Improving Patient Handoff in the Emergency Department at Medical University of South Carolina

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Background

Patient Handoffs during shift change have been identified to be an area of high risk for confusion and complications within the Emergency Department (ED). Structured handoffs have been implemented in numerous emergency department's across the country to improve patient safety. As of now, there is no specific format for handoffs in the Emergency Department at Medical University of South Carolina. The aim of this project will be to successfully implement a structured handoff for providers to utilize during shift change.

Poor handoffs are a major source of medical error in the Emergency Department (up to 80% of errors). Due to the frequent shift changes, constant interruptions and distractions, and rapid throughput of patients through the ED, opportunity for error abounds. Furthermore, the increasing volume of patients being seen in EDs will likely pose an even greater challenge to ensure high quality handoffs. Structured patient handoff tools offer one potential solution to make the transition of care between providers at handoff more seamless, to reduce medical errors, and to improve the quality of patient safety, care, and satisfaction.

Without structured handoffs, physicians tend to default to communicating based on their own experiences and preferences with variable content, detail, order, and length of information. This lack of standardization can pose significant communication challenges. One commonly used handoff structure that has been proven to decrease medical errors and prevent patient harm is the I-PASS handoff. The I-Pass mnemonic stands for illness severity, patient information, action list, situational awareness and contingency plans and synthesis by receiver. Another widely used handoff structure is SBAR, which stands for situation, background, assessment, and recommendation. These handoff structures provide a standardized framework to present patients and communicate pertinent information about their care in a concise and consistent manner. They have been demonstrated to improve outcomes and reduce medical errors In emergency departments as well as multiple other patient care settings.

Implementing a structured format for handoffs is only one of many possible methods to improve the quality of handoffs. Other interventions that may be helpful include ensuring handoffs are face-to-face rather than via phone, messaging, or EMR, performing handoffs at the patient's bedside, allotting time for a Q&A after handoffs, using EMR tools to streamline handoff structure, and limiting interruptions and distractions during handoffs. Future initiatives could aim to implement some of these other interventions to further improve handoff quality.

AIM Statement

By February 2023, after the implementation of a structured handoff, we aim to have at least 50% of residents and attendings in the emergency department rate handoffs as improved and feel patient safety and care have improved.

MUSC Pillar Goal: (MUSC Pillars- Service, people, **quality**, **finance**, growth, **innovation**)

Implementing structured ED handoffs will improve the MUSC pillar of quality by increasing the quality of patient care and culture of safety. It also has the potential to improve the MUSC pillar of finance by reducing costly medical errors as well as the pillar of innovation if it leads to new ideas for improved handoff tools.

Methods/Intervention

Intervention: Structured handoff for emergency provider's, specifically the I-PASS structured handoff tool (see table 1).

Bed _____ is a stable/watcher/unstable _____ yo female/male with a pertinent hx of _____ here with CC likely 2/2 ____. His/her dispo is pending _____, will be admitted to___/will be discharged.

Example 1:

Resident giving handoff: "Bed 1 is a stable 84 yo female with a history of CAD here with chest pain likely 2/2 ACS. Her dispo is pending repeat troponin, after which she will likely be admitted to medicine vs cardiology"

Resident receiving handoff: "Likely ACS, will be admitted to medicine vs cards after repeat troponin."

Example 2:

Resident giving handoff: "Bed 1 is a watcher - 64 yo female with a history of frequent UTIs and recent pneumonia here via EMS for undifferentiated shock. Her dispo is pending labs and fluid resuscitation, after which she will likely be admitted to medicine vs ICU"

Resident receiving handoff: "Undifferentiated shock, admitted to medicine vs ICU following labs and fluid resuscitation."

Attending leaving or coming: Writes in comment section - "Primary differential, To do and plan"

- Example 1: ACS, labs, med vs cards
- Example 2: Undifferentiated shock, resusc., med vs ICU

Table 1: I-PASS Handoff Structure

I	Illness Severity	•Stable, "watcher", unstable
P	Patient Summary	•Summary statement (pertinents only) •Plan
A	Action List	•To do list
S	Situation Awareness & Contingency Planning	•Plan for what might happen
S	Synthesis by Receiver	•Receiver summarizes what was heard •Asks questions •Restates key action/to do items

