

Pioneering a new, yet old, way of providing healthcare: Footcare as an entry point to assess Quality of Life to seniors wanting to age in place.



Purpose

Does a mobile person-centered approach to services and foot care support safe aging-in-place and improved quality of life for isolated seniors? Research shows a direct correlation between seniors who report isolation in their home or community with decreased life expectancy, cognitive decline, and diminished quality of life (1-3).

Methods

This intervention study enrolled seniors 55 years and older living within the community in rural locations of Fredericton, NB, during the COVID-19 Pandemic between 2020-2022. The initial phase of the study offered in-home foot care to participants. The foot care component involved mobile multispectral images, an InLow Diabetic Foot Screen, and physical assessment. Registered nurses (RNs) made 6 follow-up visits; social workers (SWs) assessed the need for resources to support safe aging-in-place. Both RNs and SWs also completed validated tools to assess frailty, loneliness, social isolation, quality of life (QoL). Preliminary analyses of baseline and follow-up scores were compared using repeated sample t-tests.

Results

- Of the 366 seniors enrolled, 44% were diabetic and 53% were high or urgent risk feet at baseline
- The average age of the cohort was 75.6 years old (95% CI ± 0.89) and 59% were female
- Based on Canada's Market Basket Measure for Rural NB(4), 59% of participants are living below the poverty line
- Depression scores of the cohort significantly changed from mild depression at baseline to none/minimal over time using the Brief Patient Health Questionnaire, $t(229) = 2.1, p = .04$.
- The Geriatric Anxiety Inventory scores indicated an absence of clinically significant anxiety (5.06/20) at baseline. Significantly, there was a decrease in anxiety score with a mean difference = 1.36, $t(229) = 3.9, p = .0001$.
- The WHO QoL-100 score increased from baseline as well, though not statistically significant (72.50), mean difference = 3.61, $t(89) = 1.5, p = .14$.
- High risk participants were connected to supportive resources, and those with high-risk feet were referred to specialists

Conclusions

Seniors can be supported to stay in their homes safely with mobile, minimal, yet vital supports. Foot care is essential to support mobility and health in seniors, especially diabetics. Mobile technology can be used as an entry point and integrated to augment the holistic care of isolated seniors.



Case Images



Figure 1. Image of Participant Foot Callus - June 2021



Figure 2. Image of Participant Foot Wound - September 2022

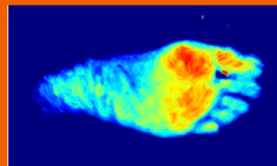


Figure 3. Tissue oximetry image of participant feet using MIMOSA - September 2022

Case Highlight

"Bob" is 80 years old. He is retired from the military and teaching. He lives with his wife and wife's granddaughter who is 25-years-old and, due to a cognitive disability, will continue to reside with them full-time. His wife is a Licensed Practical Nurse (LPN), who retired professionally when she adopted her granddaughter at 3 weeks old.

Bob lives in a rural community and depends on his wife to drive him due to his driver's license being revoked after a stroke in 2020. Bob's family physician and the closest hospital are an hour away by car. The rural community health center does not staff a full-time physician, a trained foot care nurse, or have diagnostic imaging testing equipment.

Bob has been living with Type 2 diabetes for over 20 years. He is followed by a Certified Diabetes Education (CDE) Nurse. Due to COVID-19 all Bob's appointments with the CDE Nurse have been by telephone. According to Bob, no health care provider has ever looked at his feet nor talked about foot care until he was already having his current foot wound complications. Bob said "I've had calluses on my feet since I was a boy. It was a show of hard work, something to be proud of. Never thought anything of them".

In June 2021, Bob's wife noticed his callous was soft and "oozing" (Figure 1). They immediately sought medical help. They were passed around from doctor to doctor for various reasons over the following 4-5 months, given prescriptions involving many different rounds of antibiotics, and ordered to soak feet daily with Epsom salts, and use lotion daily. From their recountment, some doctors didn't look at his feet while others took weeks to get an appointment with. They were not worried because they trusted what the health care professionals told them, it was "just a callus".

In early October, during a virtual appointment with their CDE they mentioned this callus that had developed black spots and a "hole". The CDE was worried and told them to seek treatment immediately. At this point, they felt frustrated and unheard in their previous experiences with the callus so did not seek emergency care.

Through word-of-mouth, they heard about this pilot project and were enrolled in October 2021. Through our project, a certified foot care nurse assessed his feet in his home (Figure 2). The nurse aided him to get a referral to the vascular surgeon. Throughout the visits from the foot care nurse Bob, started developing other wounds at various areas, but due to timely treatment, education, and the consistent follow up with the foot care nurse, which included oximetry imaging (Figure 3) these other areas did not develop into wounds. At the end of their time with our project, it was unknown if he would lose the toe and/or foot to amputation due to slow healing time and the delayed treatment from onset, however he continued to be seen by the vascular specialist every 3-4 weeks and had in-home dressing changes by nurses multiple times per week.

At the end of the project Bob noted that he "enjoyed every minute of the project". They expressed the importance that the nurse and social worker visited him at home, which addressed some specific barriers to his care. He was appreciative of the compassionate work undertaken by the team and felt his foot health had improved. His wife noted feeling relief with the community support they were connected to and new found ability to self manage her own health care. Bob and his wife now feel empowered to advocate for their own health needs because of the education, support, and resources provided to them through this project. Bob and his wife are now able to safely age in place.

Bibliography

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