

Reaching out to diabetic soles: Outreach foot care pilot project

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Abstract

Objectives: To assess the effectiveness of outreach foot care services as a tool for engagement with isolated vulnerable seniors. To improve foot health of diabetic seniors, thus avoiding expensive and potentially life-threatening diabetic complications.

Methods: Four validated tools are used to gather data: InLow 60-second Diabetic Foot Screen[®], Short Diabetes Knowledge Instrument for Older and Minority Adults, Brief Healthcare Questionnaire (Patient Health Questionnaire-9), and the Health-Related Quality of Life Questionnaire.

Results: Five monthly visits to 20 participants resulted in multiple co-morbidities being identified, improvements in foot status and diabetic knowledge realized, and determinants of health addressed. Seniors needed support and resources to engage in diabetes self-management.

Conclusion: The importance of regular foot care as a key element of any self-management plan for diabetes cannot be understated, nor can increasing social services spending to include coverage for foot care thereby avoiding expensive healthcare. Using foot care as a tool for engagement conferred access to vulnerable seniors who ultimately benefited from healthcare and social interactions with a provider.

Keywords

Diabetic foot care, vulnerable seniors, nursing, primary healthcare, social justice, mental health, outreach

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Introduction

Diabetes mellitus is a chronic disease caused by either hereditary factors or deficiency in the production of insulin by the pancreas.¹ This chronic condition is currently considered a global epidemic, with an estimated 382 million people worldwide living with diabetes.² In Canada alone, there are 2.7 million individuals living with diabetes, and this number is expected to increase to 4.2 million by 2020.³ Diabetes impacts all aspects of life, requiring daily management well beyond simply taking medication; an essential component of treatment is the development of self-management skills.⁴ Self-management and patient empowerment can decrease the incidence of hypoglycemia, hyperglycemia, and long-term life-changing complications, such as retinopathy, nephropathy, and neuropathy resulting in amputation related to insufficient foot care.⁴ It is neither possible nor practical for healthcare professionals to provide all the care required to manage diabetes in every individual living with the condition; however, involving healthcare professionals in the

delivery of programs focused on self-management will enrich the delivery, effectiveness, and depth of diabetic education.³

The World Health Organization (WHO)⁵ reports that approximately 15% of individuals who are diagnosed with diabetes will develop a diabetic foot ulcer during their lifetime with a higher incidence in people with diabetes who are marginalized and living in precarious housing.^{6,7} In Canada, higher incidences of diabetic foot complications are seen in people who live in poverty, in rural areas, or are members of First Nations communities.⁸ The general inaccessibility of

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healthcare to persons who are homeless and the pressures of extreme poverty have been noted as factors that add to, or play a role in, health complications in adults with chronic disorders, such as diabetes.⁹ Maintaining proper and safe foot care in order to prevent ulcers can be a major challenge faced by people who live with diabetes.³ It is estimated that prevention in the form of foot and nail care and appropriate footwear would eliminate more than half of the lower extremity complications, including amputations.³ Reducing these complications with proper education on self-management and follow-up by healthcare professionals in the community would decrease the number of life-threatening amputations experienced in the diabetic population.

New Brunswick is experiencing an unprecedented increase in the rate of seniors, with 16% of the population now over the age of 65 years, making NB the province with the second highest percentage of seniors in Canada.¹⁰ Many seniors (approximately 10.9%) live in poverty. Women are at greater risk of poverty as they draw less from the Canada Pension Plan than men.¹¹ Vulnerable seniors are susceptible to experiencing mental health issues such as depression and anxiety,^{12,13} which can be linked to living in poverty, loneliness, and precarious housing. Chronic illness and depression seem to have reciprocal risks for seniors.¹⁴

Diabetes mellitus is one of the most commonly cared for chronic conditions in healthcare and is becoming a major challenge for health systems, health professionals, and people living with disease due to the high rates of diabetes and associated complications that contribute to rising rates of disability, morbidity, and mortality.^{3,14-17} Managing this chronic condition is best accomplished with appropriate knowledge and self-management of the illness process.^{2-4,16,18} The importance of good and regular foot care as a key element of any self-management plan cannot be understated, especially in the senior population.¹⁹

