

Medication errors for admitted patients drop when pharmacy staff take drug histories in ER

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Pharmacist Jesse Wisniewski, PharmD, on the job at Cedars-Sinai. Credit: Cedars-Sinai

When pharmacy professionals—rather than doctors or nurses—take

medication histories of patients in emergency departments, mistakes in drug orders can be reduced by more than 80 percent, according to a study led by Cedars-Sinai.

Acting on the findings, Cedars-Sinai now assigns pharmacy staff members to take medication histories for high-risk patients admitted to the hospital through the Emergency Department.

Injuries resulting from medication use are among the most common types of inpatient injuries at U.S. hospitals, affecting hundreds of thousands of patients every year. Errors in medication histories contribute significantly to such problems, according Rita Shane, PharmD, chief pharmacy officer at Cedars-Sinai. These errors can lead physicians to order the wrong drug, dose or frequency.

Electronic health records for patients, while helpful, are no panacea. "Across healthcare settings, errors that are introduced into the record by individuals with varying levels of knowledge can become 'hardwired' and used for prescribing medications that can cause harm," said Shane, a co-investigator for the study, published in the journal *BMJ Quality & Safety*.

Joshua Pevnick, MD, associate director of the Division of Informatics at Cedars-Sinai and the study's first author, said establishing accurate medication histories poses a "huge challenge," especially in hospital [emergency](#) departments.

"The standard practice in the U.S. is for doctors and nurses to take these histories, along with simultaneously delivering and coordinating care for the patients," said Pevnick, an assistant professor of Medicine at Cedars-Sinai. "That's why it's so helpful to assign this task to pharmacy experts, whose sole role is to take these histories."

In the study, the investigators focused on 306 medically complex patients at Cedars-Sinai who were taking 10 or more prescription drugs and had a history of heart failure or other serious conditions. The study found that when pharmacists or pharmacy technicians, instead of medical staff, took these patients' histories in the Cedars-Sinai Emergency Department, errors in both the histories and medication orders fell by more than 80 percent. As a result, significantly fewer drug-order errors were made during hospitalization.

Cedars-Sinai now assigns pharmacy staff to take medication histories for certain high-risk patients who are admitted to the hospital after first seeking treatment in the Emergency Department, Shane said. These patients include those who are elderly and reliant on multiple drugs. Having pharmacy staff perform this function enables doctors and nurses to focus on patient-care needs, she explained.

To ensure accuracy when taking histories, pharmacy professionals may need to reconcile [electronic health records](#) with prescription databases and any written lists from the patient, the patient's pharmacy and the primary-care physician, along with information provided verbally by the patient or the patient's family or caregiver.

Patients in the Emergency Department pose special challenges. They may be unable to offer information because they are unconscious or otherwise compromised by a health crisis. A medication list found in a person's wallet may be for a family member, or a drug on the list may have been discontinued by the patient months ago.

"There can be a lot of CSI-type investigation," said Cedars-Sinai pharmacist Jesse Wisniewski, PharmD, referring to the television series featuring crime-scene investigations. In complex cases, Wisniewski added, he may spend 40 minutes or more taking a medication history for an Emergency Department patient.

Studying and solving [medication history](#) errors is a continuing, cooperative effort at Cedars-Sinai that involves the departments of Pharmacy Services, Medicine and Biomedical Sciences. The initiative continues to expand, with plans in the works to provide [pharmacy](#) staff reviews of medications for a wider range of [patients](#) in the Emergency Department and inpatient areas, Shane said.

The *BMJ Quality & Safety* study also involved investigators from Western University of Health Sciences in Pomona, California; University of Toronto and University Health Network in Toronto; the VA Greater Los Angeles Healthcare System; and UCLA.

More information: Joshua M Pevnick et al, Improving admission medication reconciliation with pharmacists or pharmacy technicians in the emergency department: a randomised controlled trial, *BMJ Quality & Safety* (2017). [DOI: 10.1136/bmjqs-2017-006761](https://doi.org/10.1136/bmjqs-2017-006761)

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