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ISMP
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Community/Ambulatory Care ISMP Medication Safety Alert!®

Educating the Healthcare Community About Safe Medication Practices

Persistent safety hazards that all community and ambulatory care safety programs should address

We are nearly halfway through our 20th year of publishing the *ISMP Medication Safety Alert! Community/Ambulatory Care*. Your willingness to voluntarily report medication errors and hazards to ISMP, and to proactively use the information we publish in the newsletter to prevent similar errors and hazards, motivates and inspires us as, together, we continue to learn about the causes of medication errors and how to prevent them. As we look back over the past few years, a number of safety issues continue to be reported to ISMP. A few of these issues are described below. These are persistent errors or safety hazards that have the capacity to cause devastating harm to patients. The good news is that there are system and practice changes that can help organizations and practitioners avoid or minimize the risk of error and mitigate harm.

① Prescribing, dispensing, and administering extended-release (ER) opioids to opioid-naïve patients

Inappropriate prescribing of ER opioids to opioid-naïve patients has resulted in serious harm and death. ISMP, as well as the US Food and Drug Administration (FDA), have warned practitioners about this well known problem for decades. However, inappropriate opioid prescribing and dispensing continues to occur, often due to a knowledge deficit about the dangers associated with prescribing and dispensing ER opioids to opioid-naïve patients and/or not understanding the difference between opioid-naïve and opioid-tolerant. For example, in our August 2020 issue, we published several new reports related to prescribing fenta**NYL** patches to opioid-naïve, elderly patients, sometimes to treat acute pain or due to a codeine "allergy" that was a minor drug intolerance. Fenta**NYL** patches should only be prescribed to opioid-tolerant patients for the management of pain severe enough to require daily, around-the-clock, long-term opioid treatment. This is so critical to safety that, in 2018, ISMP called for the elimination of prescribing fenta**NYL** patches to opioid-naïve patients and/or patients with acute pain in the ***ISMP Targeted Medication Safety Best Practices for Hospitals*** (www.ismp.org/node/160). In 2020, this *Best Practice* was incorporated into a new *Best Practice* to verify and document the patient's opioid status (naïve vs. tolerant) and type of pain (acute vs. chronic) before prescribing and dispensing ER opioids.

To do this, ISMP first recommends that prescribers and pharmacies establish definitions for opioid-naïve and opioid-tolerant patients (for example, following the fenta**NYL** package insert definitions), and then developing and implementing a standard process for gathering and documenting each patient's opioid status and type of pain (if pain is present). Order entry systems should default to the lowest initial starting dose and frequency when initiating orders for ER opioids, and interactive alerts should be built to confirm opioid tolerance when prescribing and dispensing ER opioids. Finally, distinguish between true allergies and drug intolerances when collecting allergy information.

② Daily instead of weekly oral methotrexate for non-oncologic conditions

Prescribing, dispensing, or administering oral methotrexate daily instead of weekly for non-oncologic conditions continues, despite repeated warnings from ISMP and

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SAFETY briefs

Zantac reborn. We were surprised to learn that the brand name **ZANTAC** has been recycled and is now used for famotidine (www.ismp.org/ext/688). The new over-the-counter (OTC) product is **ZANTAC 360⁰** (**Figure 1**). Ra**NITI**dine has been the active ingredient in Zantac since 1983. However, in 2020, the US Food and Drug Administration (FDA) requested a manufacturer's market withdrawal of all prescription and OTC ra**NITI**dine (www.ismp.org/ext/689) due to the presence of potentially carcinogenic levels of N-nitrosodimethylamine (NDMA). Still, Zantac is well known by healthcare professionals and consumers as ra**NITI**dine, widely listed as ra**NITI**dine in drug information sources, and remains available outside the US, which means, it appears in internet drug searches. Each of these factors increases the risk that using Zantac 360⁰ as a brand name for famotidine will cause confusion.

Figure 1. Zantac is now a brand of famotidine.

