Residents vulnerable to harmful medication errors during transitions from hospital to LTC facility

More than 3 million Americans will rely on services provided by long-term care (LTC) facilities at some point during 2013, and more than 1.4 million will live in the nearly 16,000 LTC facilities on any given day. About one-third of these residents will take an average of nine medications daily. This frequent use of medications places residents at an increased risk for medication errors, particularly during transitions into the LTC facility.

Transition from the hospital to a LTC facility is a vulnerable period of time because those caring for the residents are often operating without complete knowledge of the care, services, and medications provided in previous settings, especially if residents cannot actively participate in their own care. Common lapses in communication, documentation, and transcription have led to poor coordination of care, inaccuracies on more than half of all resident referrals or transfer forms, and at least one medication discrepancy in 7 of every 10 admissions. Add to this the accidental continuation of medications that were intended for administration only while the resident was hospitalized, along with frequent 12-hour delays in medication administration for evening admissions, and 3 or more missed doses during the immediate transition period, it is not surprising that error rates as high as 21% have been reported during transitions between LTC facilities and hospitals. Up to 60% of these errors have been serious, life-threatening, or fatal, as demonstrated by the following example.

Upon discharge from a hospital, a man was transferred to a LTC facility. During the initial assessment, the LTC nurse reviewed the transfer information which was faxed to the LTC facility. The nurse noted the discrepancy in the medication list and called the hospital to clarify the admission orders.

Welcome to the Long-Term Care Advise-ERR, a medication safety newsletter from the Institute for Safe Medication Practices (ISMP). Long-Term Care Advise-ERR is designed for nurses, LTC facility administrators, physicians, and long-term care pharmacies to:

- Alert staff to serious medication hazards in the long-term care setting
- Inform staff about deeply rooted system causes of medication errors
- Empower staff to protect residents from potential medication errors
- Engage staff as members of interdisciplinary medication safety teams
- Advocate for improvement in practices, product safety, and regulation

Each month, we’ll bring you anonymous medication safety stories that ISMP has received through its National Medication Errors Reporting Program (ISMP MERP) that have happened in long-term care facilities. We’ll talk about why mistakes happen and offer practical advice on how to avoid errors. You will also have a chance to share your safety stories, ask questions, and participate in surveys so we can learn about you, your medication safety concerns, and innovative ways you keep residents safe.

We’re glad you’re joining us on this very important journey to prevent medication errors that can harm residents in long-term care.

Follow these recommendations to help prevent medication errors when residents transition from other care settings (e.g., hospitals) to the LTC facility:

- Establish a list. Prepare a list of medications that might be accidentally continued but often not needed after hospitalization (e.g., pain medications, benzodiazepines, sleeping aids, electrolyte supplements, gastrointestinal agents, proton pump inhibitors). Share the list with nurses who obtain and verify resident admission orders.

- Do not accept “continue same orders.” Admission orders, discharge summaries/transfer forms, or verbal orders that simply state “continue” or “resume” the same medications prescribed during hospitalization or any listed on the discharge summary should never be accepted. Prescribers must provide a new, complete order for each prescribed medication.

- Reconcile prior and new medications. For all new or returning residents, a nurse (or pharmacist, if on-site) should review the prescribed drugs on admission and compare them to the medications on the resident’s discharge summary. For returning residents, also compare the newly prescribed drugs to what the resident was receiving before hospitalization. Make note of any discrepancies, including newly prescribed drugs, omissions, or differences in a prescribed drug’s form (e.g., extended release versus immediate release), dose, frequency of administration, or route of administration.

- Verify admission orders. After reviewing the prescribed medications and noting discrepancies, call the LTC prescriber to verify all admission orders, paying attention to the following:
Nurses are faced with the daunting task of reconciling potentially conflicting information provided by hospitals.

As demonstrated with this error, poor communication across care settings and mistakes during order transcription have been found to be the most frequent causes of medication errors during transitions to LTC facilities. More than half of these errors originate during documentation of the medication therapy, and not while administering the medication to the resident. Thus, medication errors that occur during the transition initially tend to involve registered nurses who are faced with the daunting task of reconciling potentially conflicting information provided by hospitals and/or other healthcare providers, such as the resident’s primary care physician. LTC facilities rely on the discharge orders, prescriber-signed transfer forms, and other documents sent from the referring entity to communicate to the admitting LTC facility physician, who is responsible for prescribing ongoing medication therapy. In cases where the resident is returning to the LTC facility after a hospital stay, a medication the resident was previously taking (for example, an antihypertensive) may be missing on the hospital’s discharge medication orders. Although nurses undoubtedly recognize the importance of rectifying such discrepancies, time constraints may make calling the discharging hospital or physician challenging, particularly during evening and night shifts or on weekends. Most LTC facilities struggle with this medication reconciliation process, which is often less effective than desired. Discrepancies may go unnoticed and contribute to resident harm.