The goals of diabetic specific outreach programs are to empower people with diabetes to gain control over their foot care and connect them with the healthcare system for screening, preventive measures, and overall diabetes management to prevent limb loss.³ Working together with peer leaders, diabetes educators, physicians, specialists, podiatrists, pedorthists, and other allied health professionals, individuals with diabetes with strong self-management skills can become experts in their own health team and help decrease the demand for costly treatment of secondary complications, such as ulcers and amputations.³ Ongoing support by healthcare providers is needed to sustain changes made as a result of the educational process. The National Service Framework for Diabetes included a standard about patient empowerment, which recognizes that supporting people to manage their own diabetes and involving them in shared decision-making is at the heart of empowering people, improving their experience of services, and resulting in improved health outcomes.¹⁶

Furthermore, as people age, they may lose some of the common skills that foster ability to manage diabetes.⁴

Increasing cognitive problems and changes to physical abilities are two challenges that make self-management more challenging in the senior population. The gradual and deceptive loss of being able to look after diabetes and its complications can be very difficult for both the patient and healthcare team.¹⁸ The goal is to identify what patients can still do to take care of their illness safely, provide services for those things they can no longer do, and support remaining abilities.^{4,18} Supporting an elderly person to acquire new skills in diabetes self-care takes time and can be achieved using an individualized approach.⁹ Diabetes requires daily monitoring and medication decisions.^{4,15} Health promotion in the form of foot care is critical to maintaining health and preventing costly and unnecessary hospital admissions for seniors living with diabetes.¹⁵ Managing chronic illness in this age group by empowering and promoting self-management remains key.

The Fredericton Downtown Community Health Centre (FDCHC) is a joint initiative between the University of New Brunswick (UNB) Faculty of Nursing and the Horizon Health Network. It is a multi-disciplinary primary healthcare facility offering services to vulnerable populations (homeless, precariously housed, newcomer and refugee populations, and those without a primary care provider) living in downtown Fredericton. The term “vulnerable population,” coined by Badger et al.,¹² as “social groups who have an increased risk for poor health outcomes because of poverty, aging, ethnicity, gender, substance abuse, low educational levels, and limited access to quality health care” (p. 173) best fits our understanding of the vulnerable seniors we see regularly and who were enrolled in this project.

The FDCHC offers services of family physicians, nurse practitioners, nurses, licensed practical nurses, registered respiratory therapists, dietitians, occupational therapists, and social workers. Currently, the FDCHC runs a diabetic foot care clinic free of charge, for marginalized clients living in precarious housing (e.g. shelters, rooming houses, outdoors, and abandoned tenements). We offer these services as an upstream health intervention because these clients are at increased risk of developing lower-limb ulcers. The increased risk is frequently due to a combination of inadequate nutrition, improper footwear, exposure to the elements, repeated trauma, and more.²⁰ Many of our clients have co-morbidities (diabetes, hypertension, mental illness, poverty, and advanced age) that put them at increased risk for negative outcomes from chronic diseases that can be better managed with minimal intervention.

In spite of the high number of risk factors and significant need for care, many of our clients struggle to attend foot care appointments at the clinic despite it being free of charge. Clients who do attend are frequently those living with the fewest co-morbidities. Consistent with research findings,⁹ we found that clients with co-morbid mental health challenges more regularly miss scheduled appointments for foot care. Research conducted by the Mental Health Commission of Canada revealed empirically that many people who live

with chronic mental illness require on-site support in order to maintain their health and housing.²¹ This project proposed to extend diabetic foot care services outside of the NCHC, to bring services and education directly to precariously-housed, elderly, diabetic clients living with co-morbid mental health challenges.

New Brunswick is seeing increasing rates of seniors who are living with chronic health conditions such as diabetes, in poverty, and with mental health issues. The trend in chronic disease care is to encourage patients to self-manage; however, our clients are frequently isolated and vulnerable and less likely to seek healthcare as needed, putting them at risk for costly complications. Research shows that high-risk diabetic clients who see healthcare providers even three times a year are 33% less likely to develop serious issues requiring lower-limb amputation.²² The goal of this project was to evaluate the effectiveness of outreach foot care in (1) reducing the risk of developing lower-limb diabetic ulcers in the precariously housed senior community, (2) increasing self-management skills, and (3) decreasing isolation by encouraging greater interaction with others.

Method

Healthcare providers at an urban health center, with a mandate for providing care to vulnerable populations, sought to discover new ways of engaging with low-income, isolated seniors living with diabetes. A foot care trained registered nurse (RN) and RN researcher developed a pilot study to address the research questions.

Foot care was provided in connection with the FDCHC's existing street outreach nursing program, in which outreach nursing care is offered twice weekly in shelters, rooming houses, and on the streets. It currently serves over 50 high-risk clients. The current foot care nurse served as a street nurse with the outreach program in the past, and already had a rapport with the community, especially low-income seniors living in subsidized housing. This intervention pilot study was reviewed and given ethical approval.

