Encouraging change in anesthesiology practice through electronic feedback to physicians: Results from prototype system

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Abstract
Implementation of best care practices is difficult because the status quo is often perpetuated; many providers treat patients based on anecdotal experience rather than evidence-based medicine. Our goal was to develop and evaluate an electronic feedback system that feeds back practice and outcome data combined with educational material to anesthesiologists. Best care practices for post-operative nausea and vomiting (PONV) control were selected to evaluate this system because PONV is a common outcome and guidelines have been published.

Introduction
As peri-operative physicians, anesthesiologists are responsible for almost all peri-operative decisions and are in the unique position of being able to affect the post-operative course of a patient. However, individual anesthesiologists currently have no way to measure patient outcomes and many treat patients based on anecdotal experience rather than on evidence based medicine (1). Development of a peri-operative feedback system can help satisfy these deficiencies and improve compliance with best practices (2)(3).

Although a few institutions have had good success with manual paper based systems, none provides feedback to anesthesiologists in an automated, “real-time” manner or in a sustainable and cost effective way (4). Here we present results from a prototype electronic system that provides physicians feedback on their PONV control practices.

Methods
After IRB approval and discussion on types of feedback anesthesiologists wanted, an electronic database was used to collect baseline practice and outcomes data. Attending level anesthesiologists treating more than 20 patients / two months were randomized to receive feedback or not. Feedback consisted of: an e-mail summarizing statistics sent every five patients they treated; a web site showing their practices, patient outcomes, and current literature. Outcome measured included: physician’s sense on amount of feedback received, number of times anesthesiologists visited web site, time spent on each section of the web site, and number of best practices followed.

Results
Nine physicians were enrolled; five received feedback. Data on 474 ambulatory surgery patients the nine physicians treated were collected. Pre-intervention, 78% stated they rarely or never received feedback (n=9); they indicated that they were willing to change their practice based on feedback. 80% of physicians receiving feedback (n=5) viewed the website at least once and responded to at least 25% of emails. They spent 4.7±2.7 min on website, 0.6±0.7 min viewing practices, 0.7±0.9 min viewing outcomes, 1.8±2.2 min viewing literature. No significant difference in practice change was observed between groups.

Conclusion
Although anesthesiologists expressed a desire to receive more electronic feedback about their practices and patient outcomes, those receiving it did not change their behavior. Factors cited included time constraints in viewing information, others making practice decisions, or not agreeing with published guidelines. Further study will be conducted into refinement of feedback, information will be presented at point of care, and will include residents.

References