The latest issue of ISMP’s QuarterWatch™ (see box below) provides a review of drug safety issues reflected in adverse drug events reported to the US Food and Drug Administration (FDA) during the second quarter (Q2) of 2016 and during the previous 12 months.

**QuarterWatch™ (2016 Quarter 2 Data)**

**Signals for liver failure with hepatitis C drugs and insomnia with a variety of drugs**

The FDA received 269,776 reports about adverse drug events in Q2 2016, a decline of 20.8% from the previous quarter, but an increase of 5.9% from the same quarter in 2015. The reports identified 1,386 different primary suspect drugs, but only 385 drugs were involved in 100 or more reports. Among the 2016 Q2 reports, 78,123 cases (29%) described drug-related injuries in the US that were serious, disabling, or fatal.

The oral anticoagulant rivaroxaban (XARELTO) accounted for more reports in several categories than any other drug regularly monitored by QuarterWatch™. It accounted for the most US reports of serious injury (n = 6,262), the largest number of patient deaths (n = 614), and the most serious events reported in patients age 75 years and older (n = 669). The following factors account for the high rivaroxaban totals:

- Because of the risk of hemorrhage, oral anticoagulants rank among the highest-risk outpatient drug treatments by several measures
- As reported previously in QuarterWatch™, rivaroxaban has a 5- to 9-hour half-life, which may render it poorly suited to once-a-day administration
- The totals for Q2 included some serious injuries and many non-serious injuries that were reported by the manufacturer on an annual rather than quarterly basis

**Adverse drug event report totals for Q2 2016**

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- As reported previously in QuarterWatch™, rivaroxaban has a 5- to 9-hour half-life, which may render it poorly suited to once-a-day administration
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**New safety issues for hepatitis C antivirals**

Chronic hepatitis C infection affects 2-3 million people in the US and millions more worldwide. The infection, which can persist for decades without symptoms, can progress to cirrhosis and in some cases lead to liver cancer. The direct-acting antivirals against hepatitis C, the first approved in late 2013, represent a major advance:

**What is QuarterWatch™?**

QuarterWatch™ is the publication of an independent ISMP surveillance program that monitors adverse drug events reported to FDA by manufacturers, health professionals, and the public. The agency releases for research and data analysis excerpts of all reports it receives into the FDA adverse event reporting system (FAERS). The goal is to identify signals that may represent important drug safety issues which often require further investigation to determine their frequency and establish a causal relationship to the suspect drug.

**SAFETY briefs**

Tresiba U-200 won’t allow dosing an odd number of insulin units. With the introduction of the TRESIBA (insulin degludec) U-200 pen comes a chance for dosing errors. A pharmacist reported that recently a physician prescribed 25 units daily of Tresiba U-200, which is only available as a Novo Nordisk FlexTouch pen. However, a dose that is an odd number of units is not possible with Tresiba U-200 because the pen only has dosing increments of 2 units, so only even numbered doses can be delivered.

**ISMP Survey on Verbal Orders**

Pharmacists and nurses: We are interested in learning more about the use of verbal orders for new medication orders by telephone or face-to-face (but not including order clarifications). Do you still receive verbal orders, given the significant increase in electronic prescribing? We’d like to know which drug classes you most commonly receive verbal orders for, and how often you have the opportunity to read back verbal orders. Please participate in our short survey by visiting: www.ismp.org/sc?id=2851, and submit your responses by March 3.
They often suppress the virus to undetectable levels more quickly than other antivirals (12 weeks instead of 26-48 weeks)
- They are more effective, eliminating detectable virus in 89-100% of selected patients enrolled in clinical studies
- They are better tolerated in some combination therapies, cutting dropout rates nearly in half

However, we examined two issues that have emerged with postmarketing surveillance.

