

# ANESTHESIOLOGY



**ANESTHESIOLOGISTS:**

**PHYSICIANS to the SYSTEM**

Anesthesiologists are ideal perioperative managers who use technology for care and process improvement.

Digital quality improvement<sup>1</sup> drives process change through informatics implementations, with a unique toolbox.

Ehrenfeld et al.<sup>2</sup> examined an AIMS-based system, as a tool for digital quality improvement, to improve intraop blood glucose monitoring, with 15,895 cases over 5 yr analyzed. They found:

**42%**  
increase in BG monitoring  
(62 vs. 87%  
*P*=0.0001)

**No change in PACU hypoglycemia**  
(0.6 vs. 0.9%  
*P*=0.22)

**35%**  
decrease in PACU hyperglycemia  
(11 vs. 7.2%  
*P*=0.002)

**33%**  
decrease in SSI  
(1.5 vs. 1.0%  
*P*=0.006)

**Our value comes from permanently fixing problems in perioperative systems.**

AIMS = anesthesia information management system; BG = blood glucose; DQI = digital quality improvement; FADE = focus, analyze, design, execute; intraop = intraoperative; PACU = post-anesthesia care unit; periop = perioperative; QI = quality improvement; SSI = surgical site infection.

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1. Gabel E, Hofer I, Cannesson M: Advancing perioperative medicine and anesthesia practices into the era of digital quality improvement. *Anesth Analg* 2016; 122:1740-1

2. Ehrenfeld JM, Wanderer JP, Terekhov M, Rothman BS, Sandberg WS: A perioperative systems design to improve intraoperative glucose monitoring is associated with a reduction in surgical site infections in a diabetic patient population. *ANESTHESIOLOGY* 2017; 126:431-40.

3. Department of Community and Family Medicine, Duke University School of Medicine: Methods of quality improvement. Available at: [http://patientsafetyed.duhs.duke.edu/module\\_a/methods/methods.html](http://patientsafetyed.duhs.duke.edu/module_a/methods/methods.html). Accessed December 21, 2016