An RN from the FDCHC making regular outreach visits to a low-income seniors' complex placed posters announcing the availability of monthly foot care visits. The RN made five monthly visits with each client who consented to being part of this study. On the first visit, the RN obtained consent for participation from the clients. During each visit, the RN used screening tools endorsed by the Canadian Diabetes Association and the Canadian Association of Wound Care (such as InLow's 60-Second Diabetic Foot Screen©) to continue assessment.

While providing outreach foot care as a tool for engagement, the RN gained entrance into the homes and lives of otherwise isolated and vulnerable seniors. During her visits, the RN assessed the seniors' health and social status and provided knowledge about diabetes to foster self-management skills. To achieve improved knowledge, the RN

discussed basic physiology of diabetes, answered any questions the patients had concerning their health, and reviewed dietary intake with suggestions for improving nutritional intake. To evaluate the effectiveness of educational sessions, the RN conducted a pre- and post-Patient's Diabetes Knowledge Questionnaire.²³ To assess mental health, the RN completed the Brief Patient Health Questionnaire (Brief PHQ)²⁴ and the Quality of Life Questionnaire with the client. Other information gathered to assist the RN in providing the best care was results of the most recent HA1C, if available, height and weight, and list of medications of each client. During each visit, the RN was able to guide the conversation providing knowledge about their feet, control of diabetes, diet and eating habits, and effective coping mechanisms that contribute to improved self-management.

Sample size was determined based on three criteria: the availability of participants, the availability of the RN, and available financial resources to support five monthly visits to participants. A total of 20 seniors living in subsidized housing enrolled in the study, and demographic variables are found in Table 1.

We used four validated tools to collect participant assessment data. These tools are available for use by anyone and do not require specific permissions.

1. *InLow 60-Second Diabetic Foot Screen*©. The tool is intended for use in screening people with diabetes to prevent or treat diabetes-related foot ulcers. It has very good intrarater and interrater reliability.²⁵ Benefits of this tool are ease of use. The right and left feet were assessed and given a score between 0 and 25. Scores of 0–6 recommend annual screening, 7–12—screening every 6 months, 13–19—every 3 months, and 20–25—1- to 3-month intervals.
2. *Patient's Diabetic Knowledge Questionnaire*. Effective diabetes self-management relies upon client knowledge and the ability to draw on that knowledge when puzzling through challenges. We used the Short Diabetes Knowledge Instrument for Older and Minority Adults (SDKI) because the population of interest were vulnerable seniors. The SDKI has been tested and has a satisfactory level of internal consistency.²⁶ The instrument includes 13 questions that measure diabetes knowledge in diverse and elderly populations. Pre- and post-testing provide example of knowledge acquisition as a result of any teaching completed during the visits.
3. *Brief Healthcare Questionnaire*. We used the Brief Healthcare Questionnaire (PHQ-9). Based on the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; DSM-IV), the PHQ-9 has been validated as an appropriate tool for assessment of depression in the general population.²⁷ The PHQ-9 assesses for mood and panic disorders. Major depressive syndrome is

Table 1. Demographic data.

Age (years)			
Average	70.9		
Range	56–89		
	No.		%
Sex			
Male	6		30
Female	14		70
Marital status			
Single	3		15
Married	4		20
Widowed	4		20
Divorced	9		45
Diabetes			
Pre-diabetic	6		30
Type I	0		0
Type II	14		70
Education level			
Elementary	1		5
Some high school	10		50
Completed high school	2		10
College/university	7		35
Annual income (K/year)			
>20	17		85
20	1		5
<20	2		10

found if answer to #1a or b and five or more of #1a-i are at least “more than half the days.”

4. *Quality of Life Questionnaire.* We used a quality-of-life questionnaire that reflected perceptions about health in the past 30 days. The health-related quality of life (HRQOL) is a multi-dimensional survey that asks four core questions about health status and impact of health on day-to-day living. The HRQOL has been tested and proven valid in assessing the burden of disease, injury, and disability in a person’s life.²⁸ The tool was used to gain a greater appreciation of the self-assessed health status of the participants.

