

**110 Does Discharge to a Post-acute Facility Predispose Burn Patients to a Deterioration of Their Wounds?**

Suzanne C. Osborn, BSN, RN, David Addison,  
Claudia Islas, BSE, Karen Richey, BSN, RN,  
Kevin N. Foster, MD, MBA, FACS

*Arizona Burn Center, Phoenix, Arizona; Arizona Burn Center Valleywise Health, Phoenix, Arizona; Arizona Burn Center Valleywise Health, Phoenix, Arizona; Arizona Burn Center Valleywise Health, Phoenix, Arizona; The Arizona Burn Center Valleywise Health, Phoenix, Arizona*

**Introduction:** The care of burn injuries requiring hospitalization is complex and highly specialized. In-hospital treatment results in discharging patients with stabilized, but unhealed wounds with the need for ongoing care. The expectation is that wounds continue to heal without complication. For patient who are unable to be discharged home, disposition is frequently dictated by finance and payor source. Post-acute facilities such as Skilled Nursing facilities (SNF), Acute Rehabilitation Centers (ARC) and Long-term Acute Care facilities (LTAC) are utilized. The purpose of this study was to evaluate the wound healing in patients being sent to SNF and ARC.

**Methods:** A retrospective chart review of patients discharged to a SNF or ARC over a one-year period was performed. Photographic review was done comparing photos from the first clinic visit to those from hospital discharge. Wounds were designated as "Improved" (IM) or "Worsened/No Change" (W/NC) by a single burn surgeon.

**Results:** Of the 963 charts reviewed, 719 patients suffered burn injuries, and of these 127 were discharged to post-acute facilities, 54 were either discharged to a LTAC or did not have photos available for review at their first clinic visit. Thus 73 were evaluable. The majority, 51% (n=37) worsened or showed no change (W/NC) and 49% (n=36) improved (IM). All patients returned to clinic within the first 2 weeks of discharge. There were no significance differences for age, gender, BMI, comorbidities, substance abuse, living situation, ICU days, ventilator days, length of stay, number of surgeries, payor source or facility type (SNF vs ARC). Mean TBSA was greater in IM 13.99% vs W/NC 8.31% (p=0.018). There were no significant differences between groups for mechanism, although IM was more likely to have suffered a flame/flash injury (n=20) and W/NC contact burns (n=21). A total of 30 different facilities were utilized for discharge.

**Conclusions:** Despite having smaller burn injuries, the majority of patients worsened if discharged to a post-acute facility. No patient factors were identified that were associated with worsening/no change in wound status at the first clinic visit post discharge. Given the number of discharge facilities utilized, we were unable to analyze the relationship between specific facilities and outcomes. The magnitude of the problem warrants further investigation. A Quality Improvement project is being developed to further identify areas for intervention.

**111 Optimizing an Outpatient Mhealth Intervention for Dallas with Burns: A Mixed Methods Study**

Aaron Leshner, MD, Yulia Gavrilova, Ph.D.

*South Carolina Burn Center at MUSC, Charleston, South Carolina; Medical University of South Carolina, Charleston, South Carolina*

**Introduction:** Pediatric burn injury remains one of the most common traumatic injuries in childhood. Fortunately, up to 90% of pediatric burns may be treated safely in the outpatient setting after appropriate burn triage. Patients face significant geographic disparities in access to expert burn care due to the regionalization of burn care. To aid patients and their families during acute burn recovery, a smartphone app was developed to improve patient outcomes, increase access to care, and streamline communication. The purpose of this study is to evaluate patient-derived feedback to optimize this burn app prior to subsequent efficacy testing.

**Methods:** The burn app was evaluated using a mixed-method approach consisting of qualitative semi-structured interviews and quantitative usability data gathered from caregivers of pediatric burn patients who utilized the app during the treatment phase of their child's burn injury. Usability data were collected using a psychometrically validated mHealth App Usability Questionnaire (MAUQ). To analyze the interview transcriptions, we followed the Braun and Clark (2006) framework of thematic analysis. The research questions focused on caregiver perceptions of smartphone-enhanced pediatric burn care and potential app improvements, including acceptability, usability, technical preferences, and emotional perceptions.

**Results:** 14 caregivers (93% women; M age = 36) completed the study. Overall MAUQ scores (M = 6.46; SD = .62) indicated high app usability. Ease of Use & Satisfaction (M = 6.66; SD = .42), System Information Arrangement (M = 5.93; SD = 1.07), and Usefulness (M = 6.69; SD = .61) subscales indicated an average degree of agreement above "somewhat agree" with usability statements. Furthermore, 13/14 (93%) caregivers reported a positive overall experience and agreed that the app was an acceptable method to monitor burn care. 12/14 (86%) caregivers reported that the app captured important clinical information. 53% preferred app-based burn care, 31% preferred both face-to-face and app-based care, and 15% preferred in-person only. Only 1 person preferred synchronous video-based care to asynchronous text-messaging. All study participants suggested improvements, with the most common being: (1) keeping user logged in, (2) time-stamping photos and messages, (3) consolidating text-messages and pictures, (4) adding push notifications and appointment reminders, and (5) tracking pain level.

**Conclusions:** Mobile health technology may be leveraged to improve outpatient burn care. The results from this study (1) demonstrate caregiver experiences using a novel mHealth platform for outpatient pediatric burn care which showed high acceptability and usability and (2) provide systematic data for app optimization.