Statistical analyses: t-test assuming unequal variances used

Results

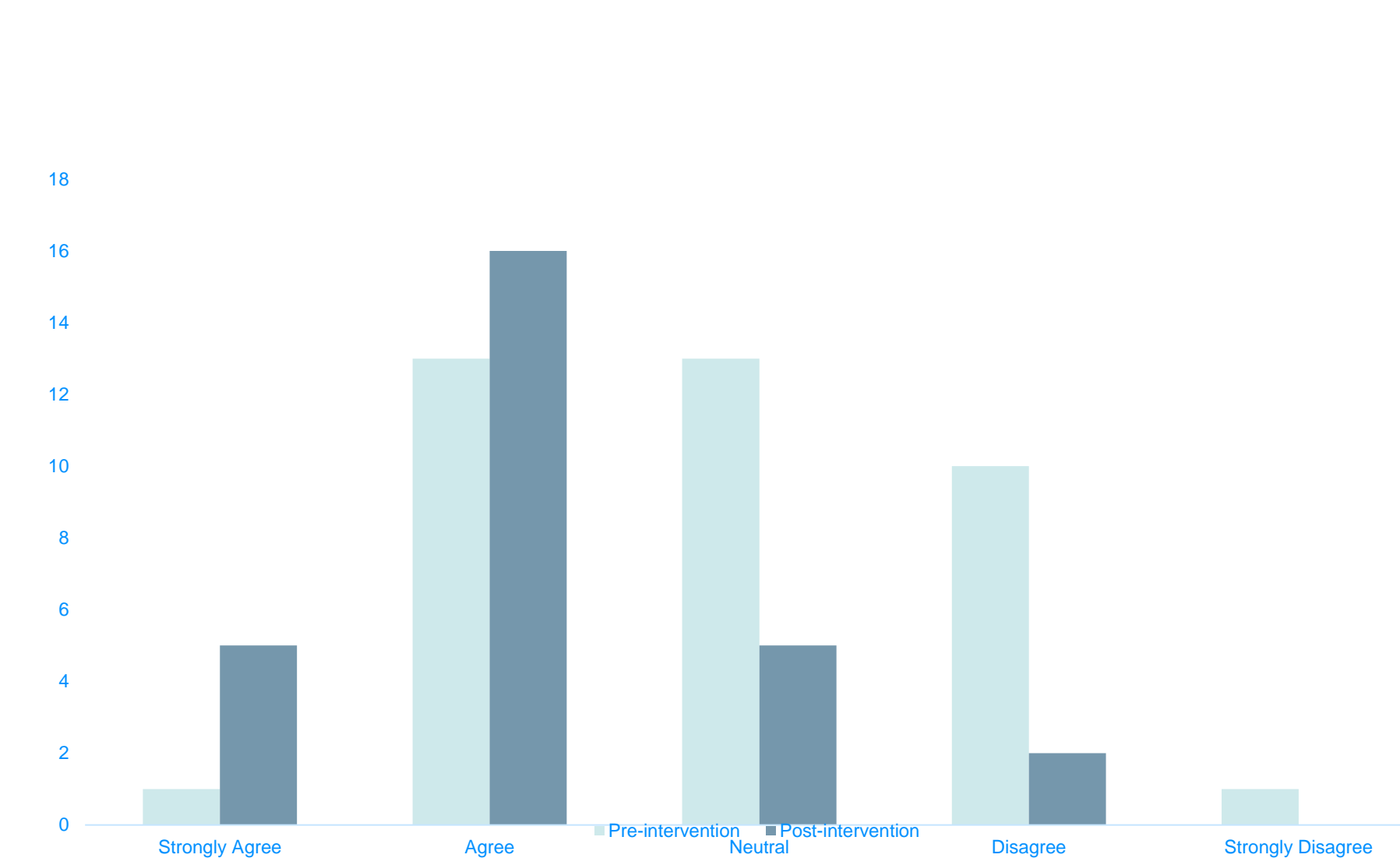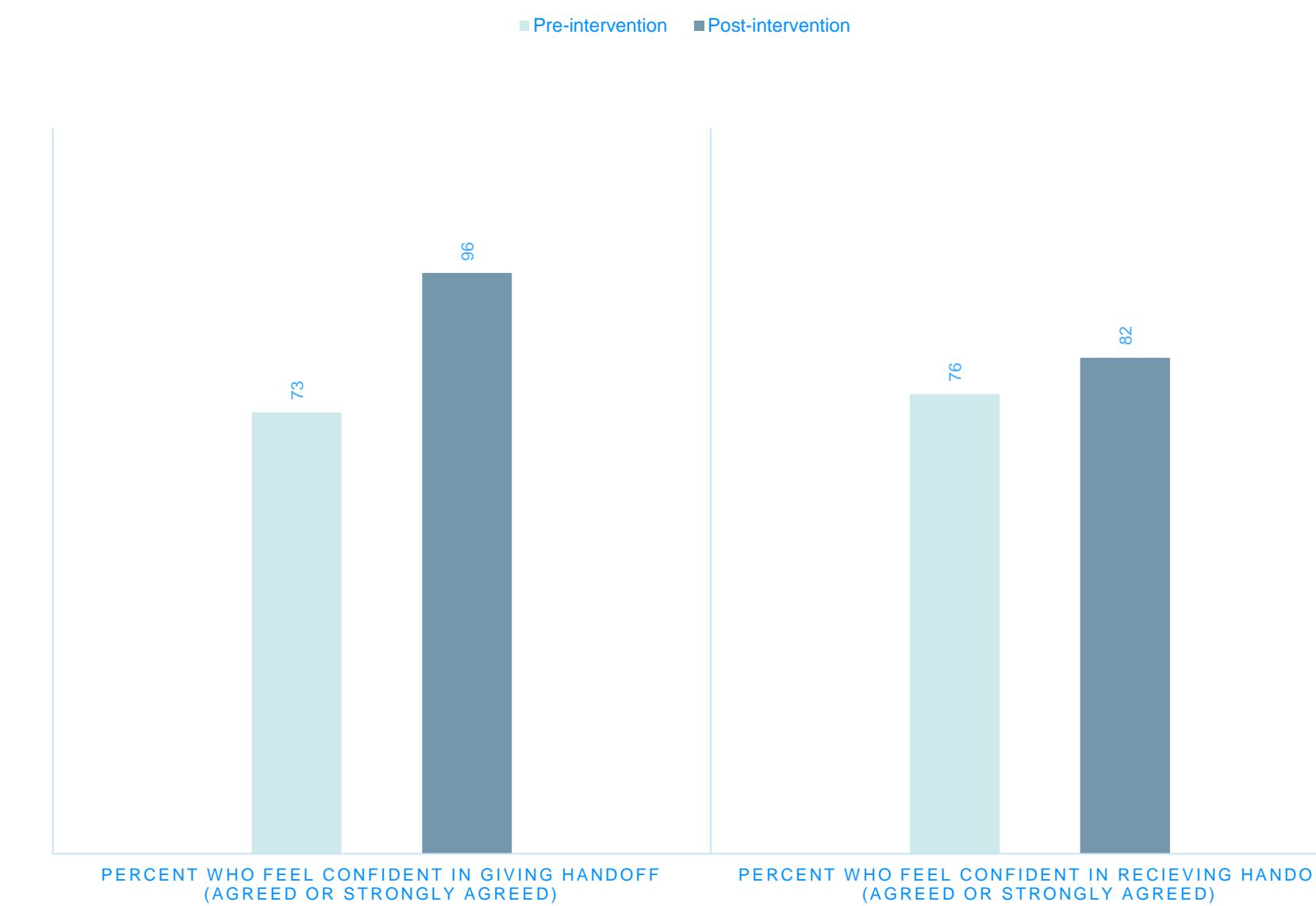### Figure 1: Satisfaction of Handoff Structure