Results

During the five monthly, hour-long visits to 20 seniors, the nurse used the InLow 60-Second Diabetic Foot Screen[®], the pre- and post-Diabetic Knowledge Questionnaire on the first and last visit, The Brief Health Questionnaire on the third visit, and the Quality of Life Questionnaire on the fourth visit. Nine participants were divorced and it is important to note that one person “divorced” their spouse in order to “work” the social assistance system for financial reasons but continued to live together, out of love.

The low-income cut-off (LICO) point, before taxes, according to Statistics Canada is \$21,354 for one person and

Table 2. Summary of findings.

Perception of general health			HbA1C tested				
Very good	2	10%	This year	17		85%	
Good	5	25%	>A year ago	3		15%	
Fair	10	50%	Health impact on abilities				
Poor	3	15%	Activity	Yes	No		
Co-morbidities			Personal care	7	35%	13	65%
Pre-diabetes+			Household chores	13	65%	7	35%
3 others	1	5%	Social activities	17	85%	3	15%
6 others	1	5%	Length of impairment				
8 others	1	5%	None	2		10%	
Type II diabetes+			6 months	1		5%	
3 others	3	15%	2 years	2		10%	
4 others	3	15%	3 years	1		5%	
6 others	2	10%	4 years	3		15%	
7 others	4	20%	5 years	7		35%	
8 others	3	15%	7 years	1		5%	
9 others	2	10%	10–15 years	3		15%	

\$26,583 for two people living together.²⁹ All of the participants’ income fell below the LICO point, with 85% of participants bringing in less than \$20,000/year. Most were relying on Canada Pension Plan, a few others collected small pensions associated with employment. The women tended to be in the lower income group reflecting their unpaid life experiences as homemakers and mothers.

When asked questions about diabetes, most either did not at all or infrequently tested their blood sugar because the strips for the glucometers were simply too expensive. Most (85%) of the participants had had a HbA1C done in the past year, and for three participants (15%) it had been more than a year. Further compounding the risks to these vulnerable clients was the fact that 70% of participants were receiving foot care for the first time. On average, these participants had been diagnosed 13.1 years ago with a range from 5 to 25 years since diagnosis (Table 2).

We found an average 29% increase in diabetic knowledge from pre- to post-testing of diabetic knowledge, ranging from 9% to 58%. It became clear during the five visits that one of the participants had some degree of dementia, which might account for scores that went down from pre- to post-questionnaire. Self-management is focused on the health literacy of the person and ability to understand diabetes and use that knowledge to optimize health. Over half (60%) of the participants felt that the increase in knowledge did result in increased comfort in self-management.

The condition of the feet of the participants at the beginning of this study was described by the RN as “a terrible mess, requiring more than one visit to get things under control.” She noted that most participants had not had foot care of any kind; the most frequent reason cited was the prohibitive cost. The average drop in the score of the InLow[®] 60-second screening tool was 6.1, with a range in difference

from 1 to 9 points. The greatest change in score was noted during the third to fifth monthly visits. The change in the latter half of the study demonstrates the significantly poor state of the participants' feet and the amount of work needed to return them to a more stable condition.

We did not initially anticipate engaging in formal medication reconciliation with the participants. However, the nurse, as a result of interacting with the participants, became aware that medications were not always being taken properly and provided teaching as needed. Most of the participants had medications dispensed in blister packs, several acknowledged not knowing why they were taking some of the medications, only a few participants required assistance with remembering to take them at the correct times. One suggestion that seemed to help was to set an alarm for medications that were to be taken at times other than mealtimes or bedtime.

The seniors in our population were living in subsidized housing and well below the poverty level. We suspected that the combination of poverty and diabetes might result in a higher than usual rate of depression. Half of participants were minimally moderately depressed according to the scores on the PHQ-9. When asked what their greatest source of concern was, it was not surprising that 100% of participants listed finances in the top three areas of concern. Similarly, all participants listed health as a major concern, and just under half (45%) identified isolation or being alone as a concern for them. Seven participants (35%) were concerned about their weight or how they looked. Six of the participants (30%) were being treated with antidepressants for minimal to mild depression.

The nurse provided resources to one participant who indicated readiness for smoking cessation, and they were offered the Ottawa model for smoking cessation. Of the other 19 participants, six (32%) were smokers and not interested in smoking cessation; ongoing conversations and offers of resources were provided to the clients throughout the term of the study and will continue as we continue to see the clients through outreach or at the health center for foot care.

Well over half (65%) of the participants felt that their health was fair or poor, while 35% rated their general health as very good or good. We included a list of co-morbid "impairments or health problems," which participants were asked to identify as being relevant to their health. These findings were dramatic as each participant had at least three co-morbidities, with one participant indicating nine relevant impairments or health problems. These results demonstrate the burden of chronic disease experienced by the participants.