Mix-ups due to the recycling of brand names have occurred previously. For example, two forms of **DULCOLAX** have been available, one containing the stimulant laxative bisacodyl, and the other a stool softener containing docusate. In our May 2004 issue, we wrote about a patient who inadvertently took the stool softener in preparation for a colonoscopy.

It is also unclear what the drug name modifier 360⁰ means. One might think it means that the product offers 24-hour protection, but a dose of famotidine generally lasts for only 12 hours. Also, company advertising highlights that the

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others. We alone have written about this medication error scenario in more than 60 issues of the *ISMP Medication Safety Alert!* newsletters.

One factor that has played a role in patient confusion about weekly versus daily methotrexate dosing has been the potential to administer weekly doses in divided doses given every 12 hours for 3 doses. In one case, a patient misunderstood the directions on their prescription label and took methotrexate 2.5 mg every 12 hours over several consecutive days, instead of every 12 hours for 3 doses each week. Thankfully, in 2020, the FDA required manufacturers to update the methotrexate product labeling and remove the divided dosing option. However, it can take time for all suppliers of methotrexate tablets to make these product labeling changes. As a result, some manufacturers and repackagers may still be distributing labeling with the older divided dosing option.

We encourage every healthcare provider to: 1) implement computer systems that default to a weekly dosage regimen when entering electronic orders or prescriptions for oral methotrexate, 2) require an appropriate oncologic indication for all daily methotrexate orders, and 3) provide patient and family education about the importance of weekly administration (www.ismp.org/node/160). Incorporate the use of ISMP's free consumer leaflet on oral methotrexate (www.ismp.org/ext/290) when providing patient and caregiver education. Prescribers should simplify the dosing schedule to have patients take methotrexate just once a week rather than in several divided doses 12 hours apart. Prescribers should also include the purpose of the drug on the prescription. Finally, no more than a 30-day supply should be dispensed.

③ Use of error-prone abbreviations, symbols, or dose designations

Abbreviations, symbols, and certain dose designations are a convenience, a time saver, a means of fitting a word, phrase, or dose into a restricted space, and a way to avoid misspellings. However, they are sometimes misunderstood, misread, or misinterpreted, occasionally resulting in patient harm. ISMP has repeatedly published errors resulting from misinterpretation of error-prone abbreviations, symbols, and dose expressions, particularly those associated with doses/measurement units, routes of administration, drug name abbreviations, and apothecary/household abbreviations.

Earlier this year, we updated the ***ISMP List of Error-Prone Abbreviations, Symbols, and Dose Designations*** (www.ismp.org/node/8). The updated list includes abbreviations, symbols, and dose designations that were reported to ISMP and have been frequently misinterpreted and involved in harmful or potentially harmful errors. They should **NEVER** be used when communicating medical information verbally, electronically, and/or in handwritten applications. We encourage organizations and practice sites to review our updated list and to use it to create or update your own "Do Not Use" abbreviation list. Error-prone abbreviations, symbols, and dose designations that are included on The Joint Commission's "Do Not Use" list (Information Management standard IM.02.02.01) are highlighted in the ISMP list, as are the error-prone abbreviations, symbols, and dose designations that are relevant mostly in handwritten communications.

It is our hope that each community pharmacy and ambulatory care practice site will continue to use the information in the newsletter to improve their medication-use system and provide the safest, highest quality of care possible. To accomplish this, practice sites must build and maintain an effective safety program. We encourage you, if you haven't already, to start your journey to create an effective safety program. We are here to help you along the way. Feel free to contact us (ismpinfo@ismp.org) with questions. You may also inquire about our consultative and education services, including customized risk assessments, by visiting: www.ismp.org/service-inquiry.

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new product is the "new original strength Zantac 360⁰ formulation." But originally, Zantac as ra**NITI**dine was available in 150 mg and 300 mg strength tablets, not 10 mg or 20 mg which are the strengths of this new famotidine product.

