An Evidence-Based Approach to Patient Hand-offs

The Problem

One un-intended consequence of duty hour restrictions for medical house staff is a 40% increase in patient hand-offs. Hand-offs represent a vulnerable time for communication errors between physicians, accounting for up to 67% of adverse events. This creates an unfair tension between resident and patient safety. The WHO, IOM, and JCAHO have recognized this problem, and are calling for interventions from academic medical centers. The problem- only 8% of US medical schools formally teach hand-off, and as a result it has been cast into the hidden curriculum of medical residency- where there is a lack of standardization or evidence in practice.

Aim/Goal

By taking a systematic approach to hand-off, we aim to provide residents and patients with safe, evidence-based hand-off practices; to promote a standard operating procedure for hand-off; and to take this practice out of the hidden curriculum of medical residency, and integrate it into our formal education process.

The Team

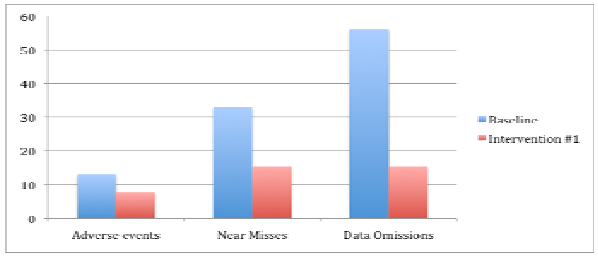
- Kelly L. Graham MD, Senior Resident, Internal Medicine Department
- Christopher Smith MD, Associate Program Director, IM Department
- Julius J. Yang MD, Associate Program Director, IM Department
- Grace Huang MD, Hospitalist, IM Department
- Kelly Bodio MD, Chief Resident, Internal Medicine Department

The Interventions

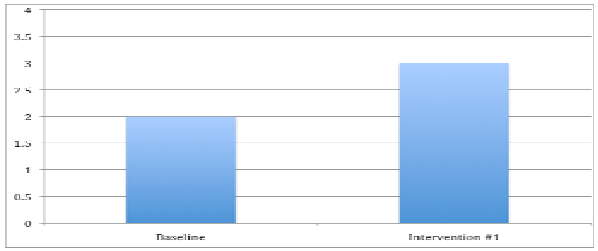
- Development of a survey tool to measure quality of patient hand-off, adverse events, near misses, and predictable events
- 7/2009-11/2009: Baseline assessment of the Internal Medicine Department using this survey
- 11/2009: Intervention #1: Systems: Alteration of our shift models to reduce the number of hand-offs in the IM dept.
- 2/2010: Intervention #2: Implement a standardized, evidence-based format for written hand-off, and incorporate it into our EMR.
- 5/2010: Intervention #3: Implement an educational intervention around verbal hand-off using validated curriculum

The Results/Progress to Date

Event Rate per shift:



Overall Satisfaction with hand-off:



- Prior to Intervention #1, patients were signed out by their primary team 25% of the time, after Intervention #1, they are signed out by their primary team 100% of the time

Lessons Learned

Both at the BIDMC and nationally, hospitals have adapted shift models that combine the role of cross-coverage and admitting, in order to reduce work hours. This places the on-call intern in an intermediary position between the day team and the night team. As a result a cross-covering team hands off patients 3/4 nights. Minor adjustments to our shift model completely mitigated this phenomenon; however, they also create potential problems with work hours violations, which requires a team effort to avoid.

Next Steps/What Should Happen Next

- February 2010: Implement the written sign out tool
- May 2010: Implement the educational intervention
- Continue to measure satisfaction, quality of hand-offs, and events with our survey during each intervention
- Create a hand-off curriculum for interns in the coming years based on our findings
- Share our work with other departments in the BIDMC community who are interested in improving their own practices.

Beth Israel Deaconess Medical Center | A teaching hospital of Harvard Medical School | The Silverman Institute For Healthcare Quality and Safety

For More Information Contact
Julius Yang, MD, PhD, Director of Inpatient Quality
jyang@bidmc.harvard.edu