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ISMP
An ECRI Affiliate

Community/Ambulatory Care

ISMP Medication Safety Alert!®

Educating the Healthcare Community About Safe Medication Practices

Shipping and delivery errors—Part I

Specialty, mail service, and retail pharmacies may ship or deliver medications directly to patients' homes to improve convenience, access, and adherence. Many specialty and mail service pharmacies have a centralized model where one main pharmacy ships to many states, provider offices, or infusion centers to cover a wide patient population. This introduces additional steps, including delivery set-up in the computer system and packaging a patient's prescriptions for shipment, and thus additional opportunities for errors. ISMP has received numerous reports of shipping and delivery errors or close calls. One pharmacy reported that shipping and delivery errors and delays occur regularly. Patients have received the wrong medication (e.g., if two packages are swapped and delivered to the wrong patients) or missed doses due to delivery delays. These delivery issues also often result in increased costs to the pharmacy or payer when needing to replace medication orders. In **Part I** of our report, we present the types of shipping and delivery issues along with identified contributing factors that can occur when pharmacies ship or deliver medications to patients. In **Part II** of our report, which will appear in a future newsletter, we will explore how to prevent shipping and delivery issues.

Wrong Address Errors

Most would think a patient's delivery address would be the same month after month; however, it is not uncommon for patients to change their address on a month-to-month or season-to-season basis. For example, some patients may request to have the prescription delivered to a different address, such as their home, work, or a friend or family member's house. Also, some patients maintain seasonal residences. One pharmacy reported they have a large patient population with unstable living conditions such as pediatric patients in foster care, homeless patients, or other patients with social or housing instability which presents a problem when prescriptions need to be shipped to the patient. Also, when patients make a permanent move to a new address, they must remember to provide their new address to the pharmacy prior to their next refill.

In one error report, a patient called the pharmacy to check the status of their order and found out the order was shipped to an old address in a different state. The patient had moved and updated their address with the pharmacy a few months earlier, but the technician had set up the order to be delivered to the old address by mistake. The new tenant living at the patient's previous address received the package and contacted the patient. As part of the event investigation, the pharmacy manager listened to the original interaction on the phone system and discovered that the technician who set up the order did confirm the patient's new address verbally but forgot to select it or add a note to indicate this was a new shipping address. This pharmacy's dispensing software has fields to store up to four addresses for a patient, one of which is indicated as the "shipping address" (**Figure 1**). The order will default to the "shipping address" unless it is changed manually.

Figure 1. Dispensing system allows for four address options (Home 1, Home 2, Work, Other).

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Enfamil multivitamin container labeling continues to cause concern. A pharmacy technician identified a look-alike labeling concern upon receiving a shipment of Enfamil **POLY-VI-SOL MULTIVITAMIN DROPS** and **POLY-VI-SOL MULTIVITAMIN & IRON DROPS** manufactured by Mead Johnson & Company. ISMP received several reports citing concerns with previous Enfamil multivitamin product labeling iterations. Following the recent labeling

Figure 1. The text denoting the actual formulation (i.e., with or without iron) is small on the new Enfamil Poly-Vi-Sol Multivitamin & Iron drops bottle (left) and Poly-Vi-Sol Multivitamin Drops bottle (right) while non-clinically relevant text has become more prominent.

design change, the bottles are still the same shape and size (50 mL), the solutions are nearly the same color, the color palette of the labeling is more similar, the text denoting the formulation remains small, and the non-clinically relevant text has become more prominent (**Figure 1**). Similarly, the Poly-Vi-Sol drug name and the ingredient statements on the cartons' primary display panels are much less prominent than the "Brain & Body" and "Growth & Immune Health" wording (**Figure 2**, page 2). One pharmacist recently reported that a parent accidentally purchased the formulation with iron, which was not indicated for their child.

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In another case, a patient asked to have their prescription shipped to an alternate address. In this pharmacy, when a patient requests a prescription to be shipped to an alternate address, their process calls for the pharmacy technician to manually enter the request in the "order notes" section to indicate to the verification pharmacist that an alternate address has been requested. However, an error occurred because the technician forgot to add the order note. When the pharmacist checked the order, including validating the shipping address, they assumed the default shipping address was correct since there was no indication of an "alternate address" in the order note.

Errors like this can also occur when the technician entering the delivery information is interrupted before they can finish setting up the order. Many mail service and specialty pharmacies have established call centers to receive telephone communications from providers and patients and to set up prescription orders. The technicians in the call center collect the patient's delivery information, and then set up the order after they end the call with the patient. Many times, the call center phone system will automatically provide a period of time for the technician to finish their work before another call comes through. This is called "After Call Work" or ACW time. However, sometimes this one or two minute pause is not enough time to finish setting up a complex order, and the technician may get interrupted by another call. When they return to the first order, they may miss important aspects of the delivery setup, such as a new or alternate delivery address. Pharmacies may feel the need to program short ACW times in response to accrediting bodies that may ask pharmacies to establish phone metrics such as average speed of answer and service level.