Over the years, in response to the experiences and error reports sent to ISMP and MedWatch, FDA has published several guidances to help inform the safe labeling and packaging of pharmaceutical products. One FDA Guidance for Industry (www.ismp.org/ext/690) advises against using a brand name that is already associated with a marketed product. Although Zantac containing ra**NITI**dine is no longer marketed in the US, withdrawal took place just last year, and is thus still associated by many with ra**NITI**dine. Another recent guidance (www.ismp.org/ext/691) recommends to avoid including numbers within the proprietary name as both Roman and Arabic numbers have been mistaken for the strength, quantity, duration, or controlled substance class of prescription drug products.

We are not sure why the manufacturer of Zantac 360⁰ and FDA chose not to take heed of the learnings from past errors, but we hope this does not signal a return to earlier days when important safety information was yet to be learned. Prescribers and pharmacists should review physician order entry systems, electronic health records, and pharmacy software systems to ensure the degrees symbol displays correctly. Include the brand AND generic name in all computer system menus, if possible. Use visual flags in computer systems or on pharmacy shelves to draw staff attention to this product and possible name confusion with previous ra**NITI**dine products. Also educate staff about the new brand name product for famotidine, Zantac 360⁰, and the possibility for confusion with previously available Zantac products containing ra**NITI**dine.

SIRVA persists. We have received several reports of shoulder injury related to vaccine administration (SIRVA) in recent weeks. A 68-year-old man who received his second coronavirus disease 2019 (COVID-19) vaccination with the Moderna

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Continuing issues of look-alike packaging and labeling calls for better premarket evaluation

Visual similarities of medication container labels, carton labels, and product packaging have frequently contributed to medication errors in the US. Today, labeling- and packaging-related events continue to be one of the most frequent types of voluntary reports submitted to the ISMP National Medication Errors Reporting Program (ISMP MERP). Within the last couple months alone, we have received several reported errors and close calls involving look-alike containers and labels. Below are a few examples recently reported to the ISMP MERP.

One organization reported that they have experienced several wrong medication close calls involving met**FORMIN** 1,000 mg and lev**ETIRA**cetam 750 mg tablets. The bottles look very similar and are the same size (**Figure 1**). Pharmacy employees had returned the product to the wrong location on the pharmacy shelf due to the look-alike appearance of the stock bottles.

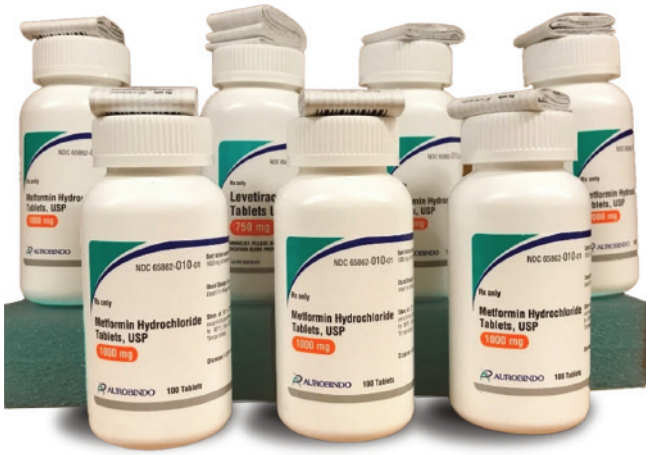

Figure 1. Look-alike bottles of lev**ETIRA**cetam (back row, middle-left) and met**FORMIN** have contributed to multiple close calls.

In another report, a patient presented to the clinic with complaints of increased dizziness and confusion leading to multiple recent hospitalizations. Upon request by the patient's physician, a pharmacist reviewed the patient's medications. The pharmacist noticed two manufacturer medication bottles affixed with pharmacy labels listing cinacalcet 30 mg, a drug used to treat hyperparathyroidism. Upon further review, it was discovered that one of the bottles was actually clo**ZAP**ine, an antipsychotic, instead of cinacalcet. The patient admitted to taking tablets from both bottles. The reporter identified a number of factors that contributed to the event. The manufacturer labels are nearly identical for both medications (**Figure 2**). Also, multiple manufacturer bottles were used to fill the cinacalcet prescription; however, each bottle was not scanned during the production phase of the dispensing process. As a result, the ability to detect the error was reduced.