**Reactivation of hepatitis B.** In October 2016, FDA identified the first new major safety problem linked to the nine new direct-acting antiviral drugs for hepatitis C. For patients who currently or previously had an infection with the hepatitis B virus, the direct-acting antivirals can cause reactivation of the virus and result in serious liver problems or death. The FDA report described 24 cases of hepatitis B reactivation, including 3 cases of acute liver failure leading to 2 deaths and 1 liver transplant. The reactivation of hepatitis B was not detected in clinical testing done prior to approval because such patients were excluded in the studies. This risk potentially can be managed by pretreatment virologic testing for hepatitis B, as the FDA now recommends.

**Liver injury and failure.** Searching beyond the FDA’s cited cases above to review the most recent 12 months of data up to Q2 2016 in the FDA adverse event reporting system (FAERS), we identified 524 reported cases of liver failure associated with the drugs, and another 1,058 reports of severe liver injury that had apparently not progressed to liver failure. The 524 reported cases of liver failure included all the approved direct-acting antivirals as either primary or secondary suspect drugs (Table 1), often in combination with each other or with ribavirin. Almost half of the cases reported encephalopathy, one of the hallmark symptoms of liver failure. Overall, 165 (31.5%) had died at the time of the report. While the complications of hepatitis C rather than the suspect drug may have contributed to some cases, 90% of the reports were submitted by healthcare professionals, who would be more likely to understand the natural progression of the disease.

**Conclusion.** Policies to approve new treatments quickly can exact a price in serious injuries and deaths that might have been avoided with a more complete safety profile and better understanding of the most vulnerable patients. Important questions remain unanswered about the long-term effects and appropriate patient population for these drugs. While direct-acting antivirals to treat hepatitis C are a major medical advance, further investigation should focus on achieving better understanding of what is occurring when the drugs appear to cause liver injury rather than improve liver function.

**Table 1.** Primary (PS) and secondary (SS) suspect drugs in liver failure cases (n = 524)

<table>
<thead>
<tr>
<th>Generic name</th>
<th>Brand name</th>
<th>PS</th>
<th>SS</th>
<th>Total (%)</th>
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<tbody>
<tr>
<td>paritaprevir combinations</td>
<td>TECHNIVIE, VIEKIRA PAK, VIEKIRA XR</td>
<td>120</td>
<td>61</td>
<td>181 (34.5)</td>
</tr>
<tr>
<td>sofosbuvir</td>
<td>SOVALDI</td>
<td>91</td>
<td>80</td>
<td>171 (32.6)</td>
</tr>
<tr>
<td>ledipasvir-sofosbuvir</td>
<td>HARVONI</td>
<td>116</td>
<td>5</td>
<td>121 (23.1)</td>
</tr>
<tr>
<td>daclatasvir</td>
<td>DAKLINZA</td>
<td>74</td>
<td>25</td>
<td>99 (18.9)</td>
</tr>
<tr>
<td>simeprevir</td>
<td>OLYSIO</td>
<td>16</td>
<td>21</td>
<td>37 (7.1)</td>
</tr>
<tr>
<td>elbasvir-grazoprevir</td>
<td>ZEPATIER</td>
<td>1</td>
<td>0</td>
<td>1 (0.2)</td>
</tr>
</tbody>
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*EPCLUSA (sofosbuvir-velpatasvir) is not included as it was first approved at the end of Q2 2016.*

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

26 units (Figure 1 on page 1). According to the manufacturer, the design of the pen will not allow insulin to be administered unless the pen is correctly set to a dose–24 or 26 units in this case. It’s important for healthcare professionals to be aware of the difference between the Tresiba pens. There are now many pen devices, not only for insulin, that may work differently. We recommend that healthcare professionals prescribing or dispensing pen devices be familiar with how they are used. Most manufacturers have training devices that can be used for internal staff education as well as patient education.

