

Long-Term Care Advise **ERR**™

Educating the Healthcare Community About Safe Medication Practices

Error-prone conditions that lead to student nurse-related errors

If your organization provides a site for student nurse clinical rotations, you are probably aware that students can be involved in medication errors despite close supervision by their clinical instructors. After analyzing errors involving student nurses reported to the ISMP Medication Errors Reporting Program (MERP) and the Pennsylvania Patient Safety Reporting System, it appears that many of the errors arise from a distinct set of error-prone conditions or medications. Some student-related errors are similar in origin to those that seasoned healthcare professionals make, such as misinterpreting an abbreviation, misidentifying a drug due to a look-alike label, or simply making a mistake when distracted. Other errors stem from system and practice issues that are rather unique to environments where students and long-term care (LTC) facility staff care for residents together.

The duality of resident assignments is a prime example. Residents who are assigned to student nurses are also assigned to staff nurses. While dual assignments are necessary, communication breakdowns regarding who will administer medications to residents, what medications have been administered, and which medications should be held, have resulted in dose omissions and the administration of extra doses. Thus, communication between students, clinical instructors, and staff needs to be planned carefully to ensure a model that considers the safety issues associated with dual assignments.

Data from reporting programs also show that insulin products are among the most frequent drugs involved in student nurse-related errors, particularly omitting prescribed doses, selecting the wrong type of insulin, administering the wrong supplemental/correction insulin dose, and administering insulin to the wrong patient/resident. Student nurses may not make proportionately more errors with insulin than staff nurses. However, like staff nurses, students and nursing instructors need to treat insulin as a high-alert drug and utilize appropriate safeguards to prevent errors. Additionally, organizations should share their list of high-alert drugs and associated error-reduction strategies with nursing instructors prior to the onsite clinical rotation to ensure the same level of attention to safe practices occurs when students administer these drugs.

In **Table 1** (page 2), we have listed additional error-prone conditions identified through analysis of student nurse-related errors. The list is not intended to be critical of student nurses or their instructors, nor is it intended to discourage organizations from providing a clinical rotation site for students. Student nurses often enrich the resident's experience, and they should be welcomed as part of the resident care team. Rather, the information in **Table 1** should be used to stimulate awareness of the need for system improvements to reduce the risk of medication errors.

Each practice site that hosts student nurses should meet with the clinical instructors who will be supervising students. The organization's medication administration procedures, high-alert medications, and specific error-prone conditions that may exist during clinical rotations should be reviewed, along with system-level safety nets

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SAFETY wires



Beware of drug names ending in the letter L. A prescription (**Figure 1**) for traZODone 50 mg tablets was misread as "Trazodone HC 150 Tablet" when the lowercase letter "l" in HCl was placed too close to the strength (50 mg) and was misread as the number "1." A pharmacy technician interpreted this as 150 mg and prepared the label incorrectly. The error

PRESCRIPTION AS FOLLOWS
 Drug Prescribed: Trazodone HCl 50 Tablet
 Quantity: 30 (Thirty)
 Days Supply: 30
 Directions: TAKE 1 TABLET BY MOUTH EVERY DAY
 Refills: ****
 Diagnosis/Use:
 PRESCRIPTION AS FOLLOWS
 Drug Prescribed: Trazodone HCl 50 Tablet
 Quantity: 30 (Thirty)
 Days Supply: 30
 Directions: TAKE 1 TABLET BY MOUTH EVERY DAY
 Refills: ****
 Diagnosis/Use:

Figure 1. TraZODone dose misunderstood as 150 mg.

was identified by a pharmacist during final verification (maybe because there is no traZODone HC), and the error did not reach the patient. This close call points out the importance of proper spacing between drug or salt names and doses. In the June 2014 newsletter, ISMP published a comprehensive review regarding misidentification of alphanumeric symbols (www.ismp.org/sc?id=3053).