In a third report, the potential to mix-up bottles of oxy**CODONE** 10 mg and acetaminophen 325 mg with oxy**CODONE** 5 mg was identified. Again, look-alike similarities, including the design layout of the product label, overall graphics, same yellow color, and the controlled substance symbol (CII) size and location, were identified as contributing to potential mix-ups (**Figure 3**, page 4).

Figure 2. A mix-up of look-alike cinacalcet (left) and clo**ZAP**ine (right) contributed to multiple hospitalizations for a patient.

Regulators and manufacturers should do more to alleviate errors associated with pharmaceutical product labeling and packaging. For example, the US Food and Drug Administration (FDA) should work with industry leaders to develop a more robust, standard, and proactive evaluation process for labeling and packaging to be employed during product development and prior to product launch or a label change. The evaluation should utilize practitioners and patients, as needed, and employ consistent and standardized methods to determine the safety and

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product developed pain at the injection site and the back of the shoulder joint and was unable to raise his arm up from the side of his body. He stated that the injection was given high on his upper arm, "hitting a nerve or injected into or too close to the shoulder bursa." He reported that the person giving the vaccine did not use any landmarks or fingerbreadths to locate the proper deltoid injection site.

Another patient, a 45-year-old man, also suffered a vaccine injury when he received the injection high in the upper arm. Shoulder pain started after 4 hours and then worsened, with an impingement in movement. Pain and difficulty moving the arm persisted after a few weeks and he contacted an orthopedist. His x-ray revealed a ligament tear and capsule involvement with the possibility of requiring surgical repair.

As we stated in our December 2020 issue, it is critical for healthcare workers who administer the vaccine to understand proper intramuscular (IM) administration technique to avoid a preventable and disabling SIRVA. This is especially important because healthcare workers who may not normally administer vaccines are often volunteering in the national effort to vaccinate people against COVID-19. The December article also provided links to several excellent print and video resources that everyone giving vaccinations needs to review before administering their first injection. Just 'eyeballing' the injection site is not acceptable.

HIGH-ALERT

Two patients receive EPINEPHrine instead of COVID-19 vaccine. At a coronavirus disease 2019 (COVID-19) vaccination site, the first two patients among 11 scheduled patients were accidentally given an **EPINEPH**rine injection instead of the Moderna COVID-19 vaccine. According to anaphylaxis guidance from the Centers for Disease Control and Prevention (CDC), **EPINEPH**rine should be readily available to treat anaphylactic reactions to the COVID-19 vaccines. At the vaccination site, there were two plastic bags: one with 11 predrawn syringes of vaccine (0.5 mL), and the other bag held two predrawn syringes of **EPINEPH**rine (0.3 mg/0.3 mL). The nurse initially took

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acceptability of the proposed label and packaging design. Furthermore, FDA and USP should require that companies develop a risk management program that includes the timely evaluation and correction of an error-prone label or package if postmarketing surveillance (including error reports) shows harmful or potentially harmful confusion or error risk with an existing label or package.

In the meantime, healthcare practitioners can implement some risk-mitigation strategies that address certain contributing factors associated with error-prone product labeling and packaging. Regularly review the *ISMP Medication Safety Alert!* or other current literature to proactively identify and address drug labeling and packaging problems. If possible, purchase products from different manufacturers to help differentiate the medications. Products with look-alike drug packaging that are known by staff to be problematic should be segregated and not stored next to one another; employ a system to redirect staff to where the products have been relocated. Highlighting critical information on the labels or affixing auxiliary warning labels may also help. Finally, implement barcode scanning to verify drug selection during the production stage of the dispensing process. When more than one stock bottle is needed for a specific drug quantity, scan each stock bottle. Ideally, pharmacy computer systems will prompt or require each product's barcode to be scanned.