**Using open-ended questions is critical.** An elderly patient mistakenly received a prescription intended for a pediatric patient. When the pharmacy clerk called out that the prescription for the child was ready, the elderly patient approached the counter. The clerk was uncertain if the prescription was actually for the elderly woman so she asked the woman “Are you here to pick up for (stated the child’s name)?” The woman answered “Yes.” After the elderly woman left the pharmacy with the wrong medication, the error was discovered. Thankfully the pharmacy was able to deliver the correct medication to the woman’s home and retrieve the incorrect medication before the woman ingested any tablets.

The use of closed-ended questions that have “yes” or “no” answers does not enable pharmacy staff to accurately confirm a patient’s identity or assess their understanding of their drug regimen. Instead, pharmacy staff should always ask the person to state their name and date of birth so that staff can confirm it. Of course, opening the bag at the point-of-sale to review the medication and prescription label with the patient would have also helped catch this error.

**Look-alike bottles.** Bottles of gemfibrozil 600 mg tablets and gabapentin 600 mg tablets, both made by Cipla (Figure 1 on page 3), look nearly identical. Both products continued on page 3—QuarterWatch >
Chronic insomnia rates have been reported in the range of 10 to 42%. Insomnia is also one of the most frequently reported adverse drug events. In the most recent 12 months of FAERS data, we identified 16,301 cases in the US indicating insomnia (excluding abnormal dreams, sleep apnea, or shift-work disorder) as an adverse event. We evaluated the suspect drugs that had at least twice as many reports of insomnia as would be expected if it had occurred by chance. The results showed signals indicating a link to insomnia for 87 different drugs. These cases excluded anxiety, sedative-hypnotic, and narcolepsy drugs, because an insomnia complaint could have indicated treatment failure rather than an adverse effect. In many cases, the suspect drugs had a plausible mechanism of action, or the drug had established warnings regarding insomnia. Some key findings follow.

**Fluoroquinolone antibiotics.** We saw signals for the three most widely prescribed drugs in this class, ciprofloxacin (CIPRO), levoFLOXacin (LEVAQUIN), and moxifloxacin (AVELOX). No other antibiotics were implicated, and the result was consistent with known neurological activity of the fluoroquinolones.

**Antidepressants.** Most antidepressants were associated with higher than expected reports of insomnia. This effect is consistent with clinical trial data, mechanism of action, and existing warnings. Given that sleep disturbances are also a symptom of depression, these adverse effects may limit effectiveness of these drugs in depression.

**Antivirals.** We identified signals for 11 antiviral drugs targeting a wide spectrum of viral disorders including influenza, hepatitis B and C, and human immunodeficiency virus (HIV). A link between these antivirals and insomnia has not been extensively studied.

**Conclusion.** While we saw clear signals for all 87 drugs identified in the full report, concern regarding safety varies based on the drug type and its use in certain patient populations. Concerns would be greater for long-term use of ADHD drugs and antidepressants, compared to a few days of treatment with oseltamivir (TAMIFLU). In other cases, such as drugs that treat hepatitis C for 12 weeks, the risk of insomnia might be regarded as a lesser side effect to be tolerated to achieve suppression or eradication of the virus. The data and complete list of suspect drugs appears in the full QuarterWatch™ report.

The full QuarterWatch™ report can be found at: www.ismp.org/sc?id=1702.

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**SAFETY briefs cont’d from page 2**

have similar looking names and overlapping dosage strengths. The containers also use the same colors. To prevent mix-ups between these products, explore ordering one of them from a different manufacturer. Consider using shelf dividers to keep stock separated and neatly organized on shelves. If you separate storage of these products, post signage or shelf stickers to direct pharmacy staff to the location of the product that was moved. Implementing barcode scanning during the production stage of the dispensing process can identify when the wrong product is selected from the shelf.

