

Improving Outpatient Follow-Up Adherence in Pediatric Burn Patients After Emergency Department Discharge

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Introduction and Background

- Burns are a leading cause of accidental injury in children within the US (Johns Hopkins Medicine, 2020)
- In 2018, over 300,000 pediatric emergency department (ED) visits in the US were related to burns, with over 300 children being treated in EDs daily (CDC, 2019)
- Small burns may be associated with higher incidences of morbidity and complications than other injury types (Peck 2011; Seegan et al., 2020)
- Non-adherence to follow-up remains up to 40% after discharge from the ED (Biese et al., 2014; Gregor et al., 2009; Rencken et al., 2020)
- Overarching themes of tackling non-compliance in the literature: patient appointment reminders, assistance in scheduling patient appointments, and ensuring appropriate discharge instructions
- At the project site, in one year, 57% of patients who never received follow-up had incorrect or incomplete discharge instructions (Johns Hopkins Hospital, 2018)
- Utilizing standardized instructions has shown to be a cost-effective method to increase accuracy of provider documentation, increase quality of patient care, and decrease total charting time (Mehta et al., 2016)

Purpose

The purpose of this quality improvement project was to create and implement standardized discharge instructions for pediatric burn patients from the emergency department to determine if it would increase patient adherence rates to follow-up appointments within 14 days at the pediatric outpatient burn center.

Aims

- Increase the number of pediatric burn patients discharged with follow-up discharge instructions from the ED to follow-up at the Pediatric Outpatient Burn Clinic within 7 days
- Increase the number of patients who scheduled a follow-up appointment at the Outpatient Burn Clinic
- Increase the number of pediatric patients who attended follow-up at the clinic within 14 days of discharge
- Decrease the number of days between discharge from the ED and attended follow-up appointments

Methods

Design: Pre- post QI project
Setting: Regional pediatric burn center emergency department in an urban academic medical institution
Intervention: Standardized discharge instructions for pediatric burn patients
Implementation Period: 16 weeks
Data Collection: Retrospective chart review
Sample: Pediatric patients with partial thickness or second-degree burns discharged home from the ED
 Pre- intervention: N=49
 Post- intervention: N=38

Results

Table 1. Sample Patient Characteristics

	Total Sample (N= 87)	Pre-Intervention Sample (N=49)	Post- Intervention Sample (N=38)
Demographic characteristics			
Age years, mean (SD)	5.1 (4.9)	5.1 (4.8)	5.2 (5.1)
Sex, n (%)			
Male	55 (63.2)	32 (65.3)	23 (60.5)
Female	32 (36.8)	17 (34.7)	15 (39.5)
Race, n (%)			
Caucasian	27 (31)	14 (28.6)	13 (34.2)
African American	43 (49.4)	26 (53.1)	17 (44.7)
Hispanic	9 (10.3)	4 (8.2)	5 (13.2)
Asian	3 (3.4)	2 (4.1)	1 (2.6)
Other	5 (5.7)	3 (6.1)	2 (5.3)
TBSA of burn, % mean (SD)	1.4 (1.2)	1.5 (1.3)	1.31 (1.2)

Aim 1 Outcome:

- Chi Square Analysis ($\chi^2(1, N= 87) = 13.408, p<.001$)
- Number of patients who received the correct instructions increased from 32/49 patients (65.3%) to 37/38 patients (97.4%)

Aim 2 Outcome:

- Chi Square Analysis ($\chi^2(1, N= 87) = .478, p=.489$)
- 38/49 patients (77.6%) in pre-intervention group scheduled a follow-up appt
- 27/38 patients (71.1%) in post-intervention group scheduled a follow-up appt

Aim 3 Outcome:

- Chi Square Analysis ($\chi^2(1, N= 87) = .318, p=.573$)
- 35/49 patients (71.4%) in pre-intervention group attended a follow-up appt
- 25/38 patients (65.8%) in post-intervention group attended a follow-up appt

Aim 4 Outcome:

- Mann-Whitney U Test ($U= 446.500, p=.900$)
- 5.6 days on average in pre-intervention group
- 5.5 days on average in post-intervention group

Results (cont.)