Another factor that can contribute to these types of errors involves the pharmacy workflow. For example, one pharmacy reported a manual process whereby a technician is responsible for data entry and printing the prescription and shipping labels. However, these labels print on separate printers in a different room (the fulfillment area). A second staff member collects the prescription and shipping labels and manually matches them for each patient. An error could occur if a prescription label is matched with the wrong patient's shipping label.

In other cases, national carrier services' (e.g., FedEx or UPS) computer systems will auto populate the patient's address based on the patient's information from a previous shipment. For example, a patient wanted their medication shipped to their sister's house since they would not be home for that month's delivery. The sister lives on the same street as the patient but with a different house number. When the pharmacy technician processed the patient's order in the shipping system, they did not realize that there was a slightly different house number and confirmed the delivery address that had auto populated in the system from the previous month's delivery. The medication was incorrectly sent to the patient's home.

Another challenge is that pharmacies use multiple systems (e.g., dispensing software, clinical therapy management software, electronic health record [EHR], courier or national carrier shipping software) to manage, dispense, and ship prescriptions. Some systems may be integrated, while others may require manual transcription to update addresses across systems. The pharmacy staff member may forget to transcribe a new address into all systems, they may transcribe the new address incorrectly, or they may select an old/outdated address. Also, sometimes they may forget to verify and update the address altogether. If this step is missed or done incorrectly, the order may be shipped to the wrong address. One pharmacy indicated that their health system's EHR shares some information, such as the patient's address, with their dispensing system. If the patient's address is updated in the EHR, it will update in the dispensing system. However, in some cases, this may be a risk for error if the new address is not the correct shipping address.

Wrong Patient's Medication Packaged in Shipping Container

Multiple pharmacies have reported errors related to the wrong patient's medication packaged in a shipping container intended for a different patient. This error can happen if a technician or

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ISMP has contacted the manufacturer and asked them to better differentiate these products and to more prominently display the ingredient information. We also notified the US Food and Drug Administration (FDA) of this issue.

Figure 2. New Enfamil Poly-Vi-Sol Multivitamin Drops carton.

Missing administration time impacts compliance packaging. To help manage their prescription regimen, many patients receive their medications in pharmacy-prepared compliance packaging. Some compliance packaging options include using blisters or pouches for each administration time (e.g., morning, bedtime), with each blister or pouch containing multiple medications. When a new medication is prescribed, pharmacy staff need to include the administration time at order entry so the medication is packaged in the correctly timed pouch. If administration time information is not specified on the prescription, this can introduce the risk of packaging errors. This is what happened in a recently reported case.

A prescriber wrote a new prescription for modafinil which is used to improve wakefulness in adult patients with excessive sleepiness associated with narcolepsy, obstructive sleep apnea, or shift work sleep disorder. However, they did not indicate a specific time of day (e.g., morning) to take the medication and instead wrote to "Take one tablet by mouth daily." When entering the order, a pharmacy technician indicated that the medication should be taken at bedtime. The medication was then packaged in the pouches with other medications for bedtime administration. Neither the order entry verification pharmacist nor the product verification pharmacist questioned the administration time. The patient took the medication for several days and did not feel right. They then realized modafinil had been placed in the bedtime pouches rather than the morning pouches. The patient contacted

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pharmacist is distracted when working on an order and accidentally swaps or adds one patient's medications to another patient's order. For example, a pharmacist, when verifying a patient's medications in one basket, may get distracted and not notice that a pharmacy technician placed a new basket (a different patient's medications) on top of the order they are working on. When the pharmacist resumes verification, they may not realize they now are working on medications for a different patient. Of course, this type of error can happen during many stages in the dispensing process, from the technician filling station to the pharmacist verification station, to the shipping station.

Another factor that may contribute to wrong patient errors includes pharmacies that lack adequate workspace and distraction-free space. Some pharmacy delivery processing areas are cluttered with shipping materials, prescriptions for multiple patients, and deliveries from suppliers. Wrong patient errors (e.g., wrong product, wrong patient monograph, wrong shipping label) may occur and may not be identified until received at home by the patient.

