Introduction
Post communication among healthcare providers is cited as the most common cause of sentinel events involving patients. A vital component of medical communication is information transfer at change of shift. This process is referred to as hand-off, sign-out or hand-over. Sign-out at shift change is especially valuable to errors and adverse events. While sign-outs in ICUs are complex and extensive, there is a paucity of studies evaluating strategies for effective ICU sign-out.

Hypothesis
The implementation of a standard verbal sign-out template by clinicians in Pediatric Intensive Care Unit (PICU) will improve clinician satisfaction and information transfer during sign-out.

Objectives
1. To validate and update a survey to investigate clinician perceptions about sign-out.
2. To evaluate the sign-out process:
   a. Surveying PICU clinicians
   b. Identifying themes in the context of sign-out
3. Design and implement a standard verbal sign-out template.
4. Determine if the use of the template is associated with changes in the PICU sign-out process.

Abstract
Errors in medical communication can lead to adverse events and rare mishaps in patients. In ICU, the evolving and changing nature of patients’ clinical conditions generate huge amount of information and necessitates communication of this data among multiple providers. Although several strategies have been described to standardize sign-outs in various hospital settings, there is lack of data on how to improve sign-outs in ICU.

We developed a standard template to be used as verbal information transfer during the PICU sign-out and investigated its effectiveness. Our results showed that clinician satisfaction with PICU sign-out and communication of information transfer content was enhanced with the use of the template. The improved and detailed sign-out process with the template did not cause any significant increase in time spent by clinicians at sign-out.

Description of intervention/study
We designed a prospective interventional study. The study was conducted after approval from the institutional review board of Baylor College of Medicine. We evaluated the PICU sign-out at Texas Children’s Hospital from June 2010 to July 2011. All participants (PICU Attendings, Fellows and Advanced level providers (ALPs)) were studied after obtaining a written informed consent.

Results
Survey validity and reliability
- Internal consistency: Cronbach’s alpha of 0.87
- Test-retest: Pearson correlations 0.65 (p < 0.005)
- Completeness: We divided the 3 main categories into which the survey items grouped together with convergence within group and divergence between groups.
  a. Overall process: inefficient, uselessness, pertinence, unambiguosity
  b. Receiving satisfaction: details, comprehensibity, opportunity to ask questions
  c. Requires explicability: accuracy, recency, completeness

Pre and post template scores
Likert scale: 1-poor, 5-excellent

Phase 1 Clinician Preferences

Phase 2 Clinician Perceptions

Sign-out content
Themes identified: Standardization, Verification, Background, Situation, Clinical condition, Physiologic system details, and Goals

Conclusions

References
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2. Arora. Qual Saf Health Care 05
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