

Community/Ambulatory Care

ISMP Medication Safety Alert!®

Educating the Healthcare Community About Safe Medication Practices

Implement strategies to prevent important medication safety concerns

Reflecting on events that occurred in 2024, we have identified three persistent concerns related to medication safety, which were included in [ECRI's Top 10 Patient Safety Concerns for 2025](#). Our selected top concerns are not solely based on the most frequently reported problems or those that have led to the most serious consequences, although these factors were considered. Instead, we emphasize safety concerns and errors that persist but can be avoided or minimized with system and practice changes. If you have not already taken action to mitigate these risks, we hope awareness of these concerns informs the priorities you set for your medication safety improvement plan!

Deteriorating Community Pharmacy Working Conditions

PROBLEM: Community pharmacists have long endured unsatisfactory work conditions. The coronavirus disease 2019 (COVID-19) pandemic uncovered system weaknesses as work conditions further deteriorated, leading to conditions becoming dangerously overwhelming and threatening to both patient safety and staff well-being.¹⁻⁶ In addition to prescription volumes, community pharmacists have seen an increase in requests for vaccinations and point-of-care testing.^{5,7} However, staffing has not always kept pace, leaving pharmacists rushing to administer vaccines, and verify and dispense prescriptions. Numerous phone calls with providers, patients, and insurers add to the workload. Pharmacists often feel compelled to verify prescriptions while on the phone, which has contributed to errors. Additionally, pharmacists have taken on pharmacy technician tasks after employers cut technician hours, and technicians resigned due to burnout and low pay.^{5,7}

In a tragic example, a pharmacist suffered a heart attack and died while working as the lone pharmacist at a busy pharmacy.⁸ Feeling pressure to meet performance metrics, she did not close the pharmacy when she began to experience symptoms. Production metrics aimed at increasing revenue and other tasks may be measured against corporate goals and for staff evaluations. Pharmacists often feel forced to choose between meeting metrics for their job performance and providing safe, quality care.^{4,7,9,10}

Disrespectful behavior in the workplace can also jeopardize patient safety. A 2022 survey revealed that almost 25% of respondents were aware of a medication error in the past year in which disrespectful behavior, whether from practitioners, leaders, and/or patients and caregivers, played a role.¹¹ One respondent noted that high pressure, inadequate staffing, and abuse from customers has led to the administration of the incorrect vaccine and dispensing prescriptions to the wrong patient.

Increased workload and poor working conditions contribute to pharmacy staff distress. Data from the American Pharmacists Association's (APhA) Well-Being Index for Pharmacy Personnel indicated that almost 33% of pharmacy staff in 2021 were at substantial risk for distress, which carries an eightfold higher risk of burnout and a twofold higher risk of medication error.^{7,12}

SAFE PRACTICE RECOMMENDATIONS: It is important for leaders, managers, and staff to recognize the interconnections among job-related burnout, stress, psychological capital, and social support. Pharmacies should provide employee assistance and wellness programs and resources. Organization leaders should support staff and allow time off to attend appointments related to mental health well-being.

continued on page 2 — [Medication safety concerns](#) >

SAFETY briefs

⚡ Hyoscyamine tablet labels still look alike. In a March 2023 **Safety brief**, we alerted practitioners to the risk of mixing up hyoscyamine oral, orally dispersible, and sublingual tablets by Acella Pharmaceuticals because the packaging and labeling were nearly identical (**Figure 1**). We also notified the manufacturer and US Food and Drug Administration (FDA) of this concern and recommended differentiating the labels.



Figure 1. Acella Pharmaceutical's hyoscyamine oral, orally dispersible, and sublingual tablets have similar labels for all tablet formulations.

Well, fast forward almost two years, and we have received a report of an event in which Acella Pharmaceutical's hyoscyamine sulfate 0.125 mg tablets and hyoscyamine sulfate 0.125 mg sublingual tablets were mixed in the same vial for a patient. The pharmacy staff person scanned one bottle, which happened to be the correct formulation, but did not scan the second (incorrect) bottle. The reporter noted that the packaging looks nearly identical and that the items were stored next to each other on the shelf. Although the tablets also look nearly identical, the verification pharmacist noticed that some tablets were marked with the number 40 (the regular tablet) and others with the number 39 (the sublingual tablets). As a result, they were able to prevent the error from reaching the patient.

