



LESSONS LEARNED FROM HEALTH IT ERROR REPORTING

UNDERSTANDING YOUR ROLE IN EDUCATING STAFF ON IDENTIFYING AND REPORTING HIT ERRORS

WHEN ADVERSE EVENTS INVOLVING electronic health records and other forms of health IT go underreported, it could hinder efforts to improve health IT safety. ECRI Institute outlines some lessons learned from a landmark study by the Pennsylvania Patient Safety Authority and highlights information that can help your facility recognize health IT errors when they occur.

Health IT is an essential component of high-quality patient care. It has the potential to provide easier access to data, streamline communication, engage patients, and reduce certain errors, such as transcription mistakes caused by poor handwriting on paper charts. However, the technology is not foolproof. While reducing some types of errors, it can

actually increase susceptibility to other types (e.g., selection errors influenced by the configuration of a list), and can open the door to entirely new classes of errors (e.g., failure of the user to change a pre-populated default value).

Unfortunately, according to a 2011 report by the Institute of Medicine (IOM), there is a lack of reporting data on the hazards and risks associated with health IT. IOM states that this hinders ongoing efforts to improve the safety of health IT systems, and ECRI Institute agrees. To achieve safer use of electronic health records (EHRs) and other health IT systems, it is essential to have high-quality information on the types of errors that occur with such systems, and the errors that are most likely to cause patient harm.

A recent report from the Pennsylvania Patient Safety Authority is generating a great deal of interest in the health

IT community because it helps address IOM's desire for more information about the scope and nature of health IT risks and hazards that occur in U.S. hospitals. The study, which was published in the December 2012 issue of the Authority's Pennsylvania Patient Safety Advisory, analyzed EHR-related patient safety incidents and near-miss events reported through Pennsylvania's mandatory reporting system. The authors applied a classification taxonomy developed for health IT by Magrabi et al. (2012) to a queried sample of 3,099 health-IT-relevant reports in the Pennsylvania Patient Safety Reporting System (PA-PSRS) database. The study is one of the first large-scale surveys of frontline-caregiver-reported errors related to the use of EHRs, and it serves as an important step toward developing an evidence base for safe use of EHRs.



Clinical and biomedical engineers can play a very important part in educating frontline caregivers and risk managers on how to recognize when EHRs and other health IT systems have a role in medical errors.

LESSONS FROM THE REPORT

• EHR-Related Events and Near Misses Do Occur and Are Being Reported

The fact that there is a lack of reporting data for health-IT-related events

doesn't mean that these events aren't being reported—the reports may simply be hard to find. Neither the PA-PSRS database nor FDA's Manufacturer and User Facility Device Experience

(MAUDE) database[1] is specifically designed to capture information about EHRs or other health IT systems (EHRs are not currently classified as regulated medical devices). As a result, the fact that an EHR played a role in the event may not be obvious or may be lacking entirely from the narrative. Furthermore, both data bases involve mandatory reporting of events, which creates a large data pool that covers a broad spectrum of incident types, making it even more difficult to sort through the data and identify EHR-related events.

Consequently, to identify such events, the authors of the study had to be creative: They searched the PA-PSRS database for reports containing common EHR-related terms and abbreviations (e.g., ADT [admit/discharge/transfer system], EMR, electronic health, no record, selection). The search returned 8,003 reports from June 2, 2004, to May 18, 2012, and a manual review of these reports identified 3,099 in which the problem reported related to EHRs. (To put things into perspective, a query of FDA's MAUDE database for health-IT-related reports by Magrabi et al. returned a sample of only 436 reports.) Moreover, the rate of EHR-related reports was noted to be growing with time, and is expected to continue to grow as more hospitals adopt EHRs.

• National Initiatives May Improve Reporting of EHR-Related Events

Reporting and surveillance options for health IT may increase, thanks to national initiatives designed to facilitate the reporting of health IT events. The 2011 IOM report called for the U.S. Office of the National Coordinator for Health Information Technology (ONC) to create a plan for the



surveillance and reporting of errors and events related to health IT. In response, ONC is developing a surveillance plan, which recently underwent a public comment period and for which a final version is expected later in 2013.

In addition, health IT reporting may increase in both specificity and detail over time. Both the ONC surveillance plan and the Authority article support the use of EHR- or health-IT-specific event taxonomies similar to that used for the U.S. Agency for Health care Research and Quality (AHRQ) Common Formats, a standardized set of data elements that AHRQ encourages healthcare workers to include in reports of patient safety events. For health IT and integrated systems, these formats include elements such as vendor names, system names, and software versions. Using a defined taxonomy would help overcome the limitations of narrative reporting by allowing easier identification of similar events: If reporters are specifically asked to consider whether health IT was involved, and then asked to answer a standard set of questions, it is more likely that the resulting reports will contain greater detail to support ongoing surveillance and research.

In the meantime, reports to existing systems like ECRI Institute's Problem Reporting Network, FDA's MAUDE database and MedWatch program, and Patient Safety Organizations (PSOs) can help build a body of evidence.

• **Education Is Key**

In order to report a health-IT-related event, healthcare workers must first learn to recognize when the health IT system plays a role in an event. How

ever, the article states that “frontline caregivers may not suspect that an EHR system has contributed to a human error” and notes that the analyzed reports likely represent only a small portion of the total number of EHR-related events and near misses occurring in Pennsylvania. Consequently, there is likely an additional pool of EHR-related events and near misses that were excluded from the Authority analysis simply because the reporters did not recognize the EHR's involvement and therefore did not include any of the Authority's search terms in their narratives.

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IDENTIFYING AND REPORTING HEALTH-IT-RELATED EVENTS

The following questions may help frontline caregivers identify errors related to EHRs and other IT systems:

- Was there an error in the entry of information into an electronic system?
- Did the user enter information into the wrong field, or in the wrong patient's record?
- Did the user fail to change a default value that was inappropriate for the patient?
- Did the system overwrite entered information with a preset default value?

Among the EHR-related reports in the Authority analysis, the primary event type most commonly selected by reporters was medication error (2,516 of 3,099 reports, or 81%). This isn't surprising, since electronic medication management systems are one of the more widely installed and commonly used types of

health IT. Consequently, your facility may want to be particularly vigilant for EHR contributions to medication errors.

Staff should also be vigilant for “wrong input” errors (e.g., inputting correct data into the wrong field, inputting incorrect data into the correct field). According to the Authority article, such errors accounted for the largest segment of EHR-related problems (1,867 of 3,946 total problems, or 47%).

For a standardized method of reporting EHR-related events, consider collecting and reporting the data fields defined in the AHRQ Common Formats (listed on the AHRQ Common Formats web page under “Device or Medical/Surgical Supply, including HIT”). Data fields include the type, brand, and model of the system involved; software and firmware versions; and a series of contributing factors and human factors. ⚙️

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