Discussion

Reaching Out to Diabetic Soles was a project that stemmed from concerns identified during outreach to some of the more vulnerable populations in our community. We knew that many of the seniors living in subsidized housing were isolated, dealing with mental health issues as well as multiple co-morbidities, and living well below the poverty level. For

these reasons, we offered outreach foot care to this vulnerable population in their own homes once a month for 5 months. From a health promotion standpoint, we anticipated that in making regularly scheduled visits to provide a service such as foot care in their own home we could also get a more robust sense of these seniors' lives. What we found were people whose feet were in terrible shape, taking one to three 1-h visits to return their feet to satisfactory condition. We also found incredibly lonely and isolated people dealing with multiple mental and physical health issues, who rarely left their apartments and had very few social or formal supports.

Participants in this study are able to boast 100% prevalence rate of having at least one chronic condition, which differs from the national rate of 67.5% of people living in the community.¹⁴ Over half (55%) of the sample was living with some degree of impairment due to their health for five or more years. When we specifically asked about health impacting the ability to continue to complete activities of daily living, the findings for personal care and household chores were opposite. We asked about limitations in activities, which was somewhat broad and included both physical and social activities: between 65% and 85% expressed some degree of limitation. The majority of our participants were isolated in some way, either because of mobility issues or mental health issues, regardless they were not interacting with others, which could account for the levels of minimal to mild depression and isolation identified.

The 2018 Diabetes Best Practice Guidelines suggest that basic standard of care for people with diabetes should include a HbA1C every 3 months.³⁰ Many of the participants said that their physician had not ordered it. Sibbald et al.¹⁷ noted that in Type II diabetes each 1% drop in the HbA1C is associated with a 37% decrease in the severity of complications related to diabetes. Very few of the participants had availed themselves of the Diabetic Education Clinic (DEC), which is free to anyone with a valid Medicare card. Reasons for not attending the DEC were lack of communication between their physicians about the services, lack of knowledge about the ability to self-refer, or lack of resources for transportation.

According to the diabetic standards of care, clients should have their first foot assessment upon diagnosis and then at least annually unless otherwise indicated.¹⁵ Fortington et al.¹⁹ explained that health promotion and prevention are critical to maintaining health in the person living with diabetes. Elements critical to well-being of people living with diabetes include feet inspected and assessed regularly, appropriate foot wear, and treatment of foot ulcers by a specialized diabetic foot team. In the long-term care population, this may mean shifting the responsibility to achieve these goals from the patient to the healthcare providers;¹⁹ in our study, it was achieved by the specialized nurse who offered foot care as an outreach opportunity. Foot problems are easy to prevent and expensive to treat; therefore, foot care must be an integral component of regular care to be an effective and preventive mechanism of care.¹⁹

Being low-income impacted the ability to access diabetes-friendly food on a consistent basis. Food insecurity is an important social determinant of health to be alert to when working with low-income adults and is strongly associated with diabetes.^{30,31} Without access to nutritious good-quality food, it is more difficult to maintain control over diabetes.³⁰ When seniors were faced with purchasing multiple medications and supplies for their health, decisions about how to allocate their limited income influenced decisions at the grocery store.

Outreach foot care is a tool we used to engage with seniors enabling nurses and other healthcare professionals to be present with the patient in the safety of their homes. Outreach foot care allowed the nurse to assess the situation and begin to influence positive change in both perceived health and health status. We anticipated that spending time with the participants discussing diabetes and other health-related topics would encourage engagement in self-management. Because these patients are isolated, whether virtually or physically, access to healthcare is limited, an important reason why encouraging self-management is so vital.⁴ Grady and Gough¹⁶ noted that people with family connections were more likely to adhere to self-management plans resulting in better control of their health conditions. The participants of this study had very few family members to rely upon, yet another reason for their isolation and the urgency of maintaining a connection with them through outreach.

Providing people with the tools and resources to be able to engage in self-management of diabetes should be a multi-disciplinary and integral part of their healthcare plan and not an additive activity offered inconsistently. Hill⁴ noted that most people with diabetes spend as few as 3 h with a healthcare provider during the year, “the other 8757 hours they have to manage the condition themselves!” (p. 550). The loss of ability to engage in self-management may happen slowly, and people may not recognize the decline in health until a crisis occurs. The significant rate of co-morbidities and mental health issues in this senior population puts them at increased risk for potentially limb- and life-threatening complications. There are multiple opportunities for nurses and social workers, occupational health, rehabilitation, and recreational therapists to engage with seniors in a way that improves their health outcomes. A recent pilot project providing free foot care to individuals with need demonstrated that having access to free foot care resulted in a reduction in lower-limb amputations by half.³² However, when the funding for the pilot project ended, they could no longer offer foot care for free.

