Closing the Loop: A Responsible Artificial Intelligence Solution for Evidence-Based Wound Care Decision Support

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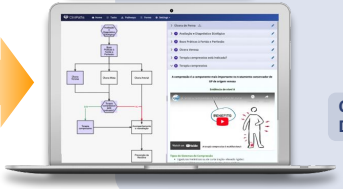
INTRODUCTION

Clinicians encounter an average of 11 clinical questions daily, most of which remain unanswered[1].

While artificial intelligence (AI) holds promise[2], unconstrained generative AI for diagnoses or treatment plans presents significant risks of patient harm and malpractice liability. In typical clinical decision-making, AI achieves an accuracy of only ~52%, frequently failing to identify life-threatening conditions[3].

To mitigate these risks and provide reliable, evidence-based answers in wound care, we aimed to develop a responsible, AI-powered, point-of-care clinical intelligence solution leveraging a Portuguese wound care society's digital clinical pathways.



METHOD

Using Design Thinking[4], the solution was developed as a module within a decision support platform.

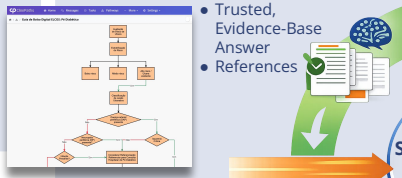
The wound care society digitized their printed pocket guides into a multi-media library..

One year later, an evaluation revealed that while 86% of members found the pathways helpful, access was cumbersome[5].

To solve these navigation issues, a proprietary closed-loop AI model was utilized to retrieve, aggregate, and generate answers strictly from the Society's interactive digital pathway library.
User feedback optimized the interface across multiple iterations.

RESULTS

The resulting mobile-responsive module successfully leveraged AI-powered search and generative answers that are vetted, evidence-based, and reliable.



- Members can instantly find trusted answers, linked back to the peer-reviewed pathways.
- The platform can optionally collect de-identified pathway data to generate insights on cost-effective interventions for specific patient populations.

CONCLUSIONS

A responsible AI-powered clinical intelligence solution for wound care was successfully developed, with the potential to significantly enhance point-of-care decision-making for the society's members. Generative AI should supplement - not replace - human judgment, requiring responsible use and robust oversight

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