INNOVATION PARTNERSHIPS
UNIVERSITY OF MICHIGAN

System Approach to Verifying Electronic Prescriptions (SAV ERx)

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Category
Digital Health
Software

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OVERVIEW

Automating the identification of unsafe e-prescription transactions

- Reduces medication errors through precise, automated error detection
- Enhance patient safety, improve accuracy, streamline pharmacy workflows

BACKGROUND

Electronic prescriptions (e-prescriptions) have transformed how medications are prescribed, offering increased efficiency and reduced handwriting-related errors. However, they have also introduced new types of errors. Each year, up to 4.39 million medication errors occur due to discrepancies between the prescribed and dispensed medications. These errors often result from mismatches between free-text drug descriptions and National Drug Codes (NDCs) or incorrect product selections in the software used by prescribers and pharmacists. Such inconsistencies can lead to serious patient harm. Current systems lack the ability to systematically and promptly identify these discrepancies, highlighting a critical need for an automated, accurate method to detect and resolve unsafe e-prescription transactions before they reach patients.

INNOVATION

Inventors have created a new system, named SAVE-Rx, that leverages e-prescription transaction data to detect mismatches between prescribed NDCs and free-text drug descriptions or dispensed NDCs. Utilizing standardized drug terminology from the National Library of Medicine's RxNorm, SAVE-Rx ensures precise matching based on medication ingredient, strength, and dosage form. Unsafe transactions are flagged and reviewed by a safety team, with alerts communicated in real time to healthcare organizations through existing e-prescription workflows. This innovation significantly enhances medication safety by automating error detection, thus preventing potentially harmful medication errors. Real-world applications include improving patient safety, increasing prescription accuracy, and streamlining pharmacy workflows to prevent erroneous medication dispensing.