Medication not Shipped or Delivered on Time

A shipment delay may occur in the pharmacy, which results in the medication not being shipped and/or delivered on time. One way this can happen is if the prescription fill/refill date is entered incorrectly. Internal pharmacy communication issues can also contribute to missed or incorrect delivery dates. For example, one pharmacy informed us of the challenges they have faced when switching to a new shipping system and carrier. This pharmacy team is split between decentralized technicians and pharmacists who are responsible for setting up carrier deliveries, and the pharmacy-based fulfillment team who is responsible for filling and packing the medications for delivery. The decentralized technician or pharmacist sets up a new delivery and sends a message to the fulfillment team to ask them to fill the order for delivery. While this communication is sent to all members of the fulfillment team, most members of the fulfillment team are often not at their computers and do not see the message. In addition, the system does not assign the task to a specific team member, so no one takes ownership of the order. Also, there is no centralized delivery log or queue for the fulfillment team to reference to identify all orders scheduled for delivery. As a result, orders do not get packed or shipped on time.

In some instances, the pharmacy does everything accurately when shipping the package, but the courier or delivery service makes an error. ISMP has received multiple reports of delivery drivers failing to correctly verify the patient's address and dropping off a package at the incorrect address. Sometimes this happens because two patients' house numbers are similar or they live on the same street or on a street with a similar name. Other delivery service errors may occur when delivery-related notes are overlooked. For example, a package note may state "please put by back door" but the delivery driver does not see or follow the instructions. Or packages marked "signature required" are left without a signature.

Even when medications ship on time and to the correct address, sometimes there is a delay that is out of the pharmacy or carrier service's control. Weather and traffic conditions can cause delays. Carrier services may not operate on holidays or weekends, so the delivery may take an extra day to arrive if shipped on or before a holiday or weekend. These delivery delays may exceed the time frame allowed by the temperature validated shipping containers, meaning that medication packages may get too cold or too hot. If appropriate storage temperatures are exceeded, the medication may no longer be stable, and the pharmacy may need to replace it.

Conclusion

In **Part II** of our report, we will provide recommendations to help address shipping and delivery errors. In preparation, we would love to hear from organizations that have been working to prevent these types of errors. Please send a message to: ismpinfo@ismp.org, if you would like to contribute to the dialogue on this important issue.

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the pharmacy who was able to dispense new pouches with modafinil in the morning pouch. It is unclear why the pharmacy technician scheduled the medication for bedtime administration. The pharmacy thought the fact that modafinil can be used for shift work disorder and taken at night for overnight workers may have contributed to the pharmacists not questioning the bedtime administration.

Compliance packaging can help patients manage their medications and have a positive impact on adherence. However, as with other types of packaging, there is still the risk of errors. And, in the case of these blisters and pouches, errors may be more difficult to uncover. To ensure pharmacies can accurately label and patients can safely use their medications, it is important that prescribers provide clear and specific instructions. This includes deciding with the patient at which time(s) a medication should be taken and then indicating those times in the directions. When packaging medication in compliance packaging that group medications by administration time, pharmacy staff should contact the prescriber if specific administration times are not included on the prescription. Review the medications contained in each blister or pouch with the patient. This may need to be done by telephone when medications are shipped to the patient. Teach patients to inspect the packaging and medications to make sure they have been packaged in the appropriate time slots.

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

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ISMP Safe Medication Management Fellowships

ISMP is now accepting applications for unique Fellowship programs commencing in 2023

ISMP Safe Medication Management Fellowship

Location and Term: This Fellowship commences in July 2023. The Fellow will spend 12 months with ISMP, a virtual-hybrid organization with its headquarters located in the suburbs of Philadelphia, PA. Relocation is not required; however, in-person meetings may be required as frequently as monthly, and the Fellow is responsible for their own travel expenses.

Description: This Fellowship offers a healthcare professional with at least 1 year of postgraduate experience in a healthcare setting an unparalleled opportunity to work collaboratively with the nation's experts in medication safety to assess and develop interdisciplinary medication error-prevention strategies.

FDA/ISMP Safe Medication Management Fellowship

Location and Term: This Fellowship commences in the summer of 2023. The Fellow will spend 6 months with ISMP, a virtual-hybrid organization with its headquarters located in the suburbs of Philadelphia, PA, and 6 months with the US Food and Drug Administration (FDA), which is located in Silver Spring, MD. Relocation is not required; however, in-person meetings may be required as frequently as monthly, and the Fellow is responsible for their own travel expenses.

Description: This Fellowship, open to a healthcare professional with at least 1 year of postgraduate experience in a healthcare setting, is a joint effort between ISMP and FDA's Center for Drug Evaluation and Research, Office of Surveillance and Epidemiology, Divisions of Medication Error Prevention and Analysis I and II. The Fellowship allows the candidate to benefit from ISMP's years of medication safety experience along with FDA's valuable regulatory experience focused on medication error prevention.

Applicants for all Fellowship programs must be legally eligible to work in the US and have excellent written and verbal communication skills. A competitive stipend is provided with all Fellowship programs.

How to Apply

For a complete description of candidate qualifications and how to apply online, visit:
www.ismp.org/professional-development/fellowships

The application deadline for all Fellowship programs is **March 31, 2023**.

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