Figure 2: Percent who feel confident in giving and receiving handoff

- 36% of participants are satisfied with handoff structure (agreed or strongly agreed) pre-intervention versus 75% post-intervention (P<0.005)
- 73% of participants feel confident in giving handoff (agreed or strongly agreed) pre-intervention versus 96% post-intervention
- 75% of participants feel confident in receiving handoff (agreed or strongly agreed) pre-intervention versus 82% post-intervention

CONCLUSIONS

- Having a standardized handoff method for providers in the ED led to improved satisfaction with ED handoffs for staff and improved provider confidence in giving and receiving handoff.
- There is still room for improvement with satisfaction with ED handoffs and provider confidence in receiving and giving handoffs.

Next Steps

- Possibly incorporate this into the ED Course tab by having residents write out a brief I-PASS structured handoff in the ED course tab in addition to a verbal handoff
- create dot phrase for ED handoff for ED course based around I-PASS structure

Barriers/Limitations

- 38 participants (including attendings and residents) responded to the pre-survey, while only 28 responded to the post-survey (52 total residents and attendings)
- Implementation of new handoff structure was not studied/measured, many handoffs may have continued to be unstructured even after implementation of the tool
- Variety in practice style of physicians and time available to devote to handoffs may limit ability to implement standardized handoff

REFERENCES

- Cheung DS, Kelly JJ, Beach C, Berkeley RP, Bitterman RA, Broida RI, Dalsey WC, Farley HL, Fuller DC, Garvey DJ, Klauer KM, McCullough LB, Patterson ES, Pham JC, Phelan MP, Pines JM, Schenkel SM, Tomolo A, Turbiak TW, Vozenilek JA, Wears RL, White ML; Section of Quality Improvement and Patient Safety, American College of Emergency Physicians. Improving handoffs in the emergency department. Ann Emerg Med. 2010 Feb;55(2):171-80. doi: 10.1016/j.annemergmed.2009.07.016. Epub 2009 Oct 2. PMID: 19800711.

- Effective and safe patient hand-offs (saem.org)

- I-PASS Study | ipasshandoffstudy.com