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**Clear Care and other hydrogen peroxide cleaning solutions for contact lenses.** Persistence pays off! Since 2010, ISMP has received hundreds of reports about patients who have suffered painful eye injuries with improper use of CLEAR CARE and generic hydrogen peroxide contact lens cleaning solutions. We have interacted with manufacturers and the US Food and Drug Administration (FDA), and written articles that have called for much stronger warnings on containers as well as container redesign to ensure proper use (www.ismp.org/sc?id=2854). Now, FDA plans to hold a 1-day joint meeting of the Ophthalmic Devices Panel of the Medical Devices Advisory Committee and the Risk Communication Advisory Committee (RCAC) on March 17, 2017, to discuss the potential risks of misuse of peroxide-based contact lens products and make recommendations. Specific issues to be discussed include adequate labeling and packaging of these over-the-counter products. ISMP will be in attendance.

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**Concomitant use of Entresto and ACE inhibitors can lead to serious outcomes**

**Problem:** ENTRESTO (sacubitril-valsalutan) is an angiotensin II receptor-neprilysin inhibitor (ARNI) used to reduce the risk of cardiovascular death and hospitalization in patients with chronic heart failure and reduced ejection fraction. It contains the angiotensin II receptor blocker (ARB) valsartan and the neprilysin inhibitor sacubitril. Entresto is contraindicated with concomitant use of angiotensin converting enzyme (ACE) inhibitors because the inhibition of neprilysin from the sacubitril component combined with an ACE inhibitor increases the risk of angioedema.1 Also, the dual renin-angiotensin-aldosterone system blockade that occurs when valsartan is combined with ACE inhibitors increases the risk of hypotension, acute kidney injury, and hyperkalemia. Thus, Entresto should not be administered within 36 hours of switching from or to an ACE inhibitor. Still, the US Food and Drug Administration (FDA) has received 55 cases reporting concomitant use of Entresto and an ACE inhibitor, with several cases describing serious outcomes.

continued on page 4 — Entresto >
Entresto is used to lessen morbidity and mortality, and replaces an ACE inhibitor or ARB in patients with chronic symptomatic heart failure with a reduced ejection fraction (HFrEF) who can tolerate an ACE inhibitor or ARB. Due to the previous standard of care, many patients starting Entresto are already taking ACE inhibitors. This could lead to serious adverse events if the patient continues taking the previously prescribed ACE inhibitor. These errors may be related to the lack of familiarity with Entresto. But since approval in 2015, the drug's use has increased. It was added in the updated 2016 heart failure guidelines published by the American College of Cardiology (ACC), the American Heart Association (AHA), and the Heart Failure Society of America (HFSA). The new guidelines recommend an ACE inhibitor, an ARB, or an ARNI (e.g., Entresto) for patients with chronic HFrEF, but not in combination (Table 1, prepared by ISMP).

**Safe Practice Recommendations:** Please consider the recommendations below to help prevent the concomitant use of Entresto and ACE inhibitors.

**For Prescribers, Pharmacists, and Nurses:**
- Prior to prescribing Entresto, ensure that patients are not already taking an ACE inhibitor. For patients taking an ACE inhibitor, ensure that it is stopped and allow for a 36-hour washout period prior to starting Entresto.
- Work with information technology staff to create and/or enable order entry system alerts to warn against the concomitant use of Entresto and ACE inhibitors when both of these drugs have been prescribed for the patient. If possible, configure the alert to continue for 36 hours after Entresto or the ACE inhibitor has been discontinued.
- Before dispensing or administering Entresto, review patients’ medication regimens. If ACE inhibitors are listed, ensure that patients have discontinued the ACE inhibitor and wait 36 hours before starting Entresto.
- Educate patients about the importance of not taking Entresto and ACE inhibitors together.
- Conduct a thorough medication reconciliation to ensure that patients who are prescribed Entresto, but were taking an ACE inhibitor or ARB in the past, do not restart it.

**For Insurers:**
- Create alerts to warn against the concomitant use of Entresto and ACE inhibitors when claims are submitted for both drugs.

