



FEET: First Nations Empowerment Through Enabling Technology: An Indigenous-led Health Pilot For Diabetic Foot Ulcer Prevention

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Abstract: Diabetes is a significant health challenge for Indigenous populations in Canada. Diabetic foot ulcers are common. Siksika Nation, a First Nation in Alberta, Canada provides health care to nearly 8,000 members through Siksika Health Services (SHS). This presentation highlights a 24-week pilot focusing on the prevention and early detection of diabetic foot ulcers and on promoting foot health for Siksika Nation members.

Key words: *diabetic foot ulcer, Indigenous populations, prevention, detection, foot health.*

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Diabetes poses a significant health challenge for Indigenous populations in Canada. Among on-reserve Indigenous communities, the prevalence of diabetes is 17.2%.¹ Diabetic foot ulcers (DFUs) are a common and costly complication of type 2 diabetes (T2D), often leading to amputation and mortality; however, the majority are preventable with proactive care.

Siksika Nation, an advanced and progressive First Nation in Alberta, Canada, is committed to providing quality health care to nearly 8,000 members through Siksika Health Services (SHS). Cheryl Sorensen, RN, Siksika Health Services' Home Care Team Leader, and Kristen Smith, Home Care Nurse, noticed an alarming increase in DFU cases among Siksika Nation members. Recognizing the long-term health implications, Sorensen collaborated with Orpyx Medical Technologies Inc. to launch an Indigenous-led digital health pilot funded by PATHWAYS Indigenous Health Collaboration.

Guided by CEO Dr. Tyler White, Siksika Health Services conducted a 24-week pilot focusing on the prevention and early detection of DFUs and on promoting foot health within the Nation. Thirty-five Siksika Nation members diagnosed with T2D participated, receiving remote physiological monitoring (RPM) using Orpyx SI® Sensory Insoles. These insoles, equipped with sensors measuring plantar pressure, patient adherence, step count and temperature, enabled real-time pressure offloading; a vital strategy in preventing foot complications. Orpyx's dedicated RPM team, comprising of credentialed nurses, utilized predictive analytics and a whole-person approach to deliver culturally sensitive personalized care with clinical escalation when needed. During the pilot, only one participant with a history of recurrent DFUs experienced a low-grade wound, which was promptly escalated to the Zivot Limb Preservation Centre (ZLPC) in Calgary, now actively engaged with Siksika Health's Home Care team.

A critical aspect of the pilot's success was the culturally sensitive approach taken throughout its development. Collaborating with Nation members was paramount in designing an effective program tailored to the community's specific needs. Social

events played a pivotal role in fostering a sense of community and strong support networks among participants and staff. Consistent support and continuity of care were essential in gaining acceptance and nurturing strong relationships.

The health pilot at Siksika Nation highlights the significance of culturally sensitive digital health interventions in managing and preventing DFUs among Indigenous populations. Participants expressed high satisfaction with the coaching provided by the RPM nurses and enjoyed being part of the pilot. Wear time consistently increased after community gatherings, generating significant interest through positive word-of-mouth. The success of the health pilot resulted in a waitlist at SHS, showcasing strong community interest. Phase two is currently ongoing in Siksika Nation and the Orpyx team is actively working to implement Indigenous-led health pilots in other Indigenous communities throughout Canada. ■

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Kristen Smith LPN is with Siksika Home Care.

Justine Jones MBA is Senior Vice-President Commercialization, Orpyx Medical Technologies Inc.

Breanne Everett MD MBA is CEO and Co-Founder, Orpyx Medical Technologies Inc.

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