Consider purchasing these products from alternative manufacturers to better distinguish the formulations. Store the
continued on page 2 — **SAFETY briefs** >

> **Medication safety concerns** — continued from page 1

Explore utilizing a call center and/or remote pharmacists to triage phone calls and conduct medication therapy management (MTM) as well as a centralized dispensing operation for prescription refills. Isolate areas for critical steps of the medication dispensing process (e.g., where prescriptions are transcribed, verified, filled, and checked). Do not require staff to meet productivity-focused metrics which may compromise staff and patient safety; instead, prioritize measures that monitor patient and worker safety. Remove unnecessary administrative burdens and nonessential workflow tasks. Reallocate administrative and nonpatient care tasks to support personnel.

Examine prescription volume data periodically. Gather feedback from staff regarding workload and conditions in the pharmacy; ask whether current staffing and resources are sufficient to provide safe and effective care. Use this information to determine appropriate staffing levels and use of automated dispensing technology. Include a backup plan for a short-staffed pharmacy in policies and procedures. Consider appointment-based models to efficiently manage other clinical services (e.g., vaccinations, MTM, patient care calls).

Implement a fair and Just Culture—ensuring respectful management of serious adverse events. Provide transparency and feedback so staff feel safe voicing workplace and patient safety issues without fear of reprisal. Survey staff anonymously and confidentially every two years to assess their perceptions of workplace culture using a tool such as the Agency for Healthcare Research and Quality's (AHRQ) [SOPS Community Pharmacy Survey](#). Use the findings to create an action plan and drive improvement.

Communicate to patients that safety is a priority. Ask for their participation in supporting a safe pharmacy environment (e.g., reasonable expectations for prescription filling times, pharmacy closed for lunch). Collaborate with patients to identify and address issues that they find burdensome. Create a reporting pathway for patients and families to share safety concerns.

Medical Error and Delay in Care Resulting from Cybersecurity Breaches

PROBLEM: Cybersecurity has become one of the most pervasive and persistent concerns in health-care. In a survey of healthcare cybersecurity professionals, 88% reported that their organizations experienced cyberattacks in the past year, with an average of 40 attacks per organization.¹³

In 2023, the US healthcare industry experienced 725 large security breaches, affecting over 133 million medical records.¹⁴ Such breaches have increased nearly every year since 2009¹⁴ and have continued through 2024, causing disruptions in patient care, delayed diagnostic testing results, and supply chain issues.¹⁵


Cybersecurity breaches can cause widespread disruptions and have broad and devastating effects on patients, providers, healthcare organizations, and the surrounding community. Patients can experience poor outcomes from delays in tests and procedures, longer lengths of stay, more complications from medical procedures, more transfers, and higher mortality rates.¹³ They may also face exposed personal health information. Access to prescription medications can be compromised, leading to missed doses that may contribute to poor outcomes or out-of-pocket expenses in order to continue therapeutic treatment.¹⁵ Providers may experience increased workloads, loss of access to patient information or medical devices, and resource shortages, which can increase stress levels and lead to burnout.¹⁶

SAFE PRACTICE RECOMMENDATIONS: Devote adequate time and resources to cybersecurity concerns and build cybersecurity into organizational policies.¹⁷ Include cyberattack response in the organization's emergency preparedness plan and collaborate with local partners and healthcare organizations to ensure that there are established strategies for combatting cyberattacks. Refer to [resources from FEMA](#). Practice responding to cybersecurity incidents to evaluate the effectiveness

continued on page 3 — **Medication safety concerns** >

> **SAFETY briefs** cont'd from page 1

bottles separately and always use barcode scanning prior to dispensing. Scan each bottle used to fill a prescription, including each manufacturer bottle that may be dispensed to a patient. We have once again notified the manufacturer and FDA of this issue and asked them to better differentiate the labels.

 **Never dilute medication in a saline flush syringe.** A physician ordered chemotherapy for a pediatric oncology patient in an outpatient infusion center. To mitigate the risk of chemotherapy-induced nausea and vomiting, the prescriber ordered doses of oral ondansetron and intravenous (IV) diphenhydramine, along with PRN doses of IV prochlorperazine. The nurse diluted the diphenhydramine and prochlorperazine in separate manufacturer-prefilled 10 mL saline (0.9% sodium chloride) flush syringes and labeled them with the drug names. The nurse administered the diluted diphenhydramine IV using an infusion pump and set aside the diluted prochlorperazine syringe in case it was needed.