Figure 1. Aims 1-4 Pre- and Post- Comparison

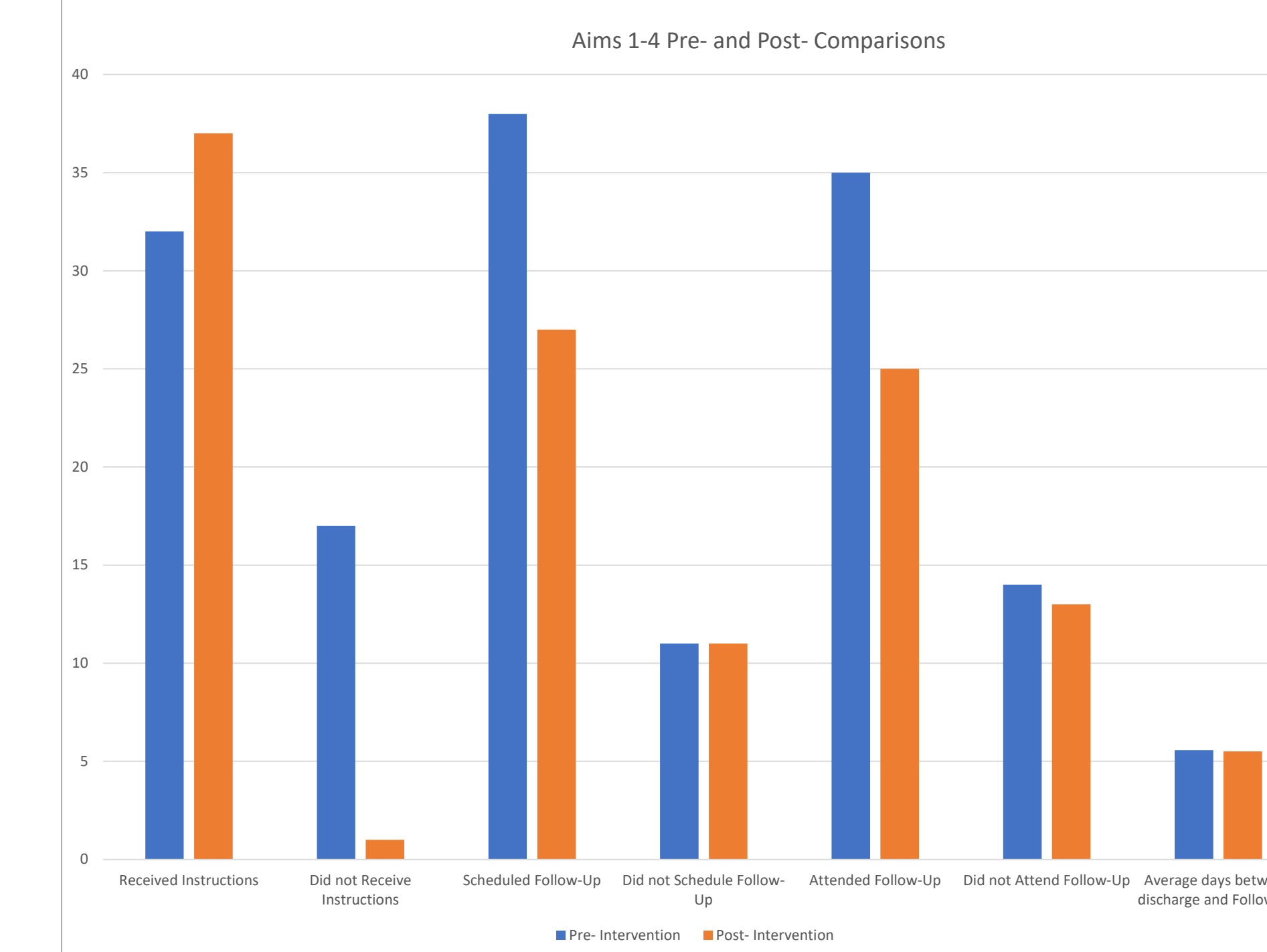
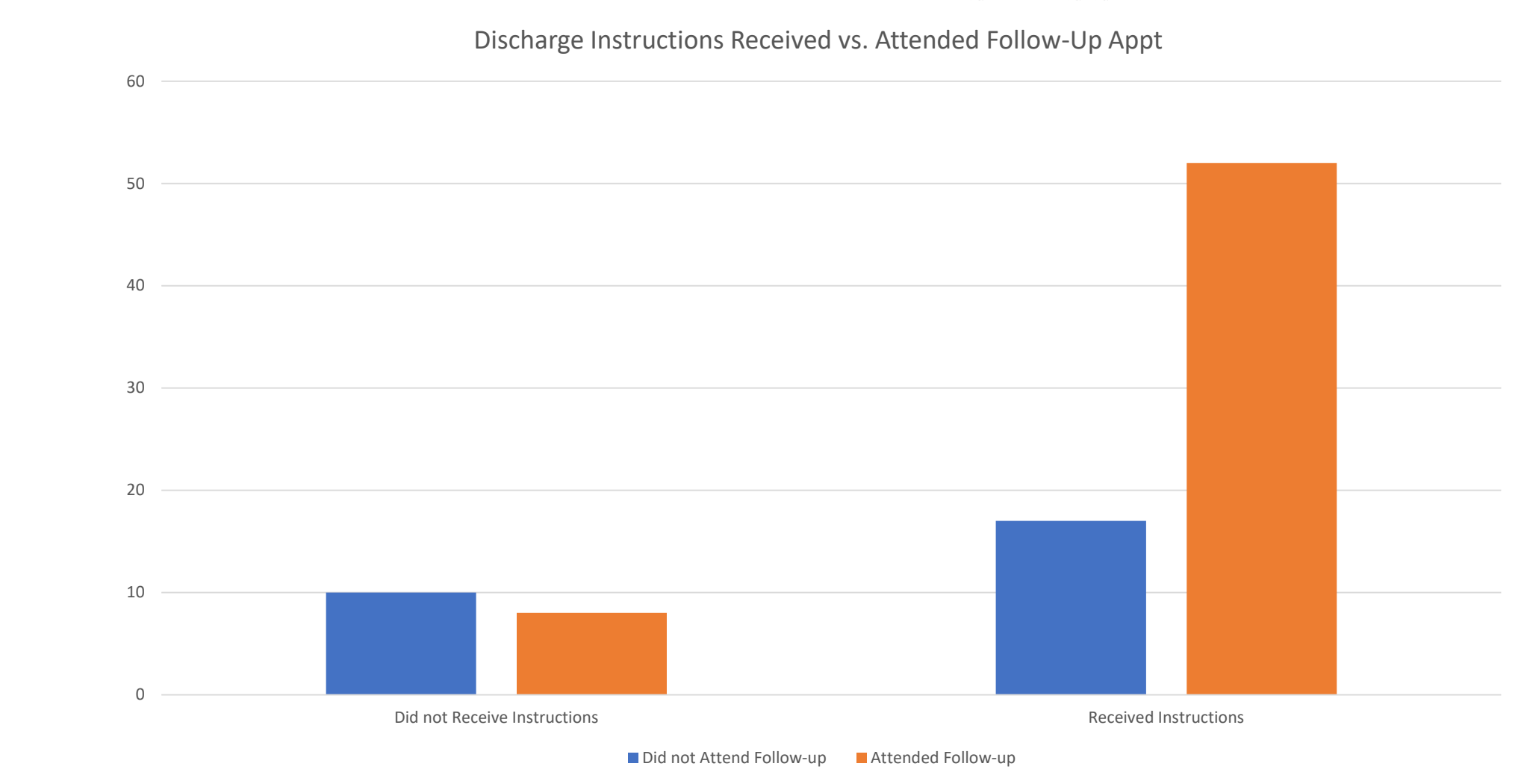


Figure 2. Discharge Instructions Received vs. Attended Follow-Up Appt



8 of 18 patients (44.4%) who did not receive instructions attended follow-up, while 52 of 69 patients (75.4%) who received correct instructions ($p= .012$)

Conclusion and Dissemination

- This QI project determined that standardizing instructions for pediatric burn injuries significantly increased the number of patients who received correct discharge instructions
- There was no statistical significance in appointments made or attended by pediatric burn patients, and no statistically significant difference in the number of days between discharge and attended appointment
- Significant relationship between individuals who received the correct discharge instructions and those who attended a follow-up appointment
- Results uncover the need for additional interventions by medical providers to help increase adherence to outpatient follow-up
- Future projects may consider utilizing a RN or other healthcare professional to conduct follow-up phone calls and assistance in appointment scheduling

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