Depression, frequently called the invisible disease, is an important diagnosis to consider in the vulnerable senior population. While most adults are not diagnosed with major depressive disorder, they do experience sub-clinical depression in higher rates than those formally diagnosed. Women are especially burdened by depression with rates as high as 70% when linked to chronic physical illness.¹²

Of the participants in this study, 85% had some indication of mild depression; a finding that is significantly higher than the

33% of Canadians who experience mental health issues in their lifetime.³³ It is well known that people with chronic physical illnesses who are also depressed are more likely to cost the healthcare system more.¹² In fact, people with undiagnosed or sub-clinical depression used more healthcare services than those who are formally diagnosed. Multiple chronic co-morbidities and depression can further complicate management and ability to take care of oneself.¹⁴ Of the participants in this study, it is significant to note that as a direct result of the monthly visits and encouragement by the nurse for the seniors to discuss health problems, 50% of the participants are now leaving their apartments and venturing to the health center for foot care and 30% of those are now seeing a social worker to help address various mental and social health issues. The findings of our pilot study research highlight the importance of encouraging healthcare providers to access and assess vulnerable seniors for depression in order to receive the needed services and avoid future costly healthcare interventions associated with not managing co-morbid chronic illnesses.

Limitations

Limitations of this pilot study include small sample size and tools that were not sensitive to the needs of the participants. The pilot study was reliant upon the limited availability of the RN, which was one reason for enrolling only 20 participants. The small sample provided insight into the needs of the seniors but was not large enough to achieve statistical significance. The RN identified a number of challenges when using the InLow© as a screening tool, indicating that greater opportunity for diagramming the condition of the feet being assessed would have been useful. Some of the scoring items were not as sensitive as other tools, for example, question number eight uses a monofilament to detect sensation and loss of sensation and uses a 0, 2, 4—scale. The RN felt that using a 0, 1, 2, 3, 4—scale could be more sensitive. As with the InLow© tool, many of the tools were felt to be cumbersome when used with vulnerable seniors and did not capture the precariousness of low-income seniors’ lives.

Conclusion

The greatest benefit to a populations’ health is addressing the social determinants of health. Simple things like increasing the basic living wage, ensuring some degree of food security and stable and appropriate housing, and increasing services that support seniors to remain safely in their homes can have a positive impact on the health and lives of people. According to a recent observational longitudinal study, an increase in provincial spending on social services by one cent on the dollar can increase health outcomes well beyond the staggering amount of money presently being thrown at the healthcare system with minimal positive effect.³⁴ Shifting spending away from healthcare and onto social services means being able to increase the minimum basic living wage, resources to support

greater food security, and financial coverage of basic things like foot care for the elderly, among other things.

Low-income high-risk seniors should have access to funded foot care. Providing access would decrease the cost to the healthcare system for avoidable hospital admissions and costly surgery and rehabilitation. Outreach programs provide the opportunity to continue to monitor and support this vulnerable population in supporting self-management at home. Nurses and other healthcare providers can initiate and support peer-led self-management education in settings such as subsidized low-income seniors' housing to foster ongoing ability of vulnerable seniors to safely stay at home.³ The government must step in to assume the cost of providing foot care and other vital services if they want to decrease the significant healthcare cost of diabetic lower-limb complications and amputations.

Decreasing barriers to care, especially foot care for diabetic seniors, by offering outreach to isolated and vulnerable people has helped 20 seniors in our community. We saw significant improvement in Inlow© scores, quality of life, diabetic knowledge, and willingness to attend appointments at the health center providing opportunity for increased socialization and access to additional health and social services. The Fredericton Downtown Community Health Centre (FDCHC) is committed to providing care to this population, which includes continuing to offer outreach and free foot care for as long as we are able. Outreach foot care as a tool of engagement has improved access and quality of health for a specific population living with inequitable access to the social determinants of health. Fostering relationships by forging strong partnerships with vulnerable seniors can support the bridge between seniors and the resources they need to self-manage and safely stay in their homes.

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Declaration of conflicting interests

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Ethical approval

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Informed consent

Written informed consent was obtained from all subjects before the study.

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