Before her break, the nurse communicated the antiemetic plan during the handoff to another nurse. Upon returning, the nurse found that a different nurse had taken over. The primary nurse could not find the syringe containing the prochlorperazine, but its

continued on page 3 — **SAFETY briefs** >

Share Your Stories with Us

Articles in this publication are based on actual reports from practitioners. We'd like to hear from you too! Please share reports of medication errors and prevention recommendations, in confidence, with colleagues in the United States and worldwide. Errors may be reported [online](#) or by calling 1-800-FAIL-SAFE. ISMP communicates product-related issues with the US Food and Drug Administration and companies whose products are mentioned in reports. ISMP guarantees the confidentiality of information received and respects the reporters' wishes regarding the level of detail included in publications. Reporter identity is never published.

> **Medication safety concerns** — continued from page 2

of your organization's incidence response plan. Conduct drills using tabletop exercises, such as the Cybersecurity & Infrastructure Security Agency's (CISA) [Tabletop Exercise Packages](#).

Ensure that staff training on cybersecurity is effective and reaches all appropriate audiences. In the event of a breach, ensure staff have adequate resources to deliver patient care while systems are down. Ensure rotation and rest for staff when responding to a cyberattack, as long hours and extreme stress can result in poor decision-making. Also, emphasize the importance of cybersecurity precautions with patients and families, especially those accessing the healthcare network or using healthcare-related apps (e.g., telehealth, patient portals).

Growing Threat of Substandard and Falsified Drugs

PROBLEM: Substandard and falsified (SF) drugs (i.e., counterfeit or fake drugs made to resemble genuine pharmaceutical manufacturers' medications) pose a significant threat to patient safety. In our May 2024 article, *ISMP urges increased action at the practice level to halt the growing danger of counterfeit drugs*, we discussed how medications are increasingly being purchased from unregulated online marketplaces posing as legitimate pharmacies. Alarming, approximately 95% of so-called online pharmacies selling prescription drugs operate illegally.¹⁸ Many illegal online pharmacies may be disguised as Canadian pharmacies providing low-cost medications, "making it difficult to discern between a legitimate and fake site."¹⁹

SF drugs are frequently adulterated with potentially lethal ingredients, including fentanyl, fueling the epidemic of overdose deaths plaguing the United States.¹⁹ The ease of purchasing products through social media has increased fatal overdose risk.²⁰ Although SF medications are often associated with illicit drug use, fake drugs represent a threat to all, from young people seeking help with attention-deficit/hyperactivity disorder (ADHD) to elderly patients looking for the lowest price for their prescriptions. Other harmful substances found in SF drugs include rat poison, cement, and heavy metals (e.g., arsenic, mercury).²¹ Even when not contaminated with dangerous material, SF drugs often lack the active ingredients to be effective.¹⁹

SAFE PRACTICE RECOMMENDATIONS: Educate staff about the potential for patients presenting to different healthcare settings with adverse reactions after knowingly or unknowingly taking SF drugs. Monitor patients for unexpected outcomes (e.g., increased side effects, medication not working as it previously had) and consider if SF medications could be the cause. When reviewing a patient's medication history, include a scripted open-ended question asking where they obtain their medications.

Share warning signs with patients that may indicate an online pharmacy could be selling SF drugs. Refer them to resources such as the US Food and Drug Administration's (FDA) [BeSafeRx campaign](#). Educate patients about the National Association of Boards of Pharmacy's (NABP) [searchable list of accredited digital pharmacies](#) that comply with quality assurance criteria. Encourage patients to check for a licensed pharmacist's availability at any online pharmacy they are considering, which can help determine the pharmacy's legitimacy. Inform patients that when a pharmacy does not require a provider's prescription to dispense a prescription medication, or when a provider issues a prescription without an online or in-person visit, the facility is likely illegal and unsafe.


