

A RANDOMIZED TRIAL OF AUTOMATED ELECTRONIC ALERTS DEMONSTRATING SIGNIFICANTLY IMPROVED ANESTHESIA TIME DOCUMENTATION ACCURACY AND REVENUE

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Background: To date, there have been no prospective, randomized trials looking at the effect of automated alerts on the accuracy of time-based charges for anesthesiology services. We hypothesized that alerting providers to errors could result in more accurate documentation of anesthesia care and significantly improved revenue.

Methods: Anesthesia cases were evaluated to determine whether they met the institutional definition for appropriate anesthesia start time over four separate 45-day calendar cycles, including a baseline pre-study period. At the studied hospitals, anesthesia start time should be one or more minutes prior to patient in room time. Providers were randomly assigned to either a control or an alert group. Providers in the alert cohort received an automated alphanumeric page if the anesthesia start time was concurrent with patient in the Operating room time or more than thirty minutes prior to patient in room. After the study period, all providers received the paging reminder and overall compliance was analyzed. Three years following the study period, overall compliance was analyzed to assess learned behavior.

Results: Baseline compliance was 33.5%. During the study period, providers in the alert group demonstrated 86.9% compliance compared to 40.5% compliance in the control group [$p < 0.001$, odds ratio 9.8, 95% confidence interval (8.4-11.4)]. Long term follow up after cessation of the alerts was 85.1%, indicating a learned behavior. We estimate that the improvement in anesthesia start time documentation results in \$471,117 (1.6 %) of incremental annual revenue.

Conclusions: Automated electronic reminders for time-based billing charges are effective and result significantly incremental ongoing reimbursement for institutions employing AIMS.