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ISMP

Long-Term Care
Advise ERR™

Educating the Healthcare Community About Safe Medication Practices

Despite technology, verbal orders persist, read back is not widespread, and errors continue

In January 2017, we invited readers of our acute care, community/ambulatory care, long-term care, and nursing newsletters to complete an online survey to learn about the use of verbal orders that are spoken aloud (face-to-face), provided via telephone, or left on voicemail. The survey directed respondents to exclude verbal orders that occurred during order clarifications. We sincerely thank the 1,622 nurses (75%), pharmacists (23%), and other practitioners (2%) who completed the survey! Most respondents practiced in hospitals (87%), ambulatory clinics (6%), or other facilities (5%). Unfortunately, only 2% (n=35) of the total respondents practiced in long-term care (LTC) facilities. However, the use of verbal orders in LTC is prevalent, and the results of this survey are meaningful to any healthcare setting where verbal orders are used.

Table 1. Medication classes received as verbal orders

Medication class	Percent Reporting Verbal Orders
Analgesics (controlled substances)	67%
Agents used to control blood pressure	59%
Fluids for hydration	59%
Analgesics (non-controlled substances)	55%
Antiemetics	54%
Anti-infectives	40%
Antianxiety, Anxiolytics, Sleep agents	38%
Electrolytes	34%
Gastrointestinal agents	31%
Respiratory agents	30%
Anticoagulants	28%
Antidiabetic agents	28%
Other controlled substances (not analgesics)	13%
Anticoagulation reversal agents	10%
Other medication classes	9%
Oncologic agents/chemotherapy	2%

ISMP conducted this survey to gain insight into the current use of verbal orders in today's healthcare environment given the increased use of computerized prescriber order entry and electronic prescribing, which have the potential to reduce errors resulting from unclear handwritten and verbal orders. The survey results suggest that verbal orders are still used, and that the critical safeguard of reading back verbal orders for verification is limited. The potential for verbal orders to be misunderstood, misheard, or transcribed incorrectly makes them error prone, particularly given different accents, dialects, and drug name pronunciations by the prescriber and recipient of the order. Add in sound-alike drug names and dosing numerals (e.g., 50 vs. 15), background noise and disruptions, and the failure to seek verification, it is not surprising that errors with verbal orders continue to be reported. Further details about the survey results follow.

Survey Results

Methods used to communicate verbal orders. Most respondents reported receiving verbal orders during the past year via telephone (85%) and spoken face-to-face (74%). Only 4% of respondents reported receiving verbal orders left on voicemail.

Frequency of verbal orders. For more than a quarter of respondents, at least 1 in

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ISMP Releases Guidelines on Safe Subcutaneous Insulin Use

For years, insulin has been shown to be associated with more medication error-related harm than any other drug. The new *ISMP Guidelines for Optimizing Safe Subcutaneous Insulin Use in Adults* are designed to help healthcare practitioners prevent errors and improve outcomes for residents with diabetes who use insulin. The guidelines provide recommendations for avoiding errors and at-risk behaviors involving subcutaneous insulin across the entire medication-use process, including prescribing, preparation, administration, monitoring, and patient education. The document also addresses evolving practices, devices, and technologies that aim to enhance the safety of insulin use, such as with concentrated insulin and insulin pen devices. For a FREE copy, visit: www.ismp.org/sc?id=2917.

SAFETY wires

WHO launches global effort to reduce medication errors. On March 29, the World Health Organization (WHO) launched a global initiative to reduce severe, avoidable medication-associated harm by 50% in all countries over the next 5 years. The Global Patient Safety Challenge on Medication Safety, which was announced in Bonn, Germany, aims to address the weaknesses in health systems that lead to medication errors and the severe harm that results. ISMP participated in the planning of the program and is committed to its ongoing support. Allen Vaida, ISMP's Executive Vice President, attended and spoke at the launch in Bonn.

The Challenge calls on countries to address key issues to reduce medication er-

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Supported by educational grants from Novartis and Fresenius Kabi

NOVARTIS PHARMACEUTICALS

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every 4 orders is received verbally. Almost 12% of respondents indicated they received more than half of all orders during the past year as verbal orders, and another 14% reported receiving 26% to 50% of all orders as verbal orders. Respondents from LTC reported receiving verbal orders even more frequently—almost 1 in 4 received more than half of all orders verbally. Only 1% of all respondents told us they had not received any verbal orders in the past year.

Read back verbal orders. The Joint Commission (TJC) includes a requirement under the Provision of Care, Treatment, and Services (PC 02.01.03, EP 20) for the receiver of a verbal order to record the order and then read the recorded order back to the prescriber. It is insufficient to just repeat back what was heard. This helps ensure that one has not only heard an order correctly but also transcribed it accurately. Nevertheless, nearly half (45%) of all respondents who reported receiving telephone or spoken orders told us they do this less than 50% of the time. In fact, 25% of LTC respondents said they read back verbal orders only 1-5% of the time, and 11% indicated they never carry out this important verification process. A few respondents commented that their organizations require practitioners receiving verbal orders to repeat back, rather than read back, verbal orders, or that no distinction has been made between repeat back and read back. Others indicated that verbal orders are first written on scrap paper and read back, then later transcribed or entered into the patient's or resident's actual medical record.

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Table 2. Example of errors related to verbal orders

Error type	Description of error
Transcription errors	A verbal order was given to hold an antihypertensive medication if the patient's blood pressure was less than a specific reading. When transcribed, the symbol for "greater than," not "less than," was used. The error was corrected before reaching the patient.
	A prescriber called in an order for a one-time **LOR**azepam dose for an agitated, anxious patient. The nurse entered the drug into the computer as "q4h PRN," which was the default frequency, instead of as a one-time dose. The patient became oversedated after receiving multiple doses.
	A physician gave a verbal order to a pharmacist for **ZOSYN** (piperacillin-tazobactam) 13.5 g/day in divided doses every 6 hours. The pharmacist entered the order as 13.5 g/dose q6h.
	A prescriber verbally ordered 0.2 mg of oral morphine solution for withdrawal symptoms. The nurse transcribed the order as 0.2 mg/kg. The pharmacy clarified the dose with the prescriber, and it was corrected.
Misheard sound-alike drug names	A consultant recommended fluvoxa**MINE**, but the