Advise patients to review medication packages and labeling for spelling errors, which are common on counterfeit products. Inform patients that, although manufacturers may change products or pharmacies may provide different generic products, any concerns about differences in a medication's size, color, or shape should be addressed. Ensure the drug description on the pharmacy label matches that of the drug inside the container. Explain to patients that legitimate medications will have a factory-made appearance. Patients should be suspicious if tablets are cracked, have a bubbled-up coating, are crumbly or moldy, or come in jars containing excess powders or crystals. If the original manufacturer's packaging has been opened, has a broken seal,

continued on page 4 — **Medication safety concerns** >

> **SAFETY briefs** cont'd from page 2

label was on the floor. The covering nurse told the primary nurse that the prescriber had ordered another antiemetic, aprepitant, which she administered. However, she used the syringe containing prochlorperazine to flush the line after administering the aprepitant, thinking it was normal saline. No patient harm was reported. During the event investigation, it was uncovered that nurses at this clinic were encouraged to dilute/reconstitute medications in manufacturer-prefilled saline flush syringes due to the nationwide fluid shortages.

This is not the first time that ISMP has received a report of this type of error. The ISMP [Safe Practice Guidelines for Adult IV Push Medications](#), discourages dilution or reconstitution of medications in commercially available, prefilled flush syringes that could be mistaken as plain saline. The US Food and Drug Administration (FDA) regulates commercially available prefilled syringes of saline and heparin as devices, not as medications. These devices have been approved for the flushing of vascular access devices but have NOT been approved for reconstituting or diluting medications to be subsequently administered IV push. Organizations should NOT adopt this practice, even during shortages. Notify nurses of this risk and ensure policies and practices align with ISMP's guidelines.

 **Good catch at the point-of-sale.** A pharmacy reported an error during the prescription filling process where the wrong strength of a product (10 mg instead of 20 mg) was selected, filled, and verified by the pharmacist. Fortunately, the error was intercepted at the point-of-sale when staff interacted with the patient, and the correct strength product was ultimately dispensed.

This case underscores the importance of engaging patients to help intercept errors. This is why ISMP recommends opening the prescription bag and reviewing the pharmacy labels and contents of each prescription container with the patient to verify that the medication and strength are correct. Additionally, discussing the medication with the patient, including the drug's purpose and directions for use, can further reduce the risk of errors.

> **Medication safety concerns** — continued from page 3

appears to have been tampered with, comes in different packaging, has no packaging, is missing the label, or just does not look right, patients should check with a healthcare provider before taking the medication.²²

Practitioners should also be aware of and share resources from government agencies that offer information to combat SF drugs, such as:

- [Centers for Disease Control and Prevention](#)
- [FDA](#)
- [National Intellectual Property Rights Coordination Center](#)
- [Fight the Fakes Alliance](#)

References

- 1) Gabler E. [How chaos at chain pharmacies is placing patients at risk](#). *New York Times*. Published January 31, 2020. Updated October 13, 2021. Accessed October 18, 2024.
- 2) Gabler E. [At Walgreens, complaints of medication errors go missing](#). *New York Times*. Published February 21, 2020. Updated October 13, 2021. Accessed October 18, 2024.
- 3) Gabler E. [CVS fined for prescription errors and poor staffing at pharmacies](#). *New York Times*. Published July 16, 2020. Accessed October 18, 2024.
- 4) Antrim A, Tanoe B. [Social media campaign aims to raise awareness, create change for pharmacy working conditions](#). *Pharmacy Times*. Published October 19, 2021. Accessed September 19, 2024.
- 5) Arya V, Bakken BK, Doucette WR, et al. [2022 national pharmacist workforce study final report](#). Pharmacy Workforce Center. Published May 31, 2023. Accessed September 19, 2024.
- 6) Petersen M. [California pharmacies are making millions of mistakes. They're fighting to keep that secret](#). *Los Angeles Times*. Published September 5, 2023. Accessed October 16, 2024.
- 7) Blank C. [Retail pharmacy has reached the breaking point](#). *Drug Topics*. Published February 3, 2022. Accessed September 19, 2024.
- 8) Le Coz E. [CVS pharmacist's death becomes cautionary tale of crushing stress at work](#). *USA Today*. Published February 8, 2024. Accessed September 19, 2024.
- 9) Constantino AK. [Pharmacy staff from Walgreens, CVS say they're at a breaking point—here's what their days look like](#). *CNBC*. Published October 27, 2023. Accessed September 19, 2024.
- 10) Le Coz E. [Prescription for disaster: America's broken pharmacy system in revolt over burnout and errors](#). *USA Today*. Published October 26, 2023. Accessed September 19, 2024.

continued in the right column >

> continued from the left

- 11) ISMP. Survey results: practitioners speak up about the persistence of disrespectful behaviors in healthcare. *ISMP Medication Safety Alert! Community/Ambulatory Care*. 2022;21(7):1-4.
- 12) [Call for comments on pharmacist's fundamental responsibilities and rights: APHA and NASPA collaborate in development of document to facilitate discussions for change](#). News release. American Pharmacists Association, National Alliance of State Pharmacy Associations; March 13, 2021. Accessed September 19, 2024.
- 13) [Cyber insecurity in healthcare: the cost and impact on patient safety and care](#). Ponemon Institute. 2022. Accessed September 27, 2024.
- 14) Alder S. [Security breaches in healthcare in 2023](#). *The HIPAA Journal*. January 31, 2024. Accessed October 15, 2024.
- 15) Tahir D. [Cyberattacks plague health care. Critics call the federal response 'inadequate.'](#) Shots. September 17, 2024. Accessed September 27, 2024.
- 16) Franks A. [Cyberattacks: a recipe for nurse burnout and compromised patient care](#). HIT Consultant. August 6, 2024. Accessed September 27, 2024.
- 17) Pelletreau B, Riggi J, Gale BM, Mossburg SE. [Cybersecurity and how to maintain patient safety](#). PSNet. March 27, 2024. Accessed September 27, 2024.
- 18) Brady J, Baney L. [Congress holds registries and registrars accountable for rogue online pharmacies](#). National Association of Boards of Pharmacy. January 21, 2022. Accessed February 27, 2024.
- 19) Fujimori S. [A dangerous deal: combating the rise in online counterfeit medicines](#). Pfizer. September 2022. Accessed February 27, 2024.
- 20) Tanz LJ, Dinwiddie AT, Mattson CL, O'Donnell J, Davis NL. Drug overdose deaths among persons aged 10–19 years — United States, July 2019–December 2021. *MMWR Morb Mortal Wkly Rep*. 2022;71(50):1576-82.
- 21) [Fake medicines](#). Interpol. Accessed August 29, 2024.
- 22) [How to identify fake medicines](#). Pfizer. Accessed August 29, 2024.

Special Announcements

Virtual MSI workshop

Join us for our **ISMP Medication Safety Intensive (MSI)** workshop for **community, mail order, and specialty pharmacies**. The two-day virtual workshop is designed to help you successfully address current medication safety challenges that impact patient safety. Program faculty will provide you with the knowledge, as well as specific tools and resources needed to establish and sustain a medication safety program. The virtual workshop will be held **April 25 and May 2, 2025**. For more information and to register, please click [here](#).

Apply for new Fellowship

Applications are now being accepted for the first **Ochsner Children's & ISMP Safe Medication Management Fellowship!** This unique one-year program for pharmacists offers the opportunity to learn from and work with top experts in medication safety while supporting error-prevention strategies in pediatrics at Ochsner Health. The fellowship begins in the summer of 2025 and requires **working onsite at Ochsner Health in New Orleans, LA**, and remotely with ISMP. The deadline to apply is **May 2, 2025**. For more information and to apply, please visit: [Safe Medication Management Fellowships](#).

To subscribe: www.ismp.org/ext/1369



ISMP Medication Safety Alert! Community/Ambulatory Care (ISSN 1550-6290) © 2025 Institute for Safe Medication

Practices (ISMP). All rights reserved. Redistribution and reproduction of this newsletter, including posting on a public-access website, beyond the terms of agreement of your subscription, is prohibited without written permission from ISMP. This is a peer-reviewed publication.

Report medication and vaccine errors to ISMP: Please visit www.ismp.org/report-medication-error or call 1-800-FAIL-SAFE. ISMP guarantees the confidentiality of information received and respects the reporters' wishes regarding the level of detail included in publications.

Editors: Michael J. Gaunt, PharmD; Shannon Bertagnoli, PharmD; Ann Shastay, MSN, RN, AOCN; Rita K. Jew, PharmD, MBA, BCPPS, FASHP. ISMP, 5200 Butler Pike, Plymouth Meeting, PA 19462. Email: ismpinfo@ismp.org; Tel: 215-947-7797.