

Introduction

Miscommunication amongst providers contributes to around 250,000 deaths annually in US hospitals.

Sign-outs are a common place for miscommunication during transition of care. Poor quality sign-outs can result in confusion, delayed treatment, serious adverse events, or even patient mortality.

Adopting the IPASS sign out (Figure 1) into a standardized sign out at Flushing Hospital Medical Center may lead to higher quality sign-outs which should lead to higher quality care.

The Improving Sign Out (ISO) project is a standardization of written sign-out process based on the IPASS sign out method in attempts to standardize and improve communication between residents and transition of patient care.

Objective

To develop a new written sign-out method that improves communication during transition of care.

Method

The ISO project was implemented in an Internal Medicine Residency program (53 residents) at Flushing Hospital Medical Center. Through root cause analysis, the common communication problems faced during transition of care were identified.

A six-question survey was created to quantify the challenges residents faced during transition of care. Majority of questions used Likert-type responses on a scale of 1-5 (1=never/very poor; 5=always/very well). The survey also allowed for qualitative feedback.

Pre-data was collected and after several rounds of Plan-Do-Study-Act method, data was analyzed to create a sign out to meet the needs residents. A standardized "Hospital Course" template was created in the EHR that highlighted critical information regarding patient chief complaint and significant diagnosis. Similarly, a standardized "To-Do List" alerted residents of patient's critical clinical status, contained a contingency plan, and organized tasks specific to teams (figure 2).

The standardized sign-out was implemented throughout the entire program after a series of educational intervention. Post implementation surveys were distributed at 1-, 2- and 3-months to systematically monitor progress and intervene as needed.

Patient Hand Off	
I	Illness Severity: How sick is the Patient? • Stable, Watcher, STAR
P	Patient Summary: Brief Overview, one liner • Age, sex, PMH/PSH • CC, significant signs and symptoms, working diagnosis or differential • Diet/NPO, meds, support, access, infection sources • Hospital course so far • Suggested plan
A	Action List: To Do • What to do, when to do it, & what to do about it
S	Situational Awareness: If/Then Statements • What could happen and what intervention would be needed
S	Synthesis: • Receiver summarizes patient status and ask questions
Texas Children's Hospital I-PASS	

Figure 1. IPASS patient sign-off procedure components

The screenshot shows the EPIC EHR interface. On the left, the 'Hospital Course' section is visible with fields for 'CC: ***', 'Pmhx: ***', and 'During Stay'. On the right, the 'To Do' list is displayed, including '***New Patient***', 'Cont Plan: Active for Primary Team', and 'Active for Call/NF'.

Figure 2. Standardized "Hospital Course" and "To Do List" implemented in EPIC EHR.

