STANDARDIZED HANDOFF FRAMEWORK IMPLEMENTATION AT A GENERAL SURGERY RESIDENCY

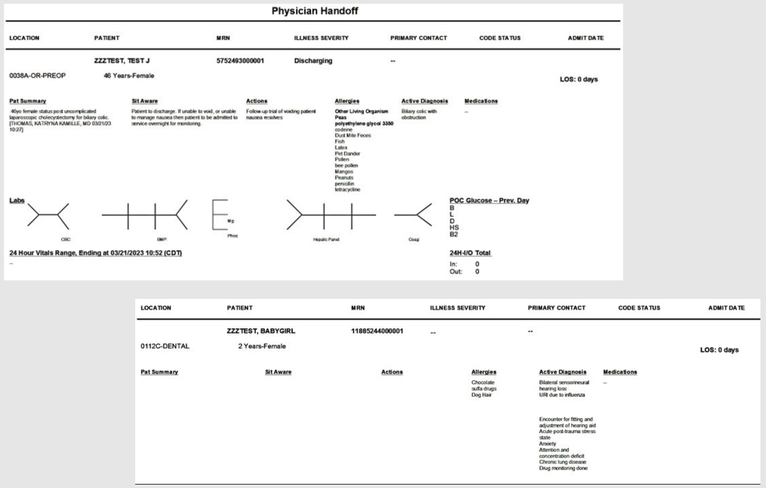
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INTRODUCTION

Handoff errors are linked with preventable harms and adverse events. The I-PASS system is a reliable, intuitive, and healthcare specific tool that incorporates all domains of an optimal handoff. In the Military Healthcare System (MHS) specifically, the implementation of a new electronic medical record (EMR) has created an opportunity to utilize a new EMR tool for facilitating handoffs using an I-PASS format. We sought to evaluate whether implementation of an EMR-based handoff tool would improve the quality of handoffs within our Surgery residency.

METHODS

This is a quasi-experimental design in which pre- and post-intervention groups were compared on their utilization of I-PASS and perceptions of the handoff system. Participants included PGY-1 surgery residents at our military institution. The intervention consisted of a didactic session about the I-PASS framework and its required elements and mandatory implementation of the new EMR-based handoff tool (Fig 1). Compliance with the I-PASS framework was assessed by observing verbal handoffs and scoring written sign-out tools. Verbal hand-offs for each patient were given one point for each of element within the I-PASS framework that was included in their patient report. Written sign-out tools were collected each night and scored based on their inclusion of all I-PASS elements. An anonymous survey was given to assess residents' opinion about the overall quality of handoffs. Handoff and survey scores were compared using nonparametric tests.



Physician Handoff

LOCATION	PATIENT	MRN	ILLNESS SEVERITY	PRIMARY CONTACT	CODE STATUS	ADMIT DATE
0038A-OR-PREOP	ZZZTEST, TEST J 46 Years-Female	5752493000001	Discharging	--		LOS: 0 days

Pat Summary	Sit Aware	Actions	Allergies	Active Diagnosis	Medications
46yo female status post uncomplicated laparoscopic cholecystectomy for biliary colic. [THOMAS, KATRYNA KAMILLE, MD 03/21/23 10:37]	Patient to discharge. If unable to void, or unable to manage nausea then patient to be admitted to service overnight for monitoring.	Follow-up trial of voiding patient nausea resolves	Other Living Organism Pass polyethylene glycol 3350 codeine Dust Mite Feces Eggs Fish Pet Dander Pollen tree pollen Mangos Peanuts penicillin tetracycline	Biliary colic with obstruction	--

Labs

CBC | BMP | Phos | Hepatic Panel | Coag

POC Glucose - Prev. Day
B
L
D
HS
B2

24 Hour Vitals Range, Ending at 03/21/2023 10:52 (CDT)
--

24H-I/O Total
In: 0
Out: 0

LOCATION	PATIENT	MRN	ILLNESS SEVERITY	PRIMARY CONTACT	CODE STATUS	ADMIT DATE
0112C-DENTAL	ZZZTEST, BABYGIRL 2 Years-Female	11885244000001	--	--		LOS: 0 days

Pat Summary	Sit Aware	Actions	Allergies	Active Diagnosis	Medications
			Chocolate sulfa drugs Dog Hair	Bilateral sensorineural hearing loss URI due to influenza Encounter for fitting and adjustment of hearing aid Acute post-traumatic stress state Anxiety Attention and concentration deficit Chronic lung disease Drug monitoring done	--

Figure 1. Examples of MHS Genesis I-PASS Compliant Rounding List

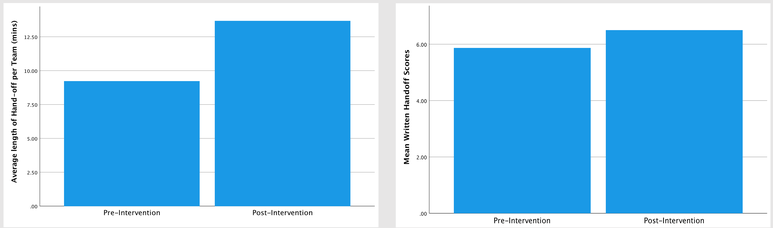


Figure 2. Comparison of Pre- and Post-Intervention verbal and written handoff.

RESULTS

During the study period, 23 residents were audited during the handoff process with a total of 205 patients. There was a significant improvement in the scoring of verbal handoff given by each resident after the intervention (3.1 vs. 4.8, p=.022). There were no significant differences in written handoff scores pre- versus post-intervention (5.9 vs. 6.5, p=.45) nor in total time spent giving verbal handoff (9.2 vs. 13.7 minutes, p=.094). Resident familiarity with I-PASS (3.0 vs. 4.4, p=.003) and perceptions of the quality of handoff (2.7 vs 3.6, p=.002) improved pre- versus post-intervention. They found no difference in their confidence in answering overnight questions or in the amount of time they spent chart reviewing (71.5 vs 68.3 minutes).

CONCLUSIONS

The I-PASS system is an effective tool in decreasing overall handoff errors and preventing potential patient harm. The implementation of a new EMR offers a more effective avenue for creating written sign-out tools, however, further investigation into the barriers to utilization is warranted.

FUTURE DIRECTIONS

The next steps to this project include a Spring evaluation of compliance to the I-PASS structure and determination of the long-term feasibility of the written sign-out tool. In addition, this structured didactic session will be integrated into the Intern Orientation for the 2023-2024 year group.

The view(s) expressed herein are those of the author(s) and do not reflect the official policy or position of Brooke Army Medical Center, the US Army Medical Department, the Department of the Army, Department of the Air Force, Department of Defense, or the US Government. This is an IRB exempt Quality Improvement project. All authors have consented for publication and attest their significant contributions to this work. The authors have no conflicts of interest. The authors have no financial disclosures