Why abbreviations are a bad practice. A resident was admitted to a long-term care (LTC) facility with an order riddled with abbreviations. The order stated: "XARELTO (rivaroxaban) 20 mg tablets TK 1 T PO QD WF." Most of the abbreviated order was correctly interpreted: TK 1 T PO QD was correctly interpreted as take 1 tablet by mouth daily. However, the abbreviation WF was misinterpreted as Wednesday and Friday, while the prescriber had intended the abbreviation to mean "with food." The resident received 2 doses of Xarelto per week. The error was later discovered when the resident was admitted to a hospital for another reason, and the hospital pharmacist called the prescriber to clarify the order. While the resident did

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Table 1. Conditions that Promote Student Nurse-Related Medication Errors

Error-Prone Conditions	Examples of Errors	Recommendations
<p>Nonstandard Times Medications scheduled for administration during nonstandard or less commonly used times, including early in the morning, are prone to student dose omissions.</p>	<ul style="list-style-type: none"> ■ A student omitted an antibiotic ordered as a one-time dose at 1100. ■ A patient did not receive his morning dose of insulin because the student assigned to the patient had not arrived in time to administer the drug. 	<ul style="list-style-type: none"> ■ Staff nurses should develop a proactive plan with students that clarifies the details and responsibility for administration of each ordered medication and how new medication orders received during the shift will be handled. ■ Staff nurses and nursing instructors should monitor resident's medication administration records (MARs) and review potential omissions with students.
<p>Documentation Issues With both staff nurses and students administering medications to the same residents, dose omissions or extra doses have been administered because students or staff nurses have not properly documented drug administration or reviewed prior documentation of drug administration.</p>	<ul style="list-style-type: none"> ■ A student documented that he gave the patient his morning medications at 0830; these medications were still in the patient's medication bin at 1700. ■ A student administered heparin to a patient and left the unit before documenting it; a staff nurse gave the patient another dose. 	<ul style="list-style-type: none"> ■ Students and staff nurses should be using the same MAR. ■ Students and staff nurses should document drug administration immediately after the medications are administered. ■ Encourage students to review all sources of documented drug administration, particularly when residents are transferred to/from a hospital. ■ When possible, include students in verbal reports about their assigned residents.
<p>MARs Unavailable or Not Referenced Students may not consistently use the resident's MAR to guide the preparation of medications, and/or may not reference the MAR at the point of administration.</p>	<ul style="list-style-type: none"> ■ A staff nurse had given a patient a dose of methadone at 0730; although this was documented, the student also gave the dose at 0830. The student was using a worksheet she had created, not the MAR. ■ A student gave the wrong patient a dose of digoxin and warfarin; the student did not reference the MAR to assist with patient verification. 	<ul style="list-style-type: none"> ■ MARs should be available to students when preparing and administering medications; worksheets should not be used. ■ Students should prepare medications using only the original order or current MAR and should use the MAR for verification before administering drugs. ■ Teach students the organization's process to identify residents using two unique identifiers before drug administration.
<p>Partial Drug Administration Students may not be administering all of the prescribed medications to assigned residents, particularly injectable medications that they may not be permitted to administer.</p>	<ul style="list-style-type: none"> ■ A patient did not receive an injectable antibiotic for 3 days; staff nurses were unaware that the students assigned to this resident were not allowed to give injectable medications. ■ A student nurse did not administer a respiratory medication to her patient; she thought a respiratory therapist would administer it. 	<ul style="list-style-type: none"> ■ Nursing instructors should provide a daily report to each unit that hosts students regarding the types of medications that the students will and will not be administering. ■ Encourage students to confirm this information with the staff nurse assigned to their resident, and to report drugs that are not given when due, as well as any omissions on the MAR.
<p>Held or Discontinued Medications Students have not known or understood the organization's processes for holding and discontinuing medications and have administered drugs that have been placed on hold or discontinued.</p>	<ul style="list-style-type: none"> ■ A student gave a dose of LOVENOX (enoxaparin) that was noted to be held on the MAR. ■ A student did not know the meaning of a yellowed-out section on the MAR and gave the patient a dose of potassium chloride that had been discontinued. 	<ul style="list-style-type: none"> ■ The organization should review its procedures for holding medications and make any necessary revisions to ensure that the procedure is clear and reliable, including a written medication discontinuation date. ■ Share the organization's procedures for holding and discontinuing medications with nursing instructors and students.
<p>Monitoring Issues Students may not be aware that vital signs and/or lab values should be checked before administering certain medications.</p>	<ul style="list-style-type: none"> ■ A student gave a patient with an INR of 2.33 a dose of Lovenox, even though the MAR stated to discontinue the dose when the INR reached 2 (the patient was also on warfarin). ■ A student administered a dose of EPOGEN (epoetin alfa) to a patient with a hemoglobin of 15.5; the order on the MAR stated to hold the dose if the patient's hemoglobin exceeded 12. 	<ul style="list-style-type: none"> ■ Be sure students and instructors know how to access the most recent lab results and that these results are accessible. ■ Work with students to help them identify vital signs and lab data that may alter medication therapy. ■ Teach students to review the order and MAR before administering the drug dose.
<p>Non-Specific Doses Dispensed Student nurses have administered excessive doses when they expected the drug to be provided in a resident-specific dose, but pharmacy had dispensed a larger dose or quantity.</p>	<ul style="list-style-type: none"> ■ A student gave the patient a 4 mg tablet of dexamethasone as dispensed, but 2 mg (½ tablet) had been prescribed. ■ A student administered the full amount of DILANTIN (phenytoin) suspension dispensed in a bottle intended to be used for several doses. 	<ul style="list-style-type: none"> ■ Pharmacy should dispense medications in ready-to-use, resident-specific doses whenever possible; otherwise provide further instructions on the MAR and the dose itself, if possible. ■ On MARs, list the resident-specific dose first (before the available dosage strength dispensed, if applicable), as in the following example: "metoprolol 25 mg," followed by "25 mg = half of a 50 mg tablet."
<p>Oral Liquids in Parenteral Syringes Preparation of oral or enteral solutions in parenteral syringes has led to students accidentally administering these products by the injectable route.</p>	<ul style="list-style-type: none"> ■ A student gave the patient an oral liquid dose of vancomycin by the IM route. ■ A student prepared an oral liquid narcotic in a parenteral syringe; while the instructor's back was to the patient, the student began to administer the drug via the IM route. ■ A student gave a patient an oral liquid dose of furosemide IM, which was intended for gastric tube administration. 	<ul style="list-style-type: none"> ■ Pharmacists should dispense all oral liquid products in oral or ENFit syringes. ■ Stock medication areas with oral or ENFit syringes. ■ Students should be advised that oral or ENFit syringes must be used when preparing oral solutions and apprised of the dangers of not doing so. ■ Convert injectable (IM, IV) medications to the oral route when appropriate.
<p>Preparing Drugs for Multiple Residents Student nurses may give medications to the wrong patient if they prepare more than one resident's medications at a time and bring medications for two or more residents into a room.</p>	<ul style="list-style-type: none"> ■ A student gave the patient in bed A his medications along with a dose of warfarin 5 mg intended for the patient in bed B. ■ An instructor put medications intended for the patient in bed B on a table while observing a student administer medications to the patient in bed A; the student picked up the wrong medications and gave them to the patient. 	<ul style="list-style-type: none"> ■ Teach students by example to prepare one resident's medications at a time, and administer those medications before preparing another resident's medications. ■ Stress the risks associated with handling more than one resident's medications at a time. ■ Teach students the organization's process to identify residents using two unique identifiers before drug administration.