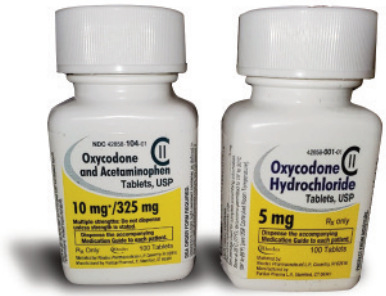

Figure 3. The look-alike similarities between bottles oxy**CODONE** and acetaminophen (left) and oxy**CODONE** (right) may lead to medication errors.

Your *Reports* at *Work*

Firvanq diluent label revised. The label of the diluent accompanying **FIRVANQ** (vancomycin for oral solution) has recently been updated. The product, which facilitates compounding of oral vancomycin solution, comes in a carton containing bottles of vancomycin powder and diluent. The brand name, Firvanq, is displayed on both the powder and diluent bottles. In the past, we received reports in which pharmacy staff read "Firvanq" on the diluent label and missed that it was just the diluent (**Figure 1**). This has led to dispensing the diluent by itself! We previously contacted the manufacturer to request a label revision.

Figure 1. The former diluent bottle label.

The revised label now displays "DILUENT" more prominently in a bold, white font with a red background. Also, the brand name, Firvanq, has been de-emphasized, a "stop" sign has been added to draw attention to the need to mix the diluent with the vancomycin powder, and the label includes a warning to "DO NOT DISPENSE" the diluent bottle to the patient. The updated design is shown in **Figure 2**.

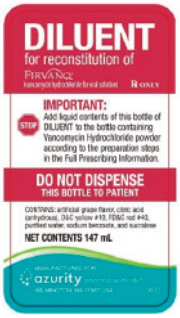

Figure 2. Revised diluent bottle label.

Because the older labeling may still be in circulation, affix warning labels on the diluent bottle, "This is ONLY the diluent." Recently, a facility reported that staff removed one of the bottles from the carton, missed that it was the diluent, and withdrew what they thought were actual vancomycin doses. The error was discovered after noticing that the carton only contained a bottle of vancomycin powder. Pharmacists should be diligent when verifying the final product because the new label still includes the brand name. Both bottles (diluent and reconstituted powder) should be presented to the pharmacist for final verification.

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syringes from the bag holding the **EPINEPH**rine and accidentally administered them to the first two patients, then used the syringes from the other bag for the remaining patients, ending with two extra doses of the Moderna vaccine.

The vaccination site identified several contributing factors. The two light-protecting bags were close to each other and within arm's reach of the vaccinating nurse. Both bags had the appropriate labels affixed, but the nurse thought the syringes all contained the vaccine. It is easy to see how that can occur since all the prefilled syringes looked similar. After the erroneous **EPINEPH**rine injection, one patient reported feeling tachycardic (which, at first, was attributed to the stress of vaccination). Neither patient suffered any lasting or serious adverse effects.

We recommend that COVID-19 vaccination sites stock only **EPINEPH**rine autoinjectors rather than using predrawn syringes of **EPINEPH**rine. The **EPINEPH**rine autoinjector looks visually different than predrawn vaccine syringes and, with training, is very easy to use in an emergency. Doses of **EPINEPH**rine and vaccine should be kept in different storage locations but close enough to the vaccinators so they can be easily and rapidly retrieved as needed. Consider storing the **EPINEPH**rine autoinjectors in an anaphylaxis kit with a tear-off lock.

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Report medication and vaccine errors to ISMP: Call 1-800-FAIL-SAF(E), or visit our website at: 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.

ISMP Medication Safety Alert!® ActionAgenda

One of the most important ways to prevent medication errors is to learn about problems that have occurred in other organizations and to use that information to prevent similar problems at your practice site. To promote such a process, the following selected agenda items have been prepared for you and your staff to stimulate discussion and collaborative action to reduce the risk of medication errors. These agenda topics appeared in the *ISMP Medication Safety Alert! Community/Ambulatory Care* between January 2021 and April 2021. Each item includes a brief description of the medication safety problem, recommendations to reduce the risk of errors, and the issue to locate additional information. The *Action Agenda* is also available for download in Excel and Word formats at: www.ismp.org/node/24949.

