

# Technology & Telemedicine Improve Access and Facilitates Preventative Care: A Case Example

## INTRODUCTION

People with diabetes, especially those with neuropathy and previous ulceration, face high risks of foot complications that often lead to hospitalization or amputation if not detected early. Limited access to regular podiatric care, geographic barriers, and clinician shortages further increases risk. Telemedicine and novel digital health devices offer feasible solutions to bridge these gaps by enabling continual home-based monitoring and timely medical engagement.

## ROLE OF TECHNOLOGY & TELEMEDICINE

Modern diabetic foot care leverages several emerging technologies:

**Remote Foot Temperature Monitoring:** The Podimetrics SmartMat™ measures plantar temperatures, identifying inflammatory “hot spots” before ulceration develops. When combining the data with clinical information obtained by nurses, the program alerts care teams to meaningful asymmetries, allowing action before visible breakdown occurs.

**Telehealth Platforms:** Secure video conferencing and smart device apps permit clinical follow-up, assessment of wounds or risk factors, and patient education without travel burdens.

Evidence shows that combining these tools with telemedicine reduces amputation rates and improves healing times compared to standard outpatient-only care.<sup>1</sup> Telemedicine is especially impactful for rural, mobility-limited, and medically complex populations.<sup>2</sup>

## CLINICAL EVIDENCE SUPPORTING ACCESS

**Meta-analyses and Randomized Trials:** Recent studies have demonstrated that remote temperature monitoring can reduce diabetic foot ulcer incidence and recurrence by up to 70% and provide a lead time of several weeks prior to ulceration, allowing for mobilization of offloading interventions and rapid follow-up.<sup>3,4</sup>

**Systematic Reviews:** Telehealth consultations for foot ulcer management are non-inferior to in-person visits for healing outcomes and show lower amputation rates for high-risk patients.<sup>5</sup>

**Health Disparities:** Digital innovations, when paired with telehealth, help mitigate geographic and socioeconomic barriers, allowing more equitable access to high-quality diabetic foot care.<sup>6</sup>

For more information on the SmartMat, visit [podimetrics.com](https://podimetrics.com)  
or contact us at [providers@podimetrics.com](mailto:providers@podimetrics.com).

# Case Example: Communication Leads to Access and Early Intervention

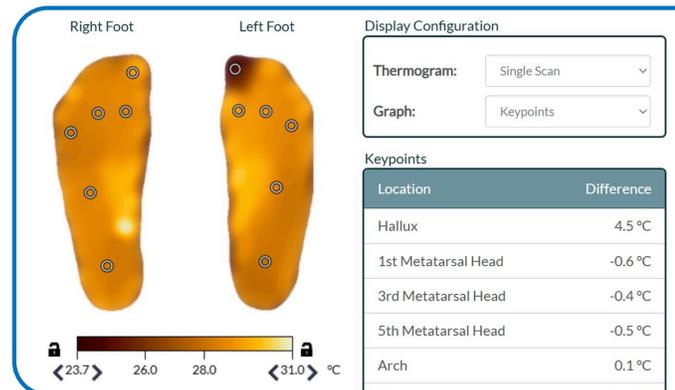
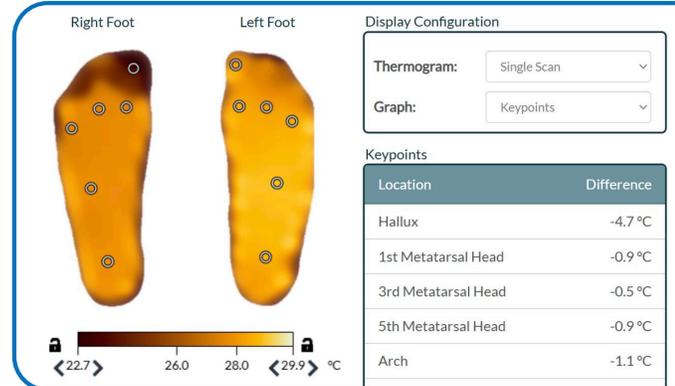
**Medical History:** Type 2 diabetes with neuropathy, hypertension, CAD and bilateral foot calluses.

**Average Adherence to the SmartMat Program:** 4.5 days/week

Temperature asymmetry was noted on two consecutive scans prompting a phone call. The patient reported a new “raw appearing and wet” wound that began after accidentally scraping between his toes with his fingernail. His provider was not aware and he had no scheduled upcoming appointment. An escalation was sent to the provider team.

At a subsequent phone call, the patient reported that based on the escalation, he had been seen via telehealth within a week. He was given wound care recommendations, discussed appropriate shoes, and noted the wound was improving.

- **Touchpoints between usual clinic visits for high-risk patients with diabetes are important to avoid potential clinical problems from becoming more significant.**
- **Access to providers for this patient population is important and as in this case, technology and telemedicine yielded proactive, successful preventative care.**



## DISCUSSION

Remote inflammation detection has proven to identify pre-ulcerative events weeks before clinical symptoms and allows timely triage, offloading, and patient-directed intervention.<sup>3,4</sup> Telemedicine not only facilitates rapid response but also expands the reach of specialty care to those most in need, attempting to reduce disparities and improving clinical outcomes.<sup>5,6</sup>

## CONCLUSION

Technology and telemedicine represent pivotal advances in diabetic foot care for high-risk patients. By combining remote monitoring with virtual clinical engagement, healthcare teams can identify risk early, initiate preventative interventions, and overcome barriers to access. Widespread adoption of these strategies can lead to substantial reductions in ulcer incidence, amputation rates, and healthcare resource utilization, making diabetic foot complication prevention more effective and equitable. This evidence-based model supports further research and broader implementation of integrated technology and telehealth approaches for diabetes foot complication prevention.

**References:** 1. Killeen A, Walters J. Remote temperature monitoring in diabetic foot ulcer detection. 2017. 2. Armstrong DG, Tan TW, Boulton AJM, Bus SA. Diabetic foot ulcers: a review. JAMA. 2023. 3. Frykberg RG, et al. Feasibility and efficacy of a SmartMat technology to predict development of diabetic plantar ulcers. Diabetes Care. 2017. 4. Rothenberg GM, et al. Remote temperature monitoring of the diabetic foot: From research to practice. Fed Pract. 2020 Mar;37(3):114-124. 5. Hazenberg CEVB, et al. Telehealth and telemedicine applications for the diabetic foot: A systematic review. Diabetes Metab Res Rev. 2020 Mar;36(3):e3247. 6. Ebekozien O, et al. Technology and health inequities in diabetes care: how do we widen access to underserved populations and utilize technology to improve outcomes for all? Diabetes Obes Metab. 2024;26(Suppl 1):3-13.