A Simple Mobile Application to Improve PACU Communication and Efficiency

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Background:
The Post-Anesthesia Care Unit (PACU) at large tertiary care medical centers serves as a complex, high flow recovery area for potentially dozens of surgical patients every day. Safe and efficient care necessitates multiple patient handoffs between the surgical, anesthesia, and nursing teams. Communication between team members is essential; miscommunication is a leading cause of preventable adverse patient events1-3. In addition to allowing patients to safely recover from surgery, the PACU plays an integral role in patient flow from the operating room (OR) to the rest of the hospital. Delays in patient movement can disrupt workflow in the OR, resulting in decreased OR efficiency and increased costs4,5. We prospectively tracked the number of anesthesia-related PACU consults from nurses along with the unit team’s response time throughout the day. We hypothesized that response times would directly correlate with the number of requests (e.g. as the number of requests increased, so would response times).

Methods:
A mobile application was designed to allow PACU nurses to electronically request anesthesia consults (such as request sign out, address hypotension, review EKG) on a tablet at the main PACU desk. In addition to being viewable at the desk, the app is also accessible to the covering PACU anesthesia team on their mobile phones. Once a task is completed, the anesthesia team can cross it off the list from either their phone or the tablet. The app kept track of how long it took for tasks to get accomplished in minutes. Data were collected from the PACU at Brigham and Women’s Hospital (BWH) from March 2016 to July 2017 with 38,098 tasks in total, and were subsequently analyzed using Microsoft Excel. Tasks that took more than 2 standard deviations in minutes were excluded from analysis. The cost to purchase the tablet was funded by a BWH Brigham Research Institute micro-grant.

Results:
The mean minutes to response was 14.6 with a standard deviation of 13.8. Response times did not seem to correlate with the number of requests. The average response time increased steadily throughout the day from 13.3 min at 0900H to 15.6 min at 2100H.

Conclusion:
Clear and efficient communication can be facilitated with a mobile app for the PACU. Clinician fatigue could be responsible for increased delays towards the end of the day. We speculate that
based on response data, staffing and bed availability can potentially be optimized to improve patient throughput and minimize delays.

References:


