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ISMP
An ECRI Affiliate

Community/Ambulatory Care
ISMP Medication Safety Alert!®
Educating the Healthcare Community About Safe Medication Practices

ISMP launches the 2023-24 Targeted Medication Safety Best Practices for Community Pharmacy

ISMP has launched the ***2023-24 Targeted Medication Safety Best Practices for Community Pharmacy***. The purpose of these *Best Practices* is to identify, inspire, and mobilize widespread, national adoption of consensus-based best practices in community pharmacies to address recurring problems that continue to cause fatal and harmful errors, despite repeated warnings in ISMP publications. The *Best Practices*, which are reviewed by an external expert advisory panel, represent high-leverage error-reduction strategies, many of which have already been successfully adopted by some pharmacies. While the *Best Practices* might be challenging for some organizations to achieve, they are all practical and realistic, and their value in reducing medication errors is grounded in scientific research and/or expert analysis of medication errors and their causes. Their implementation can vastly improve medication safety and reduce the risk of significant patient harm.

To best protect public health, ISMP encourages community pharmacies to focus their medication safety efforts for the next two years on these *Best Practices*. Each *Best Practice* is accompanied by a rationale and references related issues of ISMP's newsletters for additional background and information. While targeted for the community pharmacy setting, some best practices are applicable to other healthcare settings, such as ambulatory, mail order, specialty pharmacy, long-term care, and home infusion.

The 2023-24 ***Targeted Medication Safety Best Practices for Community Pharmacy*** include the following best practices:

Best Practice 1: Use a standard protocol to verify a patient's identity, utilizing at least two patient identifiers, when receiving a prescription to be filled, responding to patient-specific questions, providing filled prescriptions to patients at the point-of-sale, when delivering prescriptions to the patient's home, and prior to administering vaccines or other treatments.

Best Practice 2: Install and use barcode verification during production (i.e., the prescription filling process) to scan each drug or vaccine package or container (e.g., bottle, carton) used to fill a prescription, including manufacturer cartons or bottles that may be dispensed to a patient.

Best Practice 3: Use a weekly dosage regimen default for oral methotrexate in electronic systems when medication orders are entered. Require verification and entry of an appropriate oncologic indication in order entry systems for daily orders. Create a forcing function (e.g., electronic stop in the sales register that requires intervention and acknowledgment by a pharmacist) to ensure that every oral methotrexate prescription is reviewed with the patient or a family member when a prescription is presented or refills are processed. Provide specific patient and/or family education for all oral methotrexate prescriptions.

Best Practice 4: Standardize to the use of the milliliter (mL) unit of measure when prescribing, dispensing, and measuring oral liquid medications.

Best Practice 5: Seek out and use information about medication safety risks and errors that have occurred in organizations outside of your pharmacy, including other affiliated pharmacies, and take action to prevent similar errors.

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SAFETY briefs

Another apparent mix-up between clomiPHENE and clomiPRAMINE. Recently, a consumer reported that she received the wrong medication from a community pharmacy. The prescriber ordered the fertility drug **CLOMID** (clomi**PHENE**) 50 mg, take two tablets by mouth daily for five days. However, the pharmacy dispensed clomi**PRAMINE** (**ANAFRANIL**), a tricyclic antidepressant used to treat obsessive-compulsive disorder, with those same directions. It is not known if any computerized alerts were generated for the high starting dose (100 mg) of clomi**PRAMINE**—the starting dose for clomi**PRAMINE** is 25 mg daily with a gradual titration over 2 weeks to 100 mg daily in divided doses. Also, it is unknown if the pharmacist or pharmacy computer systems flagged that the patient

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Please share your thoughts on how to prevent shipping and delivery errors

In the February 2023 issue of the ***ISMP Medication Safety Alert! Community/Ambulatory Care*** newsletter, we published an article titled *Shipping and delivery errors—Part I*, in which we presented the types of shipping and delivery issues along with identified contributing factors that can occur when pharmacies ship or deliver medications to patients. As we continue to develop **Part II** of our report to explore how to prevent shipping and delivery issues, we would like to learn from you about the strategies your pharmacy is working on or has implemented to prevent shipping and delivery errors. Please take a few minutes to complete our short survey (www.ismp.org/ext/1161) to share your risk-reductions strategies and contribute to the dialogue on this important issue. Please submit your thoughts and ideas by **May 19, 2023**.

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We strongly encourage adoption of these practices in all US community and ambulatory care pharmacies. The *Best Practices* are fully described on ISMP's website at: www.ismp.org/node/65345. In addition, there is a worksheet (www.ismp.org/node/67951) you can use to identify gaps in implementation of these *Best Practices* and develop an action plan to address vulnerabilities.

Handling error with etoposide leads to wasted drug

A specialty pharmacy reported an error that resulted in a carton of etoposide 50 mg capsules being left out at room temperature overnight for about 12 hours. Etoposide capsules are used for small cell lung cancer. They are a cold-chain medication that needs to be stored under refrigeration between 2° to 8°C (36° to 46°F). The error happened during the packing phase of the pharmacy workflow, which comes after production and pharmacist verification. The packing technician did not realize the etoposide capsules needed to be stored at refrigerated temperatures, so they packed it for shipment as a room temperature medication without a cooler box or an appropriate number of cold packs. When the pharmacist discovered the etoposide carton at room temperature the next morning, they researched temperature stability and excursion data to see if the medication was still stable. They called the manufacturer, Mylan, but additional temperature stability data was not available at that time. So, the pharmacist sequestered the medication for disposal since they could not confirm the stability. Unfortunately, the product was on backorder, and the other pharmacies within the same company did not have this medication in stock. The pharmacy transferred the prescription to an outside pharmacy so the patient would not be late on their dose.

This was the first time the pharmacy had dispensed etoposide capsules, and the technician handling the medication did not realize that it was a cold-chain item. Many oral capsules are stored at room temperature, but this specific medication should be stored in the refrigerator. Etoposide 50 mg capsules are packaged in cartons with 20 unit dose capsules. While the name of the drug and strength are prominently displayed on the carton's primary display panel, the storage information is printed on a narrower side panel, so it may not be immediately apparent that this product always should be stored in the refrigerator.

The pharmacy has a process that when each cold-chain item is removed from the refrigerator, pharmacy staff places a blue laminated card in the medication tote that follows the medication through the entire filling and packing process until it is packed into a cooler box for shipping or returned to the refrigerator. The staff person writes, using a dry erase pen, on the blue card the time they removed the medication from the refrigerator (**Figure 1**). This timestamp is visible during filling, product verification, and packing stages to help staff ensure that the medication is not out of the refrigerator for longer than designated in the pharmacy's drug cold-chain protocol (e.g., 30 minutes). The pharmacy has also employed technology to remind staff they are working with a cold-chain medication. For example, the packing station computer screen says "cold" and the packing label prints automatically with an "R" (for refrigerate) as another reminder. It is unclear why all these indicators were missed in the case above.

Figure 1. A blue laminated card accompanies a cold-chain medication order. The time the medication is removed from the refrigerator is written on the card.

ISMP recommends implementing a layered approach to preventing errors related to cold-chain storage and dispensing. Use proactive risk assessments to identify potential medication safety risks and determine strategies to ensure proper storage and handling of new medications. Educate staff on new products, highlighting storage or handling requirements. Establish a process to visually identify cold-chain medications as they move through the pharmacy workflow. Use computer alerts or notifications to identify cold-chain medications as they are processed.

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was already taking another antidepressant, **ZOLOFT** (sertraline), at the time.

ISMP has received multiple reports involving this look- and sound-alike name pair dating back to 2002. It is likely that name similarity contributed to this recent event. The fact that both products are available in 50 mg dosage strengths only increases the risk of confusion.

We also have learned that Par Pharmaceutical has discontinued the manufacturing and sale of their generic formulation of clomi**PHENE**. As a result, there is no longer a generic version of the drug on the market. Only the brand name product Clomid, made by Cosette Pharmaceuticals, is available. This may also be contributing to mix-ups when searching for the correct drug during order entry. For example, if a prescriber writes a prescription using the generic name clomi**PHENE** and a pharmacist or pharmacy technician searches using the first 5 letters of the drug name, the only generic product that will appear in the search results may be clomi**PRAMINE**. This may further contribute to confirmation bias and selection of the wrong medication.

Prescribers should include both brand and generic names as well as the purpose of the medications on prescriptions. Differentiate these drug names (e.g., tall man [mixed case] letters with bolding and color backgrounds) on computer screens for e-prescribing and in the pharmacy computer system. Test pharmacy computer systems for appropriate dose and duplicate therapy screening and alerts. Explore adding computer alerts to verify the indication for these drugs. Differentiate these medication names on storage shelves. Consider implementing mandatory counseling when dispensing medications of a known problematic name pair.

HIGH-ALERT

Fewer high-alert drugs prescribed by dentists. ISMP has warned of the risk of respiratory depression associated with most sedatives used by dentists for pediatric sedation. In fact, we have written about dozens of error reports related to chloral hydrate and other drug-related oversedation

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Pharmacist compounded minoxidil instead of Minoxidin

A healthcare professional working in a hair loss clinic recommended that a patient with hair loss try **MINOXIDIN**, a dietary supplement by Vitalab. Minoxidin is available over-the-counter in 1,000 mg tablets and contains biotin, zinc, and other vitamins, as well as a proprietary blend of saw palmetto, bamboo extract, horsetail extract, and other herbal products. Somehow, this recommendation was communicated to a pharmacist working in a compounding pharmacy and they compounded a product for the patient. However, they mistakenly identified the product as minoxidil. Minoxidil is commercially available as a topical product, commonly known as **ROGAINE**, used for hair loss, and in 2.5 mg and 10 mg tablets, used to treat hypertension. The pharmacist compounded and dispensed an oral dose of 450 mg of minoxidil. This dose was nearly 100 times greater than the initial dose for hypertension.

Figure 1. Oral Minoxidin by Vitalab (top) and topical minoxidil by Kirkland (bottom) are both labeled as extra strength hair regrowth products, with nearly identical container labels.

Pharmacies must ensure that medications and ingredients requested for extemporaneous compounding are appropriate. Create and adhere to standard master formulations when extemporaneously compounding prescriptions. Institute a process to ensure that all master formulations undergo a documented approval process prior to use, as well as a review every year. Compounding pharmacists should question doses that are nearly 100-fold more than the typical starting dose for the approved indication. The clinical decision support built within pharmacy computer systems should also support the pharmacy and alert them to overdoses.

Obviously, for safety reasons, we do not recommend stocking or using this product in your pharmacy. Incidentally, besides having the same indication and similar names, Minoxidin container labels look nearly identical to some minoxidil container labels (**Figure 1**).

Communicate Paxlovid expiration date extension to patients

In January, the Administration for Strategic Preparedness and Response (ASPR) and the US Food and Drug Administration (FDA) announced (www.ismp.org/ext/1153) authorization of an extension of the expiration date for the Pfizer antiviral therapy, **PAXLOVID** (nirmatrelvir and ritonavir tablets co-packaged). The expiration date was extended to 24 months based on the earliest manufacturing date of the two components. This extension was communicated to practitioners, but it appears it is not reaching patients.

The FDA has received reports of patient confusion and concern about expiration dates that differ between what is printed on the pharmacy prescription label or changed on the outer carton, and what is printed on the blister package labels inside the carton. In one case, a patient reported that the original outer carton label expiration date was removed, and a date of 02/2024 was written on the box. However, when the medication packets were accessed, the patient noticed an expiration date of 04/2023. Not knowing about the approved date extension, the patient thought that expiration date tampering had occurred! Other patients reported that they had ingested expired Paxlovid, not knowing the expiration date had been extended.

When counseling patients about Paxlovid, it is important that pharmacists also address the expiration date change. There is room on the Paxlovid carton to affix stickers that inform patients about the FDA-authorized expiration date change. Pharmacists, and patients, can check the former and new expiration dates using the batch number on the outer Paxlovid carton (www.ismp.org/ext/1154).

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events in pediatric patients, some resulting in death.

In a recent study by Kim et al (Kim KC, Khouja T, Burgette JM, et al. Trends in dispensed prescriptions for opioids, sedatives, benzodiazepines, gabapentin, and stimulants to children by general dentists, 2012-2019. *Pharmacoepidemiol Drug Saf*. 2022;1-10. doi: 10.1002/pds.5589), we were pleased to see that prescriptions for opioids, benzodiazepines, sedatives, and other high-alert drugs prescribed by dentists for pediatric use declined by 63% from 2012 to 2019. However, the authors noted that in some low-income regions, there were still high rates of these medications being prescribed for dental procedures for older teens and children, and recommend additional research in these populations.

Special Announcement

Virtual MSI workshops

Don't miss the opportunity to register for one of our unique 2-day, virtual ***ISMP Medication Safety Intensive (MSI)*** workshops. Learn how to identify risks before they cause harm and how to use data for continuous improvement. The next virtual program will take place **June 8-9, 2023.** For more details about the program and additional dates, please visit: www.ismp.org/node/127.

Editors: Michael J. Gaunt, PharmD; Michael Cohen, RPh, MS, ScD (hon), DPS (hon); Shannon Bertagnoli, PharmD; Ann Shastay, MSN, RN, AOCN. ISMP, 5200 Butler Pike, Plymouth Meeting, PA 19462. Email: ismpinfo@ismp.org; Tel: 215-947-7797.