Key: ⚠ — ISMP high-alert medication

Issue	Problem	Recommendation	Organization Assessment	Action Required/Assignment	Date Completed
Errors with the new emergency use authorization (EUA) coronavirus disease 2019 (COVID-19) vaccines					
01/21 04/21	Numerous COVID-19 vaccine errors have been reported since mid-December 2020. Errors can be categorized as general errors (e.g., administration of a low dose, administration to a patient younger than authorized, wrong injection technique), errors with two-dose mRNA vaccines (e.g., administering wrong mRNA vaccine for the second dose, wrong dosing interval), dilution errors associated with the Pfizer-BioNTech vaccine, and confusion related to the two-dose Vaccination Record Card with the single-dose vaccine.	Establish an efficient system for scheduling patients for their dose(s). Ensure it does not allow patients younger than the authorized ages to schedule a vaccine appointment. Verify the competency of staff and vaccinators. Have the pharmacy prepare and label vaccine doses when possible. Be prepared to immediately treat allergic reactions. Do not preopen syringe packages to draw up air in advance. Cover references to a second dose on the Vaccination Record Card with a note that only a single dose is required for patients receiving single-dose vaccines.			
Recurring errors of reconstituting products with alcohol instead of water					
04/21 ⚠	Val**GAN**ciclovir powder for oral solution was inadvertently prepared using 70% isopropyl alcohol instead of water. The alcohol bottle had previously contained distilled water, and both "alcohol" and "water" were on the label. Similar events have been reported, including antibiotics reconstituted with formalin, which sent several children to the hospital. NxN isopropyl alcohol is also available in bottles that look just like drinking water.	Discard any chemicals not regularly used. Do not reuse containers that previously held another substance. For chemicals that must remain in the pharmacy, determine if the chemical(s) might be confused with another product (i.e., similar name, container size or shape). Place prominent warning labels on chemicals and store them away from drug products. Do not store or supply chemicals for others (e.g., laboratories, surgical centers) to use.			
Rufinamide oral suspension needs to be discarded within 90 days of opening					
01/21	The package insert for rufinamide oral suspension, manufactured by Hikma, states that the product should be discarded within 90 days after opening. However, this important expiration information is not listed on the bottle or outer carton.	Hikma stated that it has plans to revise the carton and bottle labels to include this statement. For now, consider attaching an auxiliary label to the bottle and educate patients about this critical expiration information.			

Issue	Problem	Recommendation	Organization Assessment	Action Required/Assignment	Date Completed
Practitioners should respond to errors with empathy and honesty					
02/21	When patients report pharmacy dispensing errors to ISMP, they are often more upset with the response, or lack of response, from pharmacy personnel versus the actual error. Too often pharmacy staff and managers (including corporate leaders) are leaving patients dissatisfied. Fear of litigation may cause healthcare practitioners to view the patient as an adversary or threat, which can alienate patients and stifle an opportunity to learn from the event.	Develop and regularly update procedures for handling medication errors. Be specific regarding what to do and say, what not to do or say, and who should be contacted when an error occurs. Practice and role-play possible scenarios using established procedures and guidelines. Assure the patient reporting a potential or actual error that it is important and a priority. Document the event and response. Explore use of the CANDOR toolkit (www.ismp.org/ext/648).			
Beware of dosing errors with ENTRESTO (sacubitril and valsartan)					
03/21	A pharmacist received a prescription for Entresto 100 mg twice daily, which did not match any available strengths. The pharmacist dispensed Entresto 97 mg/103 mg, believing it was closest to the prescribed dose (100 mg). However, the physician had added the two component strengths together (which is how clinical trial data in the product labeling is reported) and intended the patient to take the 49 mg/51 mg strength. The patient suffered adverse effects.	Entresto should be prescribed according to the strengths of each respective drug, not the total strength of all active ingredients. If a prescribed dose clearly does not match the strength of available products, the pharmacist should clarify the dose with the prescriber. Consider including an alert in prescribing and dispensing software.			
Bamlanivimab confused with belimumab (BENLYSTA)					
01/21	Nursing staff at a long-term care (LTC) facility called in an order for intravenous (IV) bamlanivimab to an offsite pharmacy. Bamlanivimab had been recently granted emergency use authorization (EUA) to treat mild to moderate coronavirus disease 2019 (COVID-19) and was needed for four residents. The pharmacist heard belimumab, which is used to treat active systemic lupus erythematosus. He prepared and dispensed belimumab which was subsequently administered to the residents.	Limit verbal orders to true emergencies or circumstances in which prescribers are unable to electronically transmit, write, or fax orders. When giving a verbal order, enunciate the order clearly and include all relevant information, as well as the indication. When receiving a verbal order, write it down and read it back and include spelling the drug name. It is important for organizations to ensure staff become familiar with new medications.			

