

Enhancing Home Health Wound Care: An in-Depth Study of the impact of Utilizing Digital Wound Imaging and Measurement Technology on the Timelines and Volume of Home Wound Care Evaluations (2021-2023)

Heba Tallah Mohammed,¹ Lucas Goldstone, Amy Cassata,¹ Rob Fraser,^{1,2}
¹ Swift Medical, Toronto,² Arthur Labatt Family School of Nursing, Western University



Overview

- With the persistent rise in chronic wounds in the US,¹ Home health agencies (HHAs) direct a significant portion of their resources toward wound care to alleviate its burden on patients and society.²
- Evidence shows that a digital wound care solution (DWCS) supports practice improvement, visits efficiency,² and enhances organizations' clinical capacity.³

Innovative Wound Care Program

- Many HHAs across the US partnered with Swift Medical, an AI-powered DWCS to enable an innovative model of wound care practice where artificial intelligence (AI) enables standardized wound assessment.
- Swift Medical allows frontline clinicians to easily capture high precision, clinically-calibrated wound images, accurately measure wounds, track healing, and share this data to augment clinical decision making and identifies at-risk patients.
- DWCS provides a model for practice improvement optimizing management plans and care delivery.

Objective

Leveraging Swift's large, clinically calibrated wound database, this quality improvement study aimed to understand the efficiency of completing a wound care evaluation among a group of home health agencies (HHAs) that implemented the solution from 2021-2023.

- This study compared the average time taken to complete a wound care evaluation across a cohort of 29 HHAs that integrated DWCS into their advanced wound care programs from 2021 to 2023 (N=569,494).
- The study also tracked the change in the proportion of evaluations completed within 60 minutes and 24 hours from the same cohort for the same time period.

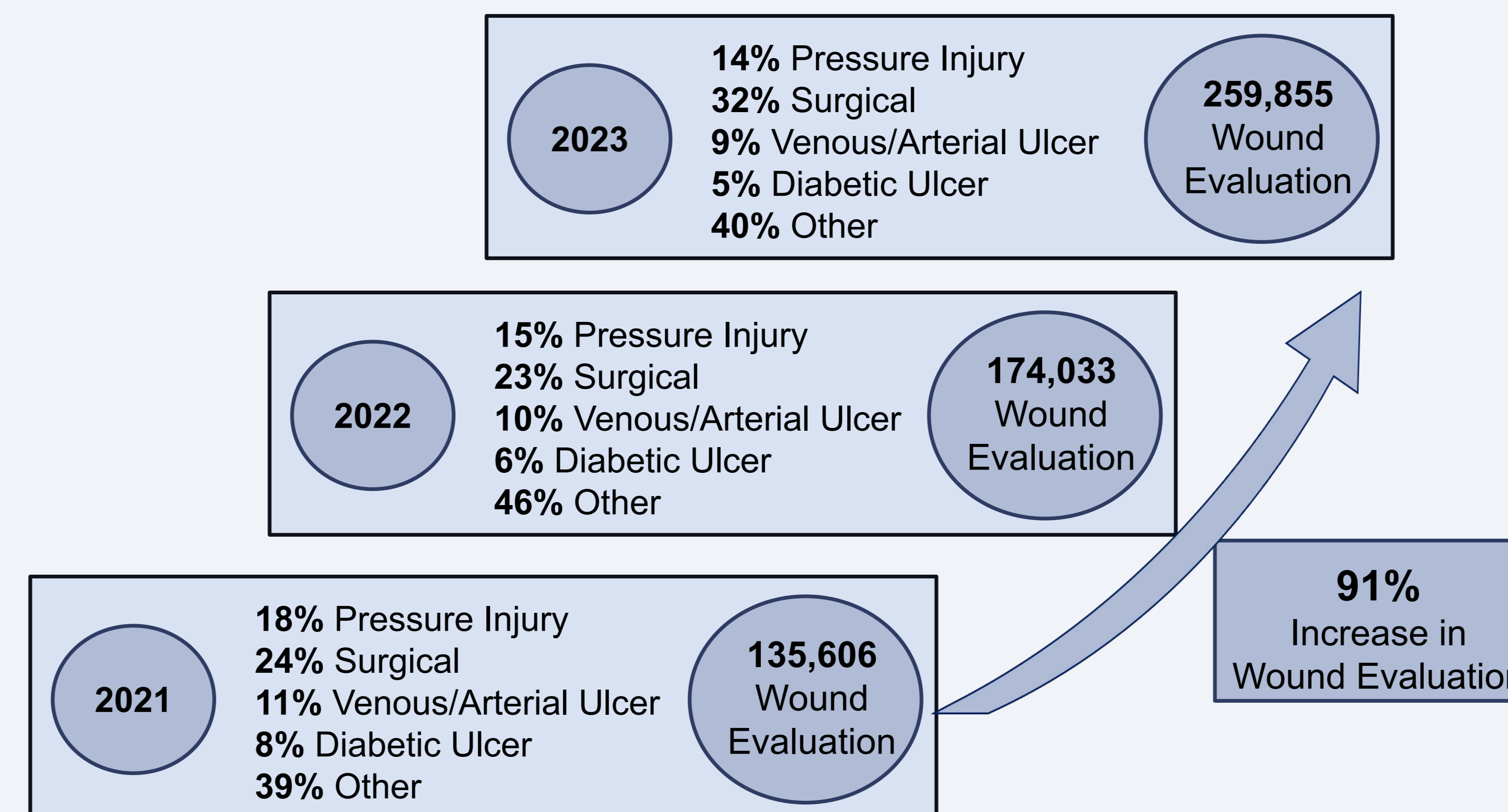
Methodology



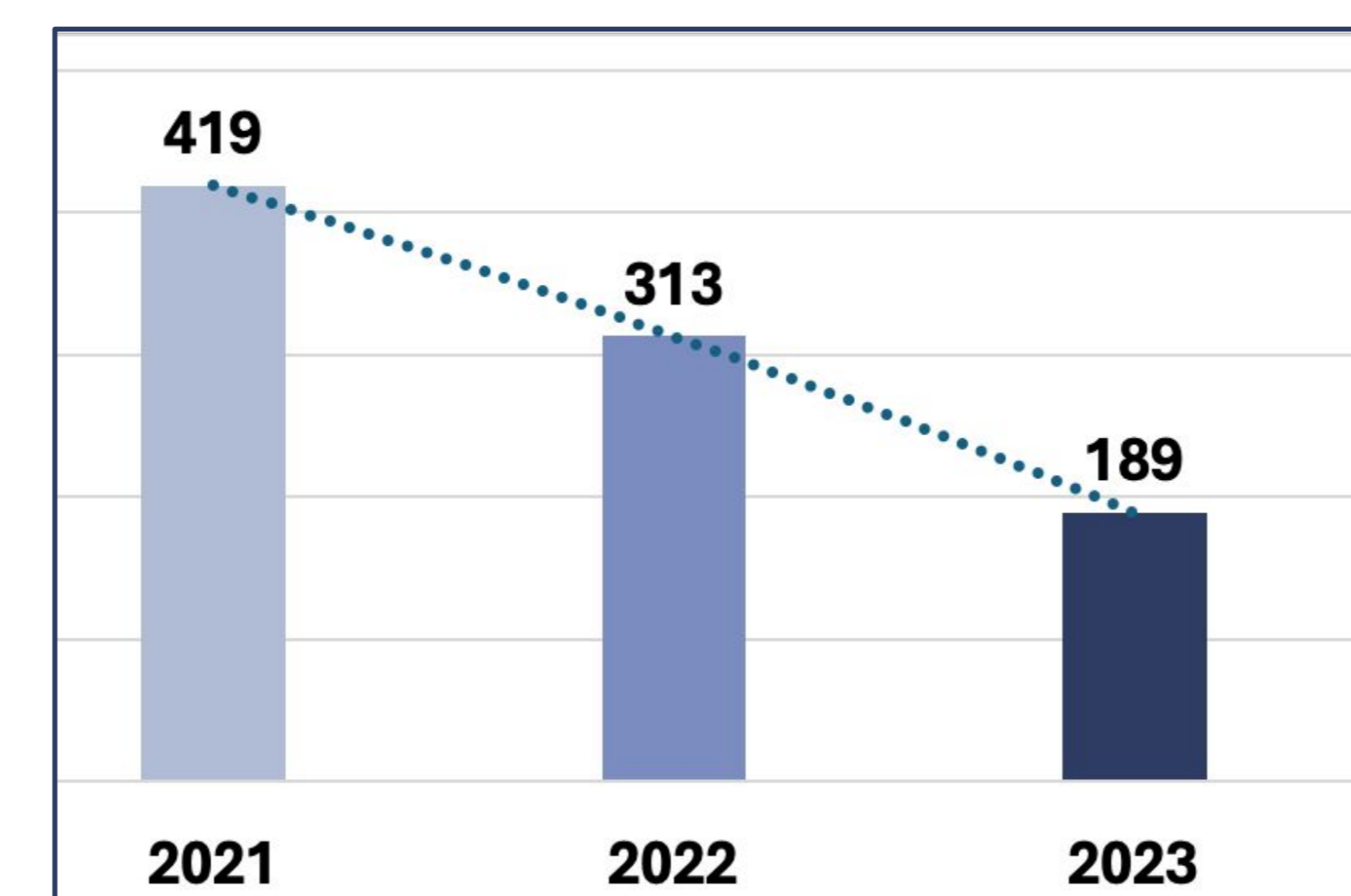
- A retrospective study used a subset of anonymous clinical data from a Swift Medical care technology provider's database.
- This descriptive study employed cross-sectional sampling to analyze 142,444 wound episode data assessed using the digital solution at 29 organizations in the US from 2021-2023.
- The time taken to complete an evaluation was estimated based on the duration between the initial assessment sign in of the wound and the final completion and lock of the evaluation as complete.
- Additionally, the time it took to complete an assessment was stratified by 60 minutes and 24 hours.
- ANOVA test was used to examine the mean difference in average time to complete an evaluation with the significance of the statistical test was accepted at the p-value <0.05. Bonferroni adjustment was applied to 2021-2023 data; the significance of the test was accepted at the p-value =0.016.

Results

Distribution of Wounds Across HHAs (2021-2023)

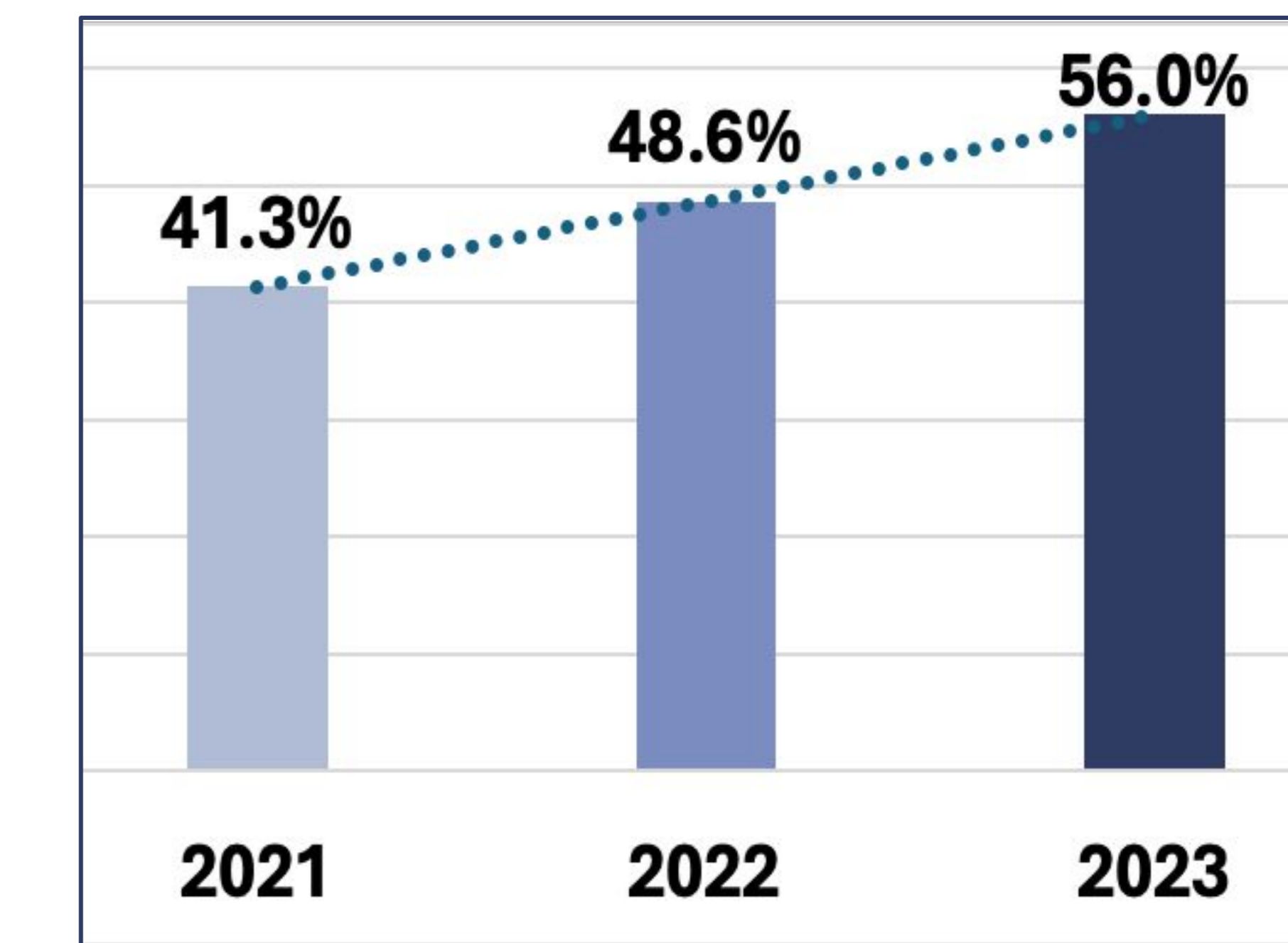


Average Time to Complete Wound Evaluation (In hours) +100,000 Wounds in HHAs



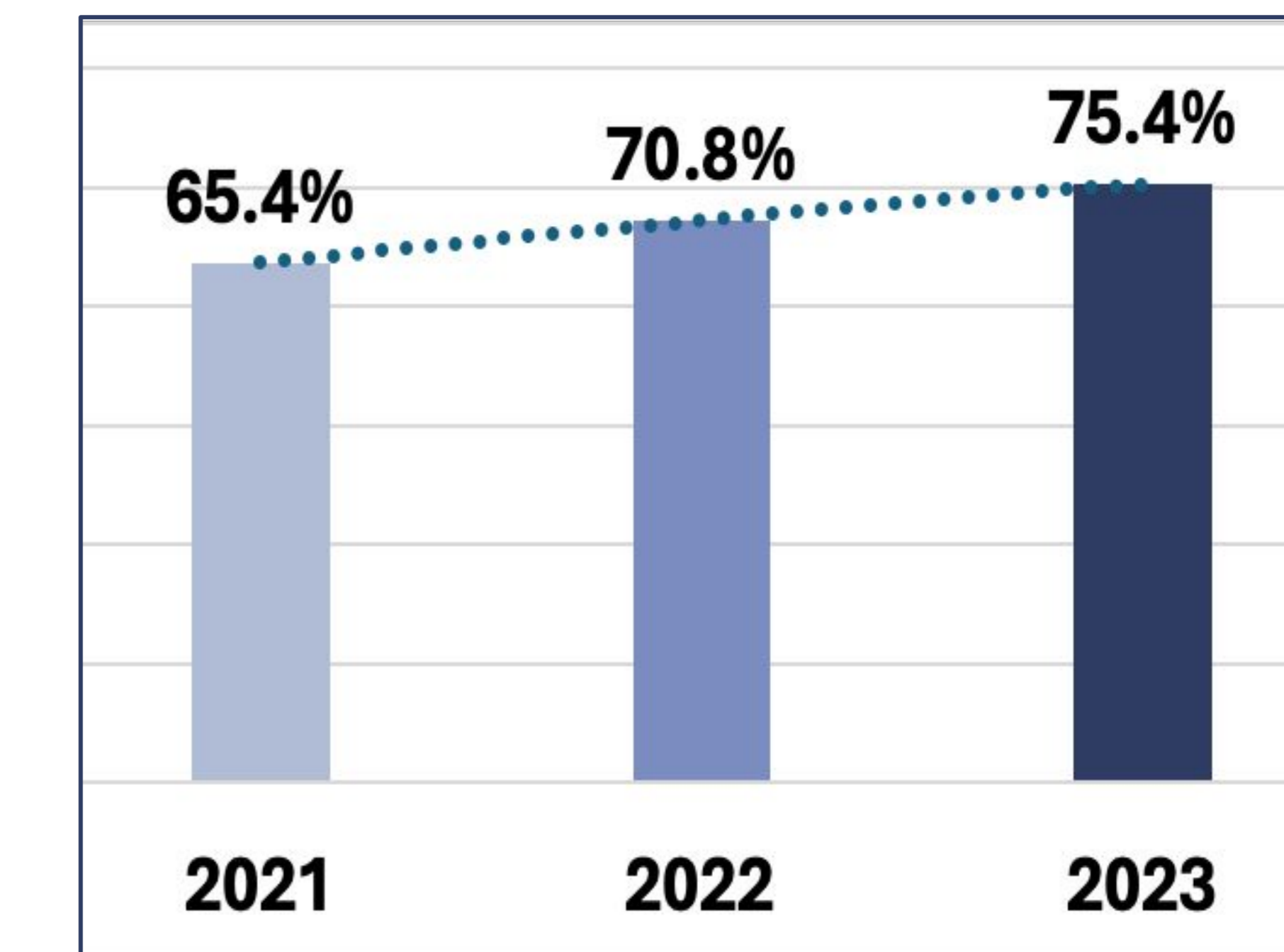
- In total, 230 fewer hours were spent on wound evaluations with the continuous use of the solution from 2021-2023..
- This significant ($P<0.001$) reduction represents a **55% improvement** in the time taken to complete a wound evaluation from the initial assessment until marking it complete.

Proportion of Evaluations Completed within 60 Minutes and 24 Hours (2021-2022)



- From 2021-2023, HHAs increased the number of wound care evaluations, including assessments and reviews, completed within 60 minutes by 14.7%.
- This enhancement in the number of completed evaluations signifies a 36% improvement in timeliness and clinical efficiency, even with the notable increase in the number of wound care assessments they performed.

Evaluations completed in 60 minutes



- From 2021-2023, the number of evaluations completed within 24 hours increased by 10%, signifying a 15% improvement in the timeliness of evaluation completion.
- This increase in efficiency lays the groundwork for an effective care plan, especially when paired with adherence to best practices and care standards, such as capturing wound images using the AI tool for every wound assessment, which can aid in monitoring the progress of the wounds.

Evaluations completed in 24 hours

Discussion

- Over time, home health agencies (HHAs) that implemented DWCS demonstrated enhanced clinical efficiency. They were able to expedite wound evaluations and in some workflows, improve the time taken for quality assurance reviews. Moreover, HHAs increased the number of wound care assessments they conducted.
- The substantial reduction in time to complete a wound assessment was consistently observed from 2021 to 2023 ($P<0.001$), indicating the enduring effectiveness of adopting DWCS in enhancing efficiency.
- A comprehensive assessment serves as the cornerstone for developing an individualized care plan.⁴ The plan of care reflects the assessment findings from the comprehensive patient and wound assessments.⁵ Improved efficiency significantly contributes to the development of effective care plans, potentially reducing complications and hospitalizations.⁶ Therefore, enhancing clinical efficiency could be a key driver in improving patient care.

Adopting an AI-powered wound care management solution optimizes clinical efficiency.

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