Errors involved in transitions may be more likely to cause resident harm, perhaps because transition errors are often repeated before being recognized, and because some of the drugs involved are particularly risky—drugs we call high-alert medications. High-alert medications are a small group of drugs that carry a high risk of causing resident harm if misused. Insulin is a high-alert medication that is near the top of the list of the drugs most frequently involved in harmful errors. Table 1 (page 3) provides additional medications commonly involved in transition errors. Errors during transitions are more likely to involve the wrong drug or wrong dose, particularly for drugs with look-alike names and those with frequent dose adjustments (e.g., insulin), or pharmacy dispensing issues.

One way to avoid making an error similar to the insulin error previously continued on page 3–

Transitions

**check it out!** cont’d from page 1

- Ask the prescriber about discrepancies found while reconciling the prior and new drug therapy.
- Ask whether medications typically used only during hospitalization should be continued.
- Read back the full set of medication orders (including dose) to verify accuracy; spell look- and sound-alike drug names that are often confused (e.g., ALPRAZolam and LORazepam) during transitions.
- Verify the doses of medications that often require dose adjustments, such as insulin and warfarin, and ask about the frequency of special testing (e.g., blood glucose testing), and other laboratory studies (e.g., INR including the desired target range for monitoring).

**Request information early.** When possible, design a system in which the resident’s transfer information from a hospital is received (e.g., electronic submission, faxing) several hours before the resident arrives to begin the reconciliation process and to help ensure that required medications are available as soon as possible. For residents with complex care needs, a phone conversation between the discharging physician and LTC facility physician is recommended as a best practice.

**Provide feedback to hospitals.** Take the time to report discrepancies in discharge orders, transfer forms, and prescriptions to involved hospitals and prescribers so they can improve their processes associated with coordinating and communicating each resident’s plan of care during transitions. There are evidence-based tools available to hospitals to improve information exchange and medication reconciliation, but improvements won’t occur unless hospitals are aware of their role in errors. Regularly scheduled meetings with nursing administration, the medical director, and other supportive staff from facilities that frequently refer to your LTC facility would be helpful.
Communications error regarding dose, failure to order INR.

Name confusion with morphine.

Dosing errors or accidental discontinuation.

Name confusion with esomeprazole, and omissions or continuation of a drug used during acute illness but no longer needed.

Table 1. Medications most often involved in errors during transition to a LTC facility.

<table>
<thead>
<tr>
<th>Medication (generic name and common brand names)</th>
<th>Common Error Type(s) During Transition</th>
</tr>
</thead>
<tbody>
<tr>
<td>warfarin (COUMADIN)1,3,6,9,10,11</td>
<td>Communication error regarding dose, failure to order INR</td>
</tr>
<tr>
<td>insulin1,3,6,10</td>
<td>Communication error regarding dose</td>
</tr>
<tr>
<td>oxycODONE with acetaminophen (PERCOCET, ENDOCET)3,6,9,10,11</td>
<td>Name confusion with HYDROCodone with acetaminophen</td>
</tr>
<tr>
<td>HYDROCodone with acetaminophen (VICODIN, LORCET)3,6,9,10,11</td>
<td>Name confusion with oxycODONE with acetaminophen</td>
</tr>
<tr>
<td>enoxaparin (LOVENOX)3,6,9</td>
<td>Dosing errors and delays in administration</td>
</tr>
<tr>
<td>furosemide (LASIX)3,6,9,10,11</td>
<td>Dosing errors</td>
</tr>
<tr>
<td>metoprolol (LOPRESSOR)3,6,9,10,11</td>
<td>Dosing errors or accidental discontinuation</td>
</tr>
<tr>
<td>potassium3,6,10,11</td>
<td>Omissions or continuation of a drug used during acute illness but no longer needed</td>
</tr>
<tr>
<td>LORazepam (ATIVAN)3,6,9,10,11</td>
<td>Name confusion with ALPRAZolam</td>
</tr>
<tr>
<td>ALPRAZolam (XANAX)3,6,9,10,11</td>
<td>Name confusion with LORazepam</td>
</tr>
<tr>
<td>aspirin3,6</td>
<td>Dosing errors</td>
</tr>
<tr>
<td>acetaminophen (TYLENOL)3,6</td>
<td>Dosing errors</td>
</tr>
<tr>
<td>fentaNYL (DURAGESIC)3,6,9,10,11</td>
<td>Dosing errors, and patches not removed and properly discarded before application of new patch</td>
</tr>
<tr>
<td>omeprazole (PRILOSEC)3,6,11</td>
<td>Name confusion with esomeprazole, and accidental continuation of drug used during acute illness but no longer needed</td>
</tr>
<tr>
<td>esomeprazole (NEXIUM)6,11</td>
<td>Name confusion with omeprazole, and accidental continuation of drug used during acute illness but no longer needed</td>
</tr>
<tr>
<td>morphine6,10,11</td>
<td>Dosing errors and name confusion with methadone, mix-ups between regular strength and concentrated oral solutions</td>
</tr>
<tr>
<td>methadone6,11</td>
<td>Name confusion with morphine</td>
</tr>
<tr>
<td>risperiDONE (RISPERDAL)6,9,11</td>
<td>Transcription errors (unspecied) and dosing errors</td>
</tr>
<tr>
<td>nitrofurantoin (MACRODANTIN)6,11</td>
<td>Transcription errors (unspecied)</td>
</tr>
<tr>
<td>Other gastrointestinal agents6 (e.g., laxatives, stool softeners, antidiarheals, antiemetics)</td>
<td>Omissions or accidental continuation of a drug used during acute illness but no longer needed</td>
</tr>
</tbody>
</table>

References appear in the right column on page 4.

Color of tablets a clue. A nurse checking a 30-day supply of medications delivered by pharmacy and replacing old blister cards with the new supplies noticed that the wrong strength tablets had been placed in each blister. The replacement cards for RISPERDAL (risperiDONE) should have contained 0.25 mg tablets, as listed on the cards. The resident was supposed to receive 1 tablet (0.25 mg) in the morning and 3 tablets (0.75 mg) at bedtime. The nurse was expecting small, dark yellow tablets (0.25 mg), but instead the blisters held small, red-brown tablets. In this case, the nurse called the pharmacy to report the differences in the tablet appearance and learned the red-brown tablets were 0.5 mg, thus catching the error before it reached the resident. Differences in tablet appearance may alert a nurse or pharmacist to an incorrect medication or strength which is an example of a passive control. Passive controls are inherent characteristics, such as tablet appearance, that might help control risks but are not specifically designed for that purpose. Active controls, on the other hand, are deliberate steps in a process that help prevent errors, such as verifying a resident’s identity prior to drug administration. Sometimes, nurses and other health professionals easily dismiss differences in tablet appearance or other passive controls, believing the differences are due to different generic versions of the same product. Some pharmacies will include a notation if the appearance of the drug has changed due to the purchase of a different generic product. Any medication that does not appear as expected should be investigated prior to administration.

All is not as it seems. What medication has been prescribed in the order below?

Lyrica 10, 30, 50, 75 mg.

A. The order is for the cholesterol-lowering drug LIPITOR (atorvastatin), but the nurse and pharmacist misread the physician’s handwritten order as the antihistamine ZYRTEC (cetirizine). While these drug names seem dissimilar, this error has been reported frequently, as have other mix-ups with seemingly dissimilar drug names.
What’s in a name?

What is the purpose of brand and generic drug names?

A generic name (usually not capitalized) is a unique name assigned to each medication after approval by the United States Adopted Name (USAN) Council. Generic names often contain word stems to help identify the class of drugs to which they belong. For example, medications using the word stem “-statin” are cholesterol-lowering agents. These stems also can help clinicians recall common side effects for the class of drugs.

A medication may have one or more brand names. Manufacturers usually select a brand name that is easy to pronounce, spell, and remember. For example, TYLENOL was the brand name chosen by the company that first manufactured acetaminophen. Since the patent on Tylenol has expired, other companies now manufacture acetaminophen and market it under its generic name or a different brand name, such as ACAPEHIN, FEVERALL, and CETAFEN.

In Long-Term Care Advise-ERR, we will typically list all generic names in lowercase letters, and the first time we mention a specific brand name, we will boldface and capitalize all letters. We will also use boldface and capital letters for small sections of generic/brand names (called “tall man letters”) to help differentiate it from another very similar generic/brand drug name. For example, tall man letters are typically used when communicating hydroXYzine (a drug used to treat nausea, anxiety, and itching) and hydroALAZINE (a drug used to treat hypertension and congestive heart failure) to help distinguish one from the other.

A TACTical error. In his progress notes, a dermatologist who was consulted to evaluate a resident with a skin disorder recommended “TAC 0.1%, apply TID to affected areas.” The resident’s physician misinterpreted the recommendation as TAC (tetracaine/adrenalin/cocaine), and prescribed that medication. The pharmacist, who recognized that the product was a topical anesthetic solution with significant toxicity, clarified the order with the prescribing dermatologist and learned that the intended product was triamcinolone (KENALOG) cream 0.1%. This corticosteroid cream is used to treat contact dermatitis and atopic dermatitis, a type of eczema. A few months later, a long-term care (LTC) patient was referred to the same dermatologist for a rash unresponsive to hydrocortisone cream. This time, a different physician misinterpreted the dermatologist’s “TAC” prescription as tacrolimus (PROTOPIC) 0.1%, and again the wrong drug was prescribed. Tacrolimus cream is an immunosuppressant agent used to treat moderate to severe atopic dermatitis. The same pharmacist recognized the problem and called the dermatologist to clarify that triamcinolone 0.1% was intended. Drug name abbreviations should never be used when prescribing medications, and in this case, when recommending drug therapy. The prescribing physician should have clarified the dermatologist’s recommendation before prescribing the drug. If nurses or pharmacists encounter orders using drug name abbreviations, clarification should be sought whether the order was handwritten or submitted electronically.

References


Report medication errors to ISMP

Articles in this publication are based on actual medication errors reported to ISMP. We’d like to hear from you!

Share your medication safety stories and error reports in confidence by calling ISMP (1-800-FAILSAFE), via our website (www.ismp.org/sc?id=211), or by email (ismpinfo@ismp.org). Reporter identity and location remain strictly confidential and are never published. Anonymous reports are also accepted.