### Table 1. ACE inhibitors/ARBs to avoid with Entresto

<table>
<thead>
<tr>
<th>ACE Inhibitors</th>
<th>ARBs</th>
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<tbody>
<tr>
<td>benazepril</td>
<td>azilsartan (EDARB)</td>
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<tr>
<td>captopril</td>
<td>canDESartan (ATACAND)</td>
</tr>
<tr>
<td>enalapril</td>
<td>eprosartan (TEVETEN)</td>
</tr>
<tr>
<td>fosinopril</td>
<td>irbesartan (AVAPRO)</td>
</tr>
<tr>
<td>lisinopril (PRINIVIL, ZESTRIL)</td>
<td>losartan (COZAAR)</td>
</tr>
<tr>
<td>moexipril</td>
<td>olmesartan (BENICAR)</td>
</tr>
<tr>
<td>perindopril (ACEON)</td>
<td>telmisartan (MICARDIS)</td>
</tr>
<tr>
<td>quinapril (ACCUPRIL)</td>
<td>vaksartan (DIOVAN)</td>
</tr>
<tr>
<td>ramipril (ALTACE)</td>
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<td>trandolapril (MAVIK)</td>
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</table>

### References
Implementing CQI Programs: A Roadmap to Quality Improvement

April 9, 2017
7:30 AM – 12:30 PM
Breakfast will be provided
Maggiano’s Little Italy
Philadelphia, PA

OVERVIEW
Attend ISMP’s unique workshop on continuous quality improvement (CQI) for community/ambulatory pharmacy supervisors, managers, and owners, and learn how to establish a successful CQI program that will drive sustainable medication safety improvements.

This information-packed, hands-on session will help you meet regulatory and accreditation CQI requirements and earn specific CE credit in medication safety and pharmacy law, as mandated for license renewal in many states.

WHO SHOULD ATTEND
» Pharmacy supervisors, managers, regional supervisors and managers, and owners in:
  • Community/ambulatory
  • Long-term care
  • Stand alone and hospital outpatient clinics
  • Mail order and specialty pharmacy settings
» Personnel in charge of quality improvement
» Pharmacy educators responsible for medication safety and quality improvement

FEES AND REGISTRATION:
Early Registration: $195 (Ends March 26, 2017)
Regular Registration: $225
For more information or to register, go to: www.ismp.org/CQIProgram or call 215-947-7797.

ACCREDITATION
Educational Review Systems, Inc., is accredited by the Accreditation Council for Pharmacy Education (ACPE) as a provider of continuing pharmaceutical education for pharmacists and pharmacy technicians. The pharmacy law portion of this program has been assigned the Universal Program Number #0761-9999-17-009-L03-P/T and approved for 1 contact hour (0.1 CEUs) for pharmacy law. The medication safety part of the program has been assigned the Universal Program Number #0761-9999-17-010-L05-P/T and approved for 3 contact hours (0.3 CEUs) for medication safety. Proof of participation will be posted to participant’s NABP BPE profile within 4 to 6 weeks for individuals who successfully complete the post-test. Educational Review Systems also is approved for pharmacy continuing education by the state of Florida.

PROGRAM OBJECTIVES
At the conclusion of this workshop, participants will be able to:
» Describe the Board(s) of Pharmacy requirements for a CQI program
» Identify the appropriate steps in a CQI program
» Analyze medication errors using ISMP’s Assess-ERR™ tool
» Select error reduction strategies that can prevent patient harm
» Perform a root cause analysis (RCA) using ISMP’s RCA Workbook for Community/ Ambulatory Pharmacy

NEW FOR COMMUNITY/AMBULATORY PHARMACY
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 Edition between September 2016 and December 2016. 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 a Word format at: www.ismp.org/Newsletters/ambulatory/actionagenda.asp. To learn how to use the ISMP Ambulatory Care Action Agenda at your practice site, visit www.ismp.org/newsletters/ambulatory/How_To_Use_AA.asp.