Issue	Problem	Recommendation	Organization Assessment	Action Required/Assignment	Date Completed
Safety issues with transdermal patches					
03/21 ⚠	Common themes identified during an analysis of medication patch errors include: mistakes in the frequency of patch application or removal; lack of awareness of patches on the patient's skin upon admission; dose confusion due to scopolamine patch labeling; inappropriate prescribing of fenta**NYL** patches for opioid-naïve patients with acute pain; and clo**NID**ine patch covers applied without the drug patches.	Collect a medication history, including opioid status (naïve vs. tolerant). Verify the indication and assess the appropriateness of patch use. Build order sets and enhance order entry systems to default to appropriate application frequencies. For long-term care residents, dispense clo**NID**ine patches and covers in a ziplock bag with a label explaining the two components. Use barcode scanning to ensure correct product selection.			
ACTEMRA (tocilizumab) prefilled syringe dispensed instead of ACTEMRA ACTPEN					
02/21	A patient was ordered four Actemra ACTPens to be administered weekly, but the pharmacy dispensed three Actemra ACTPens and one Actemra prefilled syringe. Both products are available in the same concentration (162 mg/0.9 mL), and the cartons look very similar. The administration instructions differ between devices, so a patient may not know how to administer the drug if they receive the wrong device.	Ensure each individual product is being scanned during the dispensing process. Enhance the computer system to alert the pharmacist during product verification if barcode scanning was bypassed during production. Apply an auxiliary label or circle the dosage form on Actemra ACTPen packages when received from the supplier to differentiate these labels from the prefilled syringes.			
Syringes with trailing zeros should not be used					
02/21 ⚠	A patient with psoriasis stated that she drew up her dose of methotrexate 25 mg/mL to "the little 10" on the syringe. So, 10 mL would have been 250 mg, an overdose for treating psoriasis. The pharmacist contacted the dispensing pharmacy and discovered that tuberculin syringes had been dispensed which included a trailing zero (i.e., 1.0) at the 1 mL mark.	Avoid using trailing zeros but include leading zeros for decimal doses. Syringe manufacturers should heed this recommendation as well. Educate patients about the medication, prescribed dose, and proper dose measurement using the teach-back method. Proactively evaluate the syringes you purchase and only stock syringes without error-prone markings.			
Two concentrations of ibuprofen suspensions can lead to errors					
02/21	Infant's ibuprofen suspension contains 50 mg/1.25 mL, but the children's formulation only contains 100 mg/5 mL. When patient instructions for ibuprofen are provided in terms of volume (mL), a dosing error may occur if the concentration that the parents purchase or have is unknown.	Healthcare providers should educate parents about the availability of the two liquid ibuprofen concentrations, including their naming conventions (infant's vs. children's). Ensure parents understand that the dose in mL must be based on which concentration they use.			