> **Student nurses**—continued from page 1

and safety practices that have been designed to reduce these risks. Students and faculty should adopt these practices. In addition to the examples in **Table 1** (page 2), nursing instructors may be able to describe other error-prone conditions that they have observed, which can then be addressed. The instructors should also be invited to attend any orientation programs that cover the organization's safety goals so they can reinforce related safe practices during clinical rotations.

Alarming survey results from CDC: Unsafe injection practices continue

To safely prepare and administer an injectable medication, practitioners must follow aseptic technique, avoid reuse of single-dose or single-use vials, use needles and syringes just once for only 1 patient/resident, and never reenter a medication container with a used needle or syringe. However, the results of a recently published survey¹ conducted by the Centers for Disease Control and Prevention (CDC) on injection practices in acute care, long-term care, and outpatient settings, revealed dangerous knowledge gaps, attitudes, and practices by physicians and nurses; this despite widespread media coverage of more than 50 outbreaks associated with unsafe injection practices since 2001 and the launch of the national *One & Only Campaign* in 2009 by the Safe Injection Practices Coalition. The *One & Only Campaign* (www.oneandonlycampaign.org/) aims to raise awareness among patients/residents and practitioners about safe injection practices. The national campaign provided funding to state health departments in Nevada, New York, New Jersey, and North Carolina to help promote the campaign due to high-profile outbreaks in these states linked to unsafe injection practices. While most surveyed physicians and nurses were aware of the outbreaks, awareness of the campaign was low (22.7% for physicians, 20.0% for nurses), although somewhat higher in physicians and nurses in states that received funding to promote the campaign (59.5% for physicians, 54.7% for nurses). Moreover, the survey revealed alarming misperceptions regarding the acceptability of injection practices that are clearly unsafe, along with unsafe practices in the workplace. Details from the published survey results¹ follow.

Survey respondent profile and questions

The survey was completed by 370 physicians with a median of 14.5 years of clinical experience, and 320 nurses with a median of 21 years of clinical experience. The physicians' specialties included anesthesiology-pain management, dermatology, gastroenterology, internal medicine, orthopedics, oncology, and radiology. All nurse participants were registered nurses who were working at least half of the time in a clinical setting. Participants were either from the 4 states that had received funding to promote the *One & Only Campaign* message or from 4 other states that had not received funding (Colorado, Tennessee, Montana, Wisconsin). Along with knowledge and attitudes associated with injection practices, nurses were asked about the frequency of their own injection practices in the workplace, and physicians were asked about the frequency of injection practices by all healthcare personnel in their work area, not just their own practices.

Highlights of survey results

While most physician and nurse responses to the survey aligned with CDC recommended injection practices, there is a dangerous minority of practitioners—perhaps many more than previously thought—who are violating basic infection control practices associated with the use of syringes, needles, single-dose vials, diluent containers, and other unsafe injection practices.

Syringe reuse: Survey responses indicated that 12.4% of physicians and 3.4% of nurses reuse a syringe for more than 1 patient/resident, despite findings that most physicians (91.6%) and nurses (99.4%) do not agree that this is an acceptable practice.

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not suffer any adverse consequences, he could have experienced a thrombotic event (clot or stroke) caused by insufficient anticoagulation.

This error demonstrates the importance of avoiding abbreviations in medication orders. Staff at LTC facilities, or at any facility, should not accept orders with unclear (e.g., TK, WF) or error-prone (e.g., QD) abbreviations. Such orders should be clarified with the prescriber and documented in the record, even if staff are confident about the intended meaning.

New 2018 Joint Commission National Patient Safety Goals released. The 2018 National Patient Safety Goals (NPSGs) for nursing care centers are now available on The Joint Commission's website. You can download the entire chapter from the accreditation standards manual or choose an easy-to-read version. The chapter addresses multidrug-resistant organisms (MDRO) which is applicable to the new Nursing Care Center Accreditation program. For more information about the new NPSGs, go to: www.ismp.org/sc?id=3047.

Differentiating insulin types by touch and separate storage. A pharmacist told us about an insulin mix-up that her visually impaired mother-in-law experienced. Her mother-in-law uses insulin pens for both rapid-acting (insulin lispro) and long-acting (insulin glargine) insulins at home. She stores them together although she administers the rapid-acting insulin 3 times a day with meals and the long-acting insulin at night. On two occasions, she has accidentally given herself 50 units of the rapid-acting insulin instead of the long-acting insulin at night. While 50 units was the correct dose for her long-acting insulin, it is a very large dose of the rapid-acting insulin given all at once. Both times, the pharmacist's mother-in-law recognized her mistake and had to stay up until early in the morning drinking juice and checking her blood glucose levels frequently. The pharmacist happened to be visiting the last time it happened. Despite readings of about 100 mg/dL about 2 hours after the mistake, her mother-in-law still woke up (fortunately) at 4 a.m. with a low blood glucose value of 50 mg/dL.

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Almost 5% of physicians reported that this unsafe practice *usually* or *always* occurs in their work area. This unsafe practice was most frequently reported by oncologists; 17.9% of oncologists thought it was an acceptable practice, and 23.9% reported its occurrence in the workplace (13.5% reported this *usually* or *always* occurs). While statistical analysis comparing nurse practice locations did not occur in this study, little or no differences were seen in either attitudes or practices associated with syringe reuse in acute care, long-term care, or outpatient facilities.

Reentering a vial with a used syringe/needle: While 12.7% of physicians and 6.7% of nurses mistakenly believed that reusing a syringe to access a medication vial is an acceptable practice, even more reported its actual occurrence in the workplace: 43.2% of physicians and 24.1% of nurses reported reentering multiple-dose vials with a used syringe (7.3% and 5.0%, respectively, reported this *usually* or *always* occurs). Belief that this was a safe practice was highest with oncologists (25.5%) and radiologists (20%), and its practice was reported in the workplace by more than half of all anesthesia-pain management physicians (63.4%), radiologists (57.5%), and oncologists (53.7%). Nurses in long-term care facilities (27.3%) and outpatient facilities (21.8%) reported reentering a vial with a used syringe/needle more often than nurses in acute care facilities (16.1%).

Using single-dose vials for multiple patients/residents: The misperception that using a single-dose vial for more than 1 patient/resident is an acceptable practice was high with physicians (34.0%) and nurses (16.9%), although the frequency of occurrence in the workplace was reported by fewer, although still substantial, physicians (25.1%) and nurses (10.9%). This unsafe practice was reported most often by oncologists (34.4% overall, 10.5% reported this *usually* or *always* occurs) and anesthesia-pain management physicians (31.7% overall, 9.8% reported this *usually* or *always* occurs). Little or no differences were seen in using single-dose vials for multiple patients/residents by nurses in acute care, long-term care, or outpatient facilities, although more nurses in outpatient facilities believed the practice was acceptable.

Using source bags or bottles as diluents for multiple patients: Using bags or bottles of IV solutions as a source supply of diluent for more than 1 patient/resident was reported by 28.9% of physicians and 13.1% of nurses. This unsafe practice was reported by nurses more often in long-term care and outpatient facilities than acute care hospitals, and by oncologists (44.8% overall, 14.9% reported this *usually* or *always* occurs). However, orthopedists and dermatologists also reported that this practice occurs frequently (7.5% and 7.3%, respectively, reported this *usually* or *always* occurs).

Impact of campaign: When comparing the acceptability and frequency of unsafe practices of physicians and nurses located in the *One & Only Campaign* and non-campaign states, there were no statistically significant differences in responses (except regarding the acceptability of using a single-dose vial for more than 1 patient/resident with physicians).

Comparison to prior survey

In December 2010, ISMP summarized the results of an online survey of more than 5,000 healthcare practitioners that revealed a lapse in basic infection control practices associated with injection practices.^{2,3} Seven years later, the results of the CDC survey suggest that the lapses continue and may have significantly worsened. For example, in the 2010 survey, 1.0% of all respondents reported reusing a syringe for more than 1 patient/resident, versus 12.4% of physicians and 3.4% of nurses in the 2017 survey. In the 2010 survey, 15% of respondents reported using the same syringe to reenter a vial numerous times, versus 43.2% of physicians and 24.1% of nurses in the 2017 survey. Keep in mind that, in the 2010 survey, healthcare practitioners were asked about their own practices, as were nurses in the 2017 survey. However, physicians in the 2017 survey were asked to report the frequency of unsafe practices by all

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After the first incident, the pharmacist and her mother-in-law talked about separating the 2 pens to prevent accidental mix-ups, but for logistical reasons, this would have been challenging. She now wraps a hair tie around the long-acting insulin pen so it “feels” different to her. While reading the label each time is important, patients with diabetes who have vision problems may have difficulty seeing the labels or stickers.

Many years ago, various types of rapid-acting, intermediate-acting, and long-acting insulins were packaged in vials that were different from one another in shape (round, square, one with a hexagonal neck) to help patients with sight and touch issues differentiate the products. This is no longer true with vials, all of which are round, and pens are all similarly shaped.

To help prevent mix-ups, teach residents who self-administer insulin that using something they can feel, such as adhesive tape, a rubber band, or in this case hair ties, may be a good way to help differentiate different insulin types. Perhaps storing the medicines in containers with prominent ‘long-acting’ or ‘night insulin’ and ‘rapid-acting’ or ‘meal insulin’ stickers on the containers could also help differentiate the products. Since insulin does not need to be kept in the refrigerator once it has been opened, it may also be helpful to instruct residents to keep their long-acting, bedtime insulin pen in the bedroom, and their rapid-acting, mealtime insulin pen in the living room. However, relying totally on where a medicine is stored is risky and can lead to an error, especially if a spouse who lives with the resident moves the insulin around.



Drug shortage meeting held. On November 6, the Institute for Safe Medication Practices (ISMP) joined the American Society of Health-System Pharmacists (ASHP), American Hospital Association (AHA), American Society of Clinical Oncology (ASCO), American Society for Parenteral and Enteral Nutrition (ASPEN), and American Society of Anesthesiologists (ASA) for a meeting about drug shortages. The meeting was held to identify new opportunities to address the ongoing patient-care challenges associated with drug product shortages. Representatives from the American Medical Association, Soci-

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healthcare personnel in their work area, not just their own practices. In the 2017 survey, physician reporting of unsafe practices by healthcare personnel in their work area is higher than nurse self-reporting of unsafe practices. While physician attitudes regarding the acceptability of unsafe practices in the survey are clearly their own and reflect the degree of knowledge deficit that needs to be addressed, the physician responses in the 2017 survey regarding the frequency of unsafe injection practices in the workplace are more reflective of practices by all healthcare personnel and may more accurately reflect the scope of the problem.

Conclusions

The results of this latest study demonstrate that a dangerous minority of healthcare practitioners are violating best practices associated with safe injections and are placing patients and residents at risk of serious infection. Given these lapses in infection control practices, academic institutions and programs, licensing bodies, and healthcare providers must enhance their ongoing surveillance of proper technique and devote resources to ensure students and staff have the knowledge and skills associated with even the most basic concepts of infection control and injection safety. **All staff should understand that any form of syringe and/or needle reuse is dangerous and should be avoided, and that syringes cannot be reused even if the needle is changed.** Healthcare practitioners should be vigilant in following the current CDC guidelines that recommend that syringes and needles be used only once. Single-dose or single-use vials should only be used for 1 dose for 1 patient/resident, and then discarded after initial entry into the vial. If multiple-dose vials are used, they should be limited to single-patient/resident use whenever possible, and both the needle and syringe used to access the vial must be sterile.

State licensing boards and professional specialty organizations could play a larger role in including injection safety training as a continuing education requirement. But until this happens, education on safe injection practices should be required during orientation and at ongoing intervals thereafter, and staff competencies in this important area of practice should be assessed regularly. Provider campaigns, such as the *One & Only Campaign*, are available to support safe practices in any setting where injections are delivered but should not be relied upon alone to promote safe injection practices. A multifaceted approach to surveillance and education is needed.

References

- 1) Kossover-Smith RA, Coutts K, Hatfield KM, et al. One needle, one syringe, only one time? A survey of physician and nurse knowledge, attitudes, and practices around injection safety. *Am J Infect Control*. 2017;45(9):1018-23.
- 2) Pugliese G, Gosnell C, Bartley JM, Robinson S. Injection practices among clinicians in United States health care settings. *Am J Infect Control*. 2010;38(10):789-98.
- 3) ISMP. Perilous infection control practices with needles, syringes, and vials suggest stepped-up monitoring is needed. *ISMP Medication Safety Alert!* 2010;15(24):1-3. www.ismp.org/Newsletters/acute_care/articles/20101202.asp

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ety of Critical Care Medicine, US Food and Drug Administration (FDA) Drug Shortages Program, University of Utah Drug Information Service, and US Department of Health and Human Services Office of Emergency Management also participated in the meeting. In addition, ASHP, ISMP, AHA, ASPEN, ASA, and ASCO jointly signed a letter asking Congress to take immediate action to address the public health crisis caused by persistent shortages of critical medications. More information about these activities can be found at: www.ismp.org/sc?id=3039.

Worth reading...



Optimizing the use of discharge medication lists in nursing facilities

Backes AC, Cash P, Jordan J. Optimizing the use of discharge medication lists in nursing facilities. *Consult Pharm*. 2016; 31(9):493-9. www.ismp.org/sc?id=3052

This article discusses a pilot project in which the authors followed high-risk patients transitioning from a hospital to a nursing facility and from a nursing facility to home. The goal of the project was to improve patient transitions and reduce hospital readmissions. The authors identified 11 components in the nursing facility's discharge medication list that would increase patient safety and potentially reduce medication-related hospital readmissions if improved. Check out the article to learn more about their findings and what improvements can be made.

Help ISMP this holiday season

You may not realize that ISMP is a non-profit organization that relies on donations and grants to fund our life-saving work in medication safety. You can help ISMP by signing up for the *AmazonSmile* program and selecting ISMP as the charitable organization you wish to support. In return, the AmazonSmile Foundation will donate a portion of the profits from your eligible purchases to ISMP. For more information and to sign up, go to: <http://smile.amazon.com/about>. You can also help ISMP by making a direct, tax-deductible donation at: www.ismp.org/support.

HAPPY Holidays

from the staff and trustees at the Institute for Safe Medication Practices.
We wish you joy, health, and happiness this holiday season!

Special Recognition... Our 2017 Long-Term Care AdviseERR Clinical Advisory Board

Production of this peer-reviewed newsletter would not be possible without the assistance of a reliable and talented clinical advisory board. As 2017 nears an end, we want to thank each of the following members of the advisory board for their dedication to making this newsletter a valuable medication safety resource for clinicians.

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