



# The Effects of Formalized Team Training on Transitions in Patient Care in the Otolaryngology Head and Neck Surgery Residency

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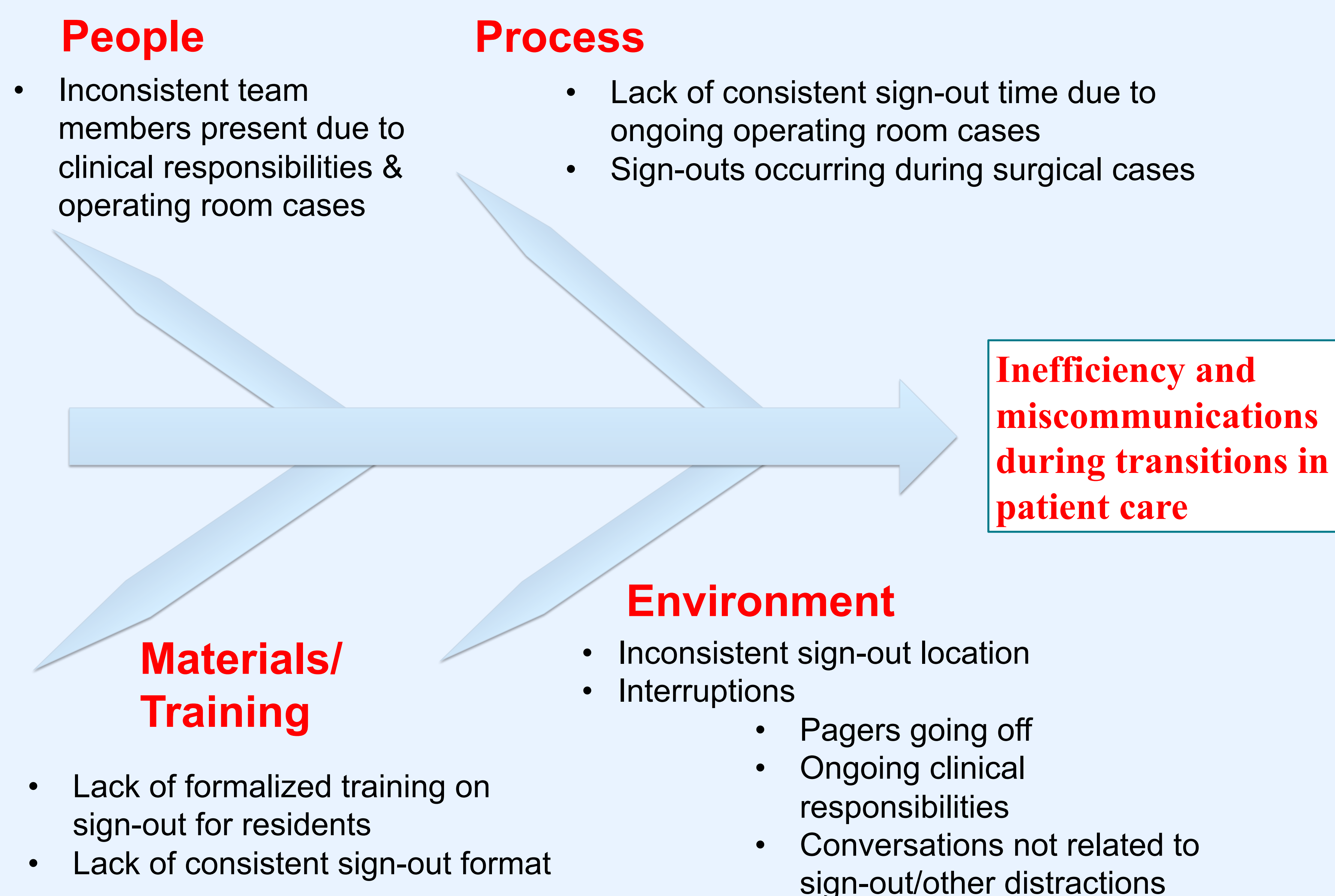
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## BACKGROUND

With increasing regulations from the ACGME for resident work hours, the number of patient care hand-offs inevitably rises. Work hour restrictions have the potential to significantly reduce the incidence of medical mistakes related to excessive fatigue only if the transitions of care are do not create further errors as a result of miscommunication. For this reason, transitions of care must be thorough and complete, yet efficient as patient care must not cease during these hand-off periods.

At Thomas Jefferson University Hospital, the Otolaryngology-Head and Neck Surgery service has both a full inpatient census and consult census. Given the trend of increased number of hand-offs, in addition to the inherent complexity of many of our head and neck cancer patients, we assessed the transitions in patient care that take place on our service every day.

## CAUSE ANALYSIS



## RESULTS

- In this study, there were 70 sign-outs observed in the pre-training cohort and 25 sign-outs in the post training cohort.
- We observed a significantly lower number of total interruptions, patient related interruptions and patient inquiries after formalized hand off training with TeamSTEPPS® (figure 1).**

Parameter	OR	95% CI	P-Value	
Patient Inquiries	1.32	(1.06, 1.65)	0.015	**
Total Interruptions	1.6	(1.7,2.24)	0.004	**
Patient Related	4.62	(2.30, 10.99)	0.001	**
Non-Patient Related	1.03	(0.72, 1.51)	0.859	

Figure 1: Pre-training versus Post-training Patient Inquiries and Interruptions. \*\* denotes statistical significance

- No significant differences between the pre-training and post-training groups were observed for:
  - Non-patient related interruptions
  - Length of sign-out
  - Time spent discussing each patient
  - Location of sign-out

## METHODS

- Residents were unaware they were being observed by physician extenders during sign-out in both pre- and post training cohorts.
- During resident sign-out in the pre and post training cohorts, the following information was recorded:
  - Length, location and duration of sign-out
  - Number of patients discussed
  - Total number of interruptions which were then divided into:
    - Patient related (Medical) Interruptions
    - Non-patient related (Non-medical) Interruptions
- Number of questions that were asked about the patients being discussed throughout sign-out (Patient Inquiries)

## PROPOSED INTERVENTION: TeamSTEPPS® Training & Implementation

- In March 2014, two attending physicians and one resident in the Otolaryngology department completed the Master Team Training in Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS®) in order to train others.
- Otolaryngology residents and physician extenders underwent training in TeamSTEPPS® in November 2014.
- Two additional interactive sessions were conducted by the resident and one attending physician trained in TeamSTEPPS® were where residents and physician extenders practiced using team training terminology, communication strategies and formalized hand-off tools such as I PASS the BATON.
- The format for the sign-out document was also changed to reflect I PASS the BATON to reinforce its use during all transitions of care.

## CONCLUSIONS

- Implementation of TeamSTEPPS® with formalized resident training in sign-out promoted patient safety by significantly decreasing in the total number of interruptions and patient related interruptions during this critical transition in patient care.
- The significant decrease in number of patient inquiries after team training was likely related to a more organized and structured sign-out resulting in fewer questions by the person receiving sign-out.
- Despite not reaching statistical significance for location of sign-outs, no sign-outs in the post training cohort were conducted in the operating room. This reinforces group's commitment to conducting sign-out in less distracting environments.
- The residents demonstrated remarkable adaptability in the changes in the sign-out process and willingness to incorporate TeamSTEPPS® into daily practice.
- This project serves to outline the various steps taken by our department to proactively improve resident hand-offs in patient care that other large institutions can use as a model for transitions of care.
- Future directions of this research include further observation of the sign-out process in an non-blinded manner with more resident feedback and reflection on this new process.