



What Makes Pharmacist Mistakes More Likely?

September 22, 2015

Meghan Ross, Associate Editor

Article



The more orders pharmacists have to verify, the more likely they are to make mistakes.

The more orders pharmacists have to verify, the more likely they are to make mistakes.

To gain more insight on pharmacist medication errors, researchers recently monitored 1,887,751 medication orders, 92 medication error events, and 50 pharmacists at a large tertiary care medical center in Houston, Texas.

They looked for potential risk factors related to workload, work environment, and the number of pharmacists per shift, and they also considered factors such as the type of pharmacy degree, age, experience, and number of years at the institution.

Noting that pharmacists are one of the final safeguards before a patient receives a medication, the researchers highlighted the

importance of identifying factors that affect pharmacist error rates.

They determined that the error rate was 2.58 errors per 100 shifts when the number of orders verified per shift was in the 100 to 200 range, 8.44 when the number of verified orders was in the 201 to 400 range, and 11.11 when the number of verified orders exceeded 400. Overall, the error rate was 4.87 errors per 100,000 verified orders.

The evening shift had the highest error rate, followed by the day shift and then the night shift. In addition, there was a higher medication error rate during the weekdays compared with the weekends, the researchers found.

“My take-home message from the study was how remarkably safe the order entry verification process was overall, but also our finding that the number of orders verified per shift increased the potential for errors,” study author Kevin W. Garey, PharmD, MS, professor at the University of Houston College of Pharmacy, told *Pharmacy Times*. “It confirms that this part of the order verification process is safe and also gives us actionable items to continue to improve.”

The pharmacist errors reported in the study were collected through a voluntary reporting system known as the University HealthSystem Consortium Patient Safety Net (PSN). The fact that these error reports were voluntary was one of the study’s limitations, the researchers noted.

Using PSN’s harm score classification, the medication errors were judged by a hospital safety committee on a scale from 1 to 9, with 9 representing death. These scores were divided into

3 categories: near miss (1-2), reached the patient (3-5), and harm (6-9).

The researchers found that the highest rate of error was 3.76 for the middle category, followed by 1.01 for the near-miss category and 0.11 for the harm category.

The most common error types were wrong dose or wrong drug or substance.

The 5 medications most commonly involved in an error were:

- Pneumococcal vaccine (duplicate order): 13%
- Piperacillin/tazobactam 3.375 g vial (allergy or wrong dose): 4%
- Influenza virus vaccine (duplication): 3%
- Warfarin sodium 5 mg tablet (wrong dose): 2%
- Dexamethasone injection 4 mg (of dexamethasone phosphate) per mL (wrong dose): 2%

The authors noted that adverse events related to medication errors cost around \$37.6 billion to \$50 billion each year. In addition, it is estimated that between 44,000 and 98,000 patients die in US hospitals each year due to medical errors.

They compared the high-pressure tasks that pharmacists perform with the [job of a pilot](#).

“The health care industry, specifically pharmacy operations,

resembles the high-acuity, high-stress work environment seen in aviation," the researchers wrote. "A pharmacist is at great risk to commit a medication error due to the intricacies of the medication dispensing process, which includes verifying that the order is appropriate for the patient."

In the study, there was not a statistically significant difference in error rate between more experienced workers and younger workers. The most commonly held pharmacy degree was a Bachelor of Science (64%).

The study results were published in the *American Journal of Health-System Pharmacy*.

Related Videos

Related Content

Study Finds High Antimicrobial Resistance Against Pneumococcal Diseases, Despite Vaccination

February 8th 2024

Article

Public Health Matters: The Pharmacist's Role in the HIV Space, Removing Barriers, Racial Disparities

February 7th 2024

Podcast

Walgreens Focuses Attention on Pharmacy School Enrollment With Walgreens Deans Advisory Council

February 8th 2024

Article

Pharmacy Focus Oncology: Advancements in Hematology and Breast Cancer - ASH and SABCS 2023 Recap

January 29th 2024

Podcast

Culturally Appropriate Diet Recommendations Can Help Multi-Ethnic Patients Manage Diabetes During Pregnancy

February 8th 2024

Article

Understand RSV Treatment Options in Adults

February 8th 2024

Article

[About Us](#)

[Editorial Staff](#)


[Advertise](#)

[Privacy Policy](#)

[Contact Us](#)

[Terms & Conditions](#)

Contact
Info


 2
Commerce
Drive



Do Not Sell
My
Information

Cranbury,
NJ 08512



 609-716-
7777

© 2024 MJH Life Sciences

All rights reserved.