

Overview

- Giishkaandago'Ikwe Health Services (GHS) is an indigenous organization that provides services including home and community care to the Northwestern Ontario (NWO) region.¹
- The NWO region has the highest rates of lower-limb amputations among the indigenous population due to complications from diabetic ulcers (DU), compared to rest of Ontario. Poorly healing lower extremity wounds are a key risk factor.²
- The GHS has embraced an AI-driven digital wound care solution (DWCS) as part of its wound care model. This integration aims to support staff in capturing accurate and consistent wound evaluations, streamlined documentation accessible within the communities and enhanced communication and tracking of wounds' progress. Ultimately, these improvements, support better treatment decisions, accelerate healing time, which could reduce lower-limb amputation.







Proportion of Amputations FY 2019/20

Objective

 To evaluate the impact of a Digital Wound Care Solution (DWCS) on improving clinical wound care outcomes and operational efficiency in the GHS homecare setting, which serves remote Anishinaabeg communities.

Methodology

- **Study Design:** Retrospective benefits evaluation study
- **Date Collection:** De-identified wound assessment data from the DWCS database at GHS was analyzed to evaluate the impact of DWCS implementation, comparing Year 1 (Feb–Dec 2022) and Year 2 (Feb–Dec 2023).
- Sample: A total of 202 patients were included (73 in 2022 with 140 wounds, and 129 in 2023 with 240 wounds), with 3,103 wound evaluations conducted (1,323 in 2022; 1,871 in 2023).
- Clinical Outcomes Assessed
 - Median healing time (weeks): Time from first to last evaluation for wounds marked as healed (resolved).
 - Newly acquired wounds: Number of wounds that developed postadmission while in care.
- Operational Outcomes Assessed:
 - Visits per wound episode (VPWE): Ratio of total evaluations to wounds managed per period.

SWIFT[®] Impact of Digital Wound Care in Indigenous Communities: A Pilot Study at Giishkaandago'lkwe Health Services



Patients' Demographics

In both years, 41% of patients were male and 59% were female (Year 1: mean age 53.1 ±16.5 years; Year 2: 57.2 ±18.6 years). Diabetic ulcers accounted for the largest proportion of wounds (18.6% in Year 1, 17.1% in Year 2).

Reduction in Average Visits per Wound Episode



The average visits per wound episode decreased by one visit from 2022 to 2023. This reduction eases the burden on patients and providers, enhances efficiency, and reduces costs by up to **\$91,529** while maintaining care quality.

Reduction in Median Days to Heal a Wound



2022

2023

The significant decrease in the median days to heal a wound, represent a 20.3% improvement.

Reduction in in-house Acquired Wound Rate



2022

2023

Ryan Geng,¹ Heba Tallah Mohammed,² Deirdre Drombolis,³ Kaitlyn Ramsay,¹ Samiha Mohsen,¹ Samantha Bestavros,¹ Sheila Wang^{1,2,4} Robert D. J. Fraser, ^{1,5} ¹Temerty Faculty of Medicine, University of Toronto, ²Swift Medical, Toronto, ³Giishkaandago'Ikwe Health Services, ⁴ Women College Hospital, ⁵ Arthur Labatt Family School of Nursing, Western University

Results





A 2.9% reduction reflects a 17.4% enhanced prevention. This advancement is crucial to reducing prolonged treatment and litigation risks.



January 25, 2023

A 76 years old male, developed three foot wounds after a fall. With diabetes and cardiovascular disease, he was at high risk of losing his leg. • The first image to the left (January 25, 2023) shows the early stages of the wounds, which

- actively involved in his treatment.

- access and patient outcomes.

- loss rates in the communities we serve.

1.North West Health Line. (n.d.). Giishkaandago'lkwe Health Services (GHS). https://www.northwesthealthline.ca/displayService.aspx?id=142081 2.CorHealth Ontario. (2021). Ontario framework for lower-limb preservation.https://www.corhealthontario.ca/Ontario_Framework_for_Lower-Limb_Preservation-October-2021.pdf

Case study

February 10, 2023

March 6, 2023

April 24, 2023

were initially treated with wound dressings. Unfortunately, the patient's condition worsened after 1.5 months (second image- February 10, 2023), showing increased eschar and signs of infection signs, with increased necrosis and deeper tissue involvement.

• By March 2025, the third Image captured the critical state of the wounds. Real-time monitoring through the DWCS prompted an escalation and urgent intervention, where the patient was sent to the ER, received intravenous antibiotics, and was subsequently referred for vascular care, leading to angioplasty and toe tip amputation.

• With the continued home-based care, guided by DWCS tracking (fourth image), the patient' wounds healed within five months. The timely intervention allowed the patient to retain his leg and mobility. DWCS played a key role in facilitating early intervention, care coordination, and enhancing patient engagement, ensuring a recover at home while staying

Discussion

• Digital technology is changing the way healthcare is being delivered, improving efficiency,

 Giishkaandago'lkwe's implementation of digital wound care solutions (DWCS) has been effective in delivering culturally-appropriate wound care to Anishinaabe communities and has contributed to a decrease in lower-limb amputation rates.

• DWCS integration has improved care delivery reducing wound healing time, leading to faster recovery, enhancing timely assessments, ensuring early intervention and lowering financial costs, driven by a decrease in visits per episode (VPE).

• These advancements contribute to improving patient outcomes and reducing overall limb-

References

