a focus on primary care, and to provide the resources and supports necessary for preventative care. Providers and patients were interviewed to

identify current gaps, after which our team documented both the current and ideal state of foot screening practices. The clinical pathway content was defined and adapted for the regional needs across the province and was piloted in 2015 in three communities: two urban and one rural. The results were then evaluated and used to inform future spread and scale strategies.

- To access the clinical pathway, click [here](#).
- For the complete Pathway Toolkit, click [here](#).

The pathway includes five steps: screening, assessing risk, referring patients, treatment and follow-up guidelines. The clinical pathway aligns with Wounds Canada's Wound Prevention and Management Cycle.² Specifically, the pathway follows the six steps of assessment, setting goals of care, team assembly, the establishment and implementation of a care plan, the evaluation of outcomes, and follow-up and reassessment.

The pathway also includes specific follow-up guidelines depending on the patient's risk level. Additional tools and resources were developed to assist health-care providers in screening, including:

- Awareness posters for health-care providers to display in waiting rooms to encourage patients to inquire about foot screenings and self-care
- E-learning modules to assist nurses in foot screening and high-risk foot teams

Implementation

Pathway implementation targeted primary care providers through broad communication measures including newsletters, in-person education sessions for chronic disease management nurses and family physicians, webinars and educational symposiums on how to implement the pathway and how to assess and treat high-risk foot problems.

The team developed an implementation guide to support primary care that included a complete inventory of local foot care specialists for referral of patients with high-risk foot problems, and a guide on how to embed pathway activities into primary care clinical workflows.

Seven high-risk foot teams were established across Alberta communities to ensure timely access for patients with high-risk foot problems. These multidisciplinary teams work with patients who are at a high risk for developing ulcers and those who have existing foot ulcers. The teams provide wound care, vascular assessments and therapeutic footwear, and co-ordinate referrals to other specialists. It is recommended that each high-risk foot team have at least two different disciplines, such as a nurse practitioner or physician, RN, LPN, occupational therapist or physiotherapist.³

Evaluation and Results

Our team evaluated the clinical pathway by conducting pre- and post-implementation surveys to learn about present screening practices, and, in 2019, to learn about the results of the pathway implementation. Primary, home and long-term care settings demonstrated an increase in screening in the 2019 survey. The results also indicated a significant increase in screening across all health-care provider groups.⁴

In addition, we surveyed the uptake of the pathway in the primary care setting. Surveys sent to key clinical leaders in 2019 to better understand

screening in primary care found that a majority of the primary care foot screenings were completed by chronic disease management nurses. Some 88% were using a foot screening tool and 62% were using the DON SCN foot screening tool; 74% had accessed resources or information on the website, and 66% of respondents reported an increase in the number of foot screens they performed on patients with diabetes.

Respondents attributed the increased number of foot screens they performed to several factors:

- Education (specifically from two symposia)
- Improved awareness (identified by both patients and providers)
- Embedding screening in the clinical workflow

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- The use of an electronic medical record, which helped providers track initial and follow-up screenings

In 2019, a return on investment study was also conducted.⁵ A large cohort of patients who had been screened and a cohort who had not been screened were matched both geographically and demographically and then observed. Researchers noted significant reductions in the screening group in terms of hospitalization rates, length of in-patient stays, and outpatient and physician visits. The average cost avoided per patient was \$3,500 per year, mainly a result of fewer hospital visits.

Barriers to Implementation

Barriers to full implementation of the pathway included access to treatment, travel costs and wait times, especially in rural communities. Barriers surrounding access to treatment were the result of travel limitations, cost of foot care in the community and limited access to prescribed footwear.

Additional Findings

The use of this pathway was reported to have improved co-ordination of care and access to limb preservation services.

Several keys for sustainability were identified, including:

- The presence of a provider to champion the use of the pathway in clinical and primary care settings
- The building of the pathway into the clinical workflow
- Ongoing education, both in-person and virtually, which is important for sustainability
- The ability to document and track foot screening in the electronic record

Discussion and Next Steps

When analyzing the effectiveness of the clinical pathway, it is important to note that there is

not consistent reporting of foot ulcer data. As a result, our team relied on lower limb amputation data. The team discovered the rate of lower limb amputations has been flattening over time, and a major shift has taken place in the type of amputations being performed. There are now fewer major amputations, which include the ankle and above, and a shift to minor amputations, such as the toe. This shift can be attributed to an increase of screening practices, more foot-care programs, co-ordination between home care and primary care, and improved co-ordination for referrals.

The next steps include continuing to implement the pathway across Alberta, increasing the number of high-risk foot care teams, integrating virtual health practices and developing standardized vascular referral guidelines across Alberta. We would like to increase the number of high-risk teams, especially in Indigenous communities. In addition, we hope to integrate screening practices into virtual health settings to improve access in rural areas.

For more information, email DON.SCN@AHS.ca or visit www.ahs.ca/footcare. ■

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