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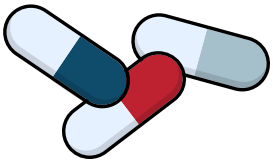
Electronic Health Record Usability Challenges Contribute to Medication Errors in Children

Electronic health records (EHRs) have improved the quality and safety of patient care, yet challenges with system usability—how they're designed, customized, implemented, and used by clinicians—can contribute to medical errors. Children are particularly vulnerable to harm from incorrect drug dosages and other medication mistakes.

New research from three hospital systems examined how EHR usability can affect patient safety, particularly when it comes to caring for children.[1] The study analyzed 9,000 pediatric patient safety events reported by the hospitals in a five-year period.

EHR usability contributed to medication errors in **1 in 3** events examined

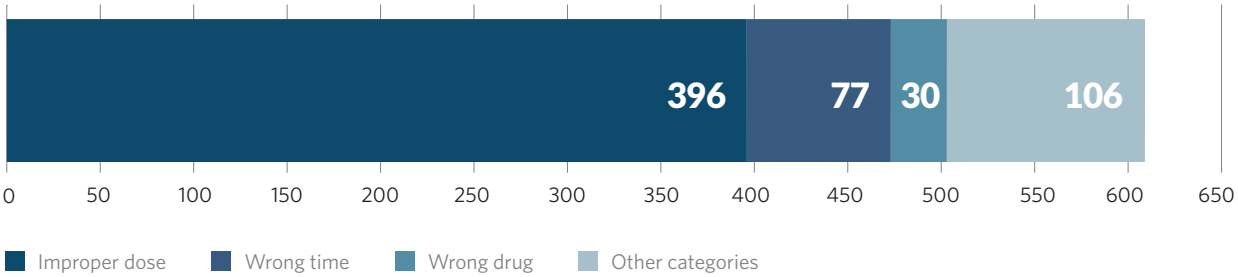


More Than 8 in 10 Drug Errors Involved an Improper Dose

Dosage mistakes occurred in 2,740 of the 3,243 events

Errors Affected Children's Care in Almost 1 in 5 Events

Medication problems that reached patients (609 out of 3,243), by category



Two ways usability can affect safety

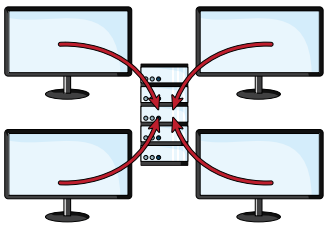
Nurses, doctors, and pharmacists don't see the same information

EHRs may display different data and in different layouts for clinicians, so critical information can be missed.

Improper scheduling or renewing of medication orders

EHRs can let providers order medication for a set amount of time, but may not let them renew those orders, potentially leading to missed doses of important drugs.

Three ways to improve EHR safety



Reporting requirements

The Office of the National Coordinator for Health Information Technology's (ONC's) new reporting program for EHRs should include safety as part of its criteria for collecting data on the usability of different systems.

Voluntary pediatric certification

ONC should include a focus on safety in its voluntary certification criteria for EHRs used in the care of children.

Joint Commission

The Joint Commission, which accredits hospitals for participation in Medicare, should include health information technology safety in its oversight program.

Endnote

1 Raj M. Ratwani et al., "Identifying Electronic Health Record Usability and Safety Challenges in Pediatric Settings," *Health Affairs* 37, no. 11 (2018): 1752-1759, https://doi.org/10.1377/hlthaff.2018.0699.

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