ECRI Institute PSO

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PSO Monthly Brief

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Adverse Events Point to Issues with Health Information Technology/EHR

The Office of the National Coordinator for Health Information Technology (ONC) charged the Institute of Medicine (IOM) to evaluate safety concerns and make patient care safer using health information technology (HIT). The mission is to establish consensus statements for both government and private sector providers. The report contained 10 recommendations, one of which focused on the importance of coordinating efforts in sharing information and creating systems that will capture adverse events related to HIT.

As stated by the IOM:

All stakeholders must coordinate efforts to identify and understand patient safety risks associated with HIT by:

- Facilitating the free flow of information
- Creating a reporting and investigating system for HIT–related deaths, serious injuries, or unsafe conditions
- Researching and developing standards and criteria for safe design, implementation, and use of HIT

ECRI Institute PSO has analyzed an early snapshot of electronic health record (EHR) issues from reports collected between 2009-2011 from a small sample of participating hospitals. As reflected below, the delay/failure of either entering an order or acting on an order appears to be one of the major contributors to adverse events. This is followed in frequency by reported discrepancies between the EHR and paper chart.

A Sample of EHR Reports by a Selection of Participating ECRI Institute PSO Members (click here for a larger version)

Event Description	Number	%
Delay/Failure entering physician order	39	16%
* Discrepancy between EMR and paper chart	37	15%
Delay/Failure to act on charted order	28	11%
Wrong order entered/order entered in error	27	11%
* Discrepancy among EMR views or EMR and linked systems	23	9%
Wrong patient/patient identification problem	21	9%
Wrong information charted (test results, vital signs, observations)	20	8%
Delay/Failure entering information (test results, vital signs, observations)	16	6%
Information/data transfer problem	10	4%
Delay/Failure to act on charted information (test results, vital signs, observations)	7	3%
* EMR system down/unavailable	7	3%
Duplicate order	4	2%
* System prevents charting care accurately	4	2%
* Orders incorrectly started/stopped/continued automatically by system	2	1%
* Clinically appropriate selections unavailable	2	1%

Notes: Includes 230 event reports; reports may be counted in more than one category above.
Represents data from 12 hospitals about events occurring from approximately Jan 2009 through Apr 2011.

*Problems unique to HIT

Some EHR issues are analogous to paper charts (e.g., orders posted to wrong chart, inaccurate information charted, failure to chart, HIPAA concerns.) Other problems are novel and unique to HIT, such as the learning curve associated with new technology, user errors, alarm fatigue, and data corruption or unavailability which can lead to a delay in diagnosis.

In addition to EHR errors, which are a subset of HIT issues, it will be important to continue to collect and analyze information involving all health information technology. ECRI Institute served as a subcontractor to Abt Associates for building the Health IT Hazard Manager designed by Dr. Jim Walker, Geisinger Health System, and continues to serve as the PSO for the collection of beta-tested information. (This project was sponsored by the U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality [AHRQ] Prime Contract No. HHSA290200600011.)

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How Can We Help You?

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