Results

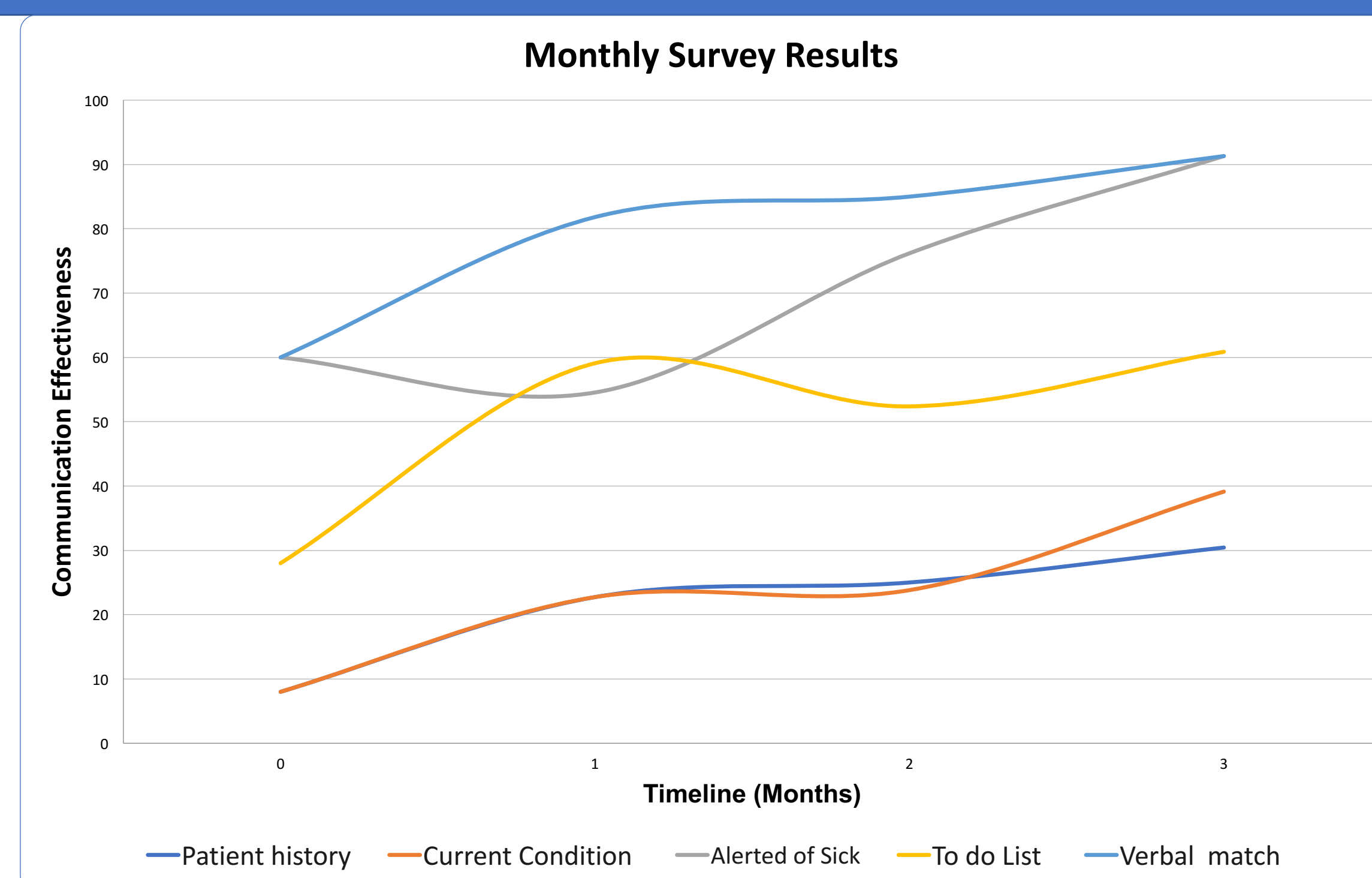


Table 1: Knowledge of patient based on the Sign out

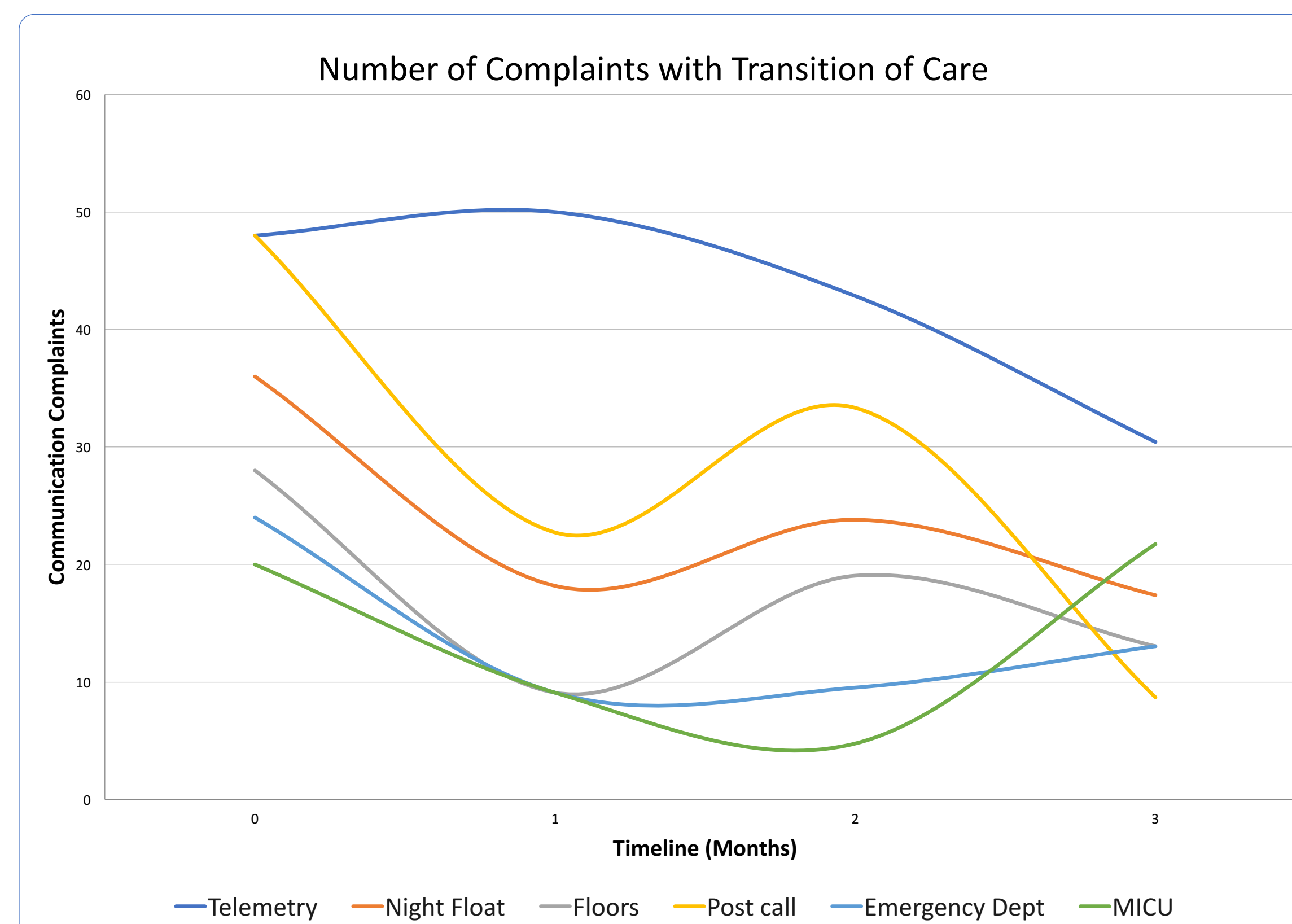


Table 2: Complaints regarding transition of patients

Discussion

Pre-intervention questionnaires revealed a need for improvement across all areas surveyed.

Post-intervention surveys at one-month and three-months showed statistically significant improvements in the following areas:

- How well the resident knew the patient history ("well" to "extremely well" ratings increased from 8% to 23% 1 month(1M), $p < 0.02$ and to 30% at 3 months(3M) $p < 0.004$).
- How well the residents knew the patients' current conditions (well to extremely well 8% to 23% 1M $p = 0.15$ to 39% at 3M $p < 0.01$).
- How well the To-Do List was communicated ("well" to "very well" ratings increased from 28% to 59%, $p < 0.03$ at 1M and 61% at 3M $p < 0.02$).

Transfer of patient care between floors also showed improvement in sign out process. Difficult sign out decreased on every floor after implementation and remained low in multiple areas

- Post-call(48% to 23% 1M; $p = 0.07$) to 9% ($p < 0.002$).
- Night-float 36% to 18% 1M and to 17% 3M
- MICU 20% to 9% at 1M and to 22% at 3M
- ER 24% to 9% at 1M to 13% at 3M
- Medical floors 28% to 9% at 1M to 13% at 3M
- Telemetry 48% to 50% at 1M and to 30% at 3M

Conclusion

The ISO project resulted in significant improvement in the quality of communication between resident teams. Remarkable improvements were seen in resident's communication of patient's history, patients level of illness, and the completeness of the "to-do list" on one and three-month surveys.

One and three month survey showed a decrease in difficult sign outs across all hospital floors with the exception of telemetry, presumably secondary to high volume and rapid patient turn-over. Following educational interventions, the three-month follow-up survey showed notable improvements in telemetry and maintenance of initial improvements in multiple floors.

The next steps of this project include continued improvement, monitoring, and re-education of the sign-out process and to determine if changes in communication directly affect quality of care.

References

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