**Key:** 🚨 – ISMP high-alert medication

<table>
<thead>
<tr>
<th>Issue</th>
<th>Problem</th>
<th>Recommendation</th>
<th>Organization Assessment</th>
<th>Action Required/Assignment</th>
<th>Date Completed</th>
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</thead>
<tbody>
<tr>
<td>09/16</td>
<td>A patient previously using <strong>LANTUS</strong> (insulin glargine) U-100 was switched to <strong>TOUJEO</strong> U-300 (insulin glargine) pens. Although given pen needles, the man drew a dose from the pen cartridge using a U-100 syringe, filling it to the 100 unit mark (his prior Lantus dose). This resulted in a dose of 300 units of Toujeo, leading to hypoglycemia requiring hospitalization. Using a U-100 syringe to measure higher insulin concentrations could lead to a serious overdose. With U-500 insulin, there is also risk of an underdose if patients, accustomed to measuring only 20% of the actual dose when using a U-100 syringe, dial this lower dose when using a U-500 pen.</td>
<td>Educate patients and health professionals regarding the proper dosing and dose measurement of the higher concentration insulin products now available in pen devices. With pen devices, there is no need for dose calculations. The prescribed dose is the dose that is indicated once the dial on the pen is turned to that number. Never use a pen cartridge as a vial.</td>
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**Problems using the TANZEUM (albiglutide) pen (in QuarterWatch)**

| 10/16  | Tanzem has a lengthy and complicated process for reconstitution that takes at least 30 minutes and requires more than a dozen steps. During a 12-month period, the US Food and Drug Administration (FDA) received 1,500 reports of patients using the pen incorrectly. | Refer patients using Tanzem to the manufacturer’s website where they can access an instruction manual, as well as a brief informational video on proper reconstitution technique (www.tanzeum.com/how-to-use.html). | | |

**Do not give ZURAMPIC (lesinurad) without a xanthine oxidase inhibitor**

<p>| 10/16  | Zurampic carries a boxed warning about the risk for acute renal failure when used without a xanthine oxidase inhibitor, such as allopurinol or febuxostat. In clinical trials, patients taking this drug alone experienced renal failure at a rate of 9.3% compared to 1% when taken with a xanthine oxidase inhibitor. | AstraZeneca plans to offer a combination product with lesinurad and allopurinol in the future. Until a combination product is available, develop a linked order set that requires both drugs to be ordered, and place reminders in computer systems and on auxiliary labels. | | |</p>
<table>
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<tr>
<th>Issue</th>
<th>Problem</th>
<th>Recommendation</th>
<th>Organization Assessment</th>
<th>Action Required/Assignment</th>
<th>Date Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/16</td>
<td>Two new combination insulin/glucagon-like peptide-1 (GLP-1) agonists, Soliqua 100/33 and Xultophy 100/3.6, are dosed in insulin units, which could lead practitioners to mistakenly think the products contain only insulin and prescribe an additional GLP-1 agonist separately. Also, both products may be used at doses lower than currently approved for the single GLP-1 component. Thus, converting between the combination products and the individual ingredients could be problematic.</td>
<td>To indicate to users that these products contain two different ingredients, computer system drop-down lists and pharmacy communications should use brand names if your system allows. If using generic names, make sure both ingredients are displayed and not truncated. Educate patients taking these products to make sure they understand they contain both insulin and a GLP-1 agonist.</td>
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<td>09/16</td>
<td>The excessive cost of EPINEPHrine auto-injectors has led consumers to do without the drug, use a single device for multiple relatives, or rely on expired products. As an alternative, the media has publicized ways for consumers to construct an anaphylaxis treatment kit using a 1 mg vial of EPINEPHrine, syringe, and needle. However, this may lead to administration of the entire 1 mg vial of the drug.</td>
<td>Due to the possibility of overdose, the use of vials by consumers is not a viable alternative to the EPINEPHrine auto-injectors. Hopefully, as more generic EPINEPHrine auto-injectors become available, their prices will decrease.</td>
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<td>09/16</td>
<td>Drug strengths that are available in a factor of 10 such as prednisONE 5 mg and 50 mg tablets and ARIPiprazole 2 mg and 20 mg tablets are error-prone. We learned of an event in which a patient received BELBUCA (buprenorphine) 750 mcg from a pharmacy instead of the 75 mcg she was prescribed. This led to her experiencing side effects including dizziness, vomiting, and somnolence.</td>
<td>Make sure that computer systems display doses with leading zeros when appropriate (e.g., 0.5 mg instead of .5 mg) and that they do not include trailing zeros in the dose (e.g., 1.0 mg can be misread as 10 mg). We also urge pharmaceutical companies to take a safer approach and avoid producing medications that are available in strengths that are exactly a 10-fold difference.</td>
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<td>09/16</td>
<td>There are five drugs for diabetes that begin with the letter “T” that may be confused for one another, including TRADJENTA (linagliptin), TRULICITY (dulaglutide), TANZEUM (albiglutide), TOUJEO SOLOSTAR (insulin glargine), and TRESIBA FLEXTOUCH (insulin degludec).</td>
<td>To avoid name and strength confusion with these products, assess how these drugs are displayed and selected in your computer system and how they are stored in the pharmacy. Take steps to differentiate them, and make sure to provide patient counseling at the point-of-sale.</td>
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<td>11/16</td>
<td>Confusion has occurred between two sound-alike drug names—Tresiba and Tarceva. In one case, Tarceva, a kinase inhibitor for the treatment of metastatic non-small cell lung cancer and pancreatic cancer, was mistakenly documented on the patient’s home medication and discharge lists instead of Tresiba. A nurse caught the error when reviewing the medication list with the patient.</td>
<td>Prescribers should document the purpose of the medication on prescriptions and patients should be encouraged to include drug indications on their medication lists.</td>
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<tr>
<td>12/16</td>
<td>Potentially serious medication errors have occurred when a lowercase “L” at the end of the drug name is misread as the numeral “1.” For example, an order for 300 mg of TEGRETOL (carbamazepine) BID (Tegretol300 mg) was misinterpreted as 1,300 mg BID. In another example, the amount of menthol to be included in a topical cream was written as “menthol5%.” This could easily be misinterpreted as menthol 15% rather than the intended menthol 5%.</td>
<td>Ensure there is adequate spacing between the drug name and the dose on electronic prescriptions and other electronic formats such as pharmacy computer selection screens, computer-generated medication labels and records, printed forms and communications, shelf labels, etc.</td>
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<tr>
<td>11/16</td>
<td>ClariSpray is a nasal spray marketed by Bayer, the maker of Claritin. The packaging and trade name are similar to Claritin, yet ClariSpray contains fluticasone propionate instead of loratadine. Another product, MUCINEX ALLERGY is also a brand name extension product and contains fexofenadine instead of guaIFENesin.</td>
<td>Keep in mind the possibility of confusion and mix-ups if you have these products in your pharmacy. Consumers and pharmacists need to be aware of the differences between these products. If you encounter any errors with these products, please report them to ISMP at: <a href="http://www.ismp.org/merp">www.ismp.org/merp</a>.</td>
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<tr>
<td>10/16</td>
<td>A rheumatologist sent a facsimile prescription to a pharmacy for methotrexate 2.5 mg, take 8 tablets per week. The “8” was misread as “6” and the prescription was dispensed with the wrong directions of “take 6 tablets per week.” The patient, who was aware of her correct dose and the number of tablets she needed to take, caught the error.</td>
<td>To make communication of methotrexate doses clear and precise, prescribers should write out the dose in letters (e.g., eight tablets) and include the patient’s total mg dose (e.g., 20 mg per week). The purpose of the medication should also be included on the prescription.</td>
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