

## **Electronic Quality Improvement System Improves Anesthesia Adverse Events Reporting Compliance**

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**Introduction:** Confidential adverse event (AE) self-reporting improves patient safety. However, high work production pressure, reduced patient care time, and inefficient electronic medical record (EMR) reporting interfaces hinder the completion of incident reports. The aim was to implement a non-discoverable electronic reporting system for adverse events, system issues, errors, and near misses that was embedded in the EMR workflow to improve reporting compliance and facilitate system quality improvement (QI).

**Methods:** Historically, all perioperative anesthetic AEs were reported on paper, even after implementation of the EMR in 2011, in an effort to maintain the confidentiality of the QI process. In 2017, the anesthetic EMR was redesigned to require a legally non-discoverable "Yes/No" reporting of adverse events for every anesthetic encounter in order for the record to be considered complete. The reporting system enabled a seamless automated transfer of demographic and procedural data from the EMR to the incident report, which was stored in a separate, protected, encrypted database/server. This process allowed confidential reporting of all events to be available for immediate access by departmental QI personnel. Additionally, the system generated de-identified reports for submission to national databases.

**Results:** Between 2011 and 2016, AE reports decreased from 186/10,000 to 70/10,000 cases per year. After the redesigned electronic QI reporting system implementation, the number of submitted event reports increased to 334/10,000 cases per year. With the convenient and easy reporting process, care providers increasingly reported near misses and system issues in addition to AE's and errors. Separation of reported events from individual patient medical records maintained the legal protection of the QI data.

**Discussion:** An electronic incident reporting system designed within routine clinical practice allowed efficient and systematic data entry, increased reporting compliance, and enabled immediate review and intervention. Next steps are to expand this system to hospital-wide sedation sites to improve reporting and system quality.