

## Delivery of Patient-Directed Wound Care Via Mobile Application-Based Qualitative Analysis

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**Abstract :** Delivery of Patient-Directed Wound Care Via Mobile Application-Based Qualitative Analysis Chronic wounds are difficult for patients to manage at-home due to their unpredictable healing process. These wounds are associated with increased morbidity and negatively affect physical and mental health. The solution is a mobile application that will have an algorithm-based checklist to determine the state of the wound based on different factors that vary from person to person. Once this information is gathered, the application will recommend a plan of care to the user and subsequent steps to be taken. The mobile application will allow users to perform a digital scan of the wound to extract quantitative information regarding wound width, length, and depth, which will then be uploaded to the EHR to notify the patient's provider. This scan utilizes a photo taken by the user, who is prompted appropriately. Furthermore, users will enter demographic information and answer multiple choice and drop-down menus describing the wound state. The proposed solution can save patients from unnecessary trips to the hospital for chronic wound care. The next iteration of the application can incorporate AI to allow users to perform a digital scan of the wound to extract quantitative information regarding wound width, length, and depth, which can be shared with the patient's provider to allow for more efficient treatment. Ultimately, this product can provide immediate and economical medical advice for patients that suffer from chronic wounds. **Research Objectives:** The application should be capable of qualitative analysis of a wound and recommend a plan of care to the user. Additionally, the results of the wound analysis should automatically upload to the patient's EMR. **Research Methodologies:** The app has two components: the first is a checklist with tabs for varying factors that assists users in the assessment of their skin. Subsequently, the algorithm will create an at-home regimen for patients to follow to manage their wounds. **Research Contributions:** The app aims to return autonomy back to the patient and reduce the number of visits to a physician for chronic wound care. The app also serves to educate the patient on how best to care for their wounds.

**Keywords :** wound, app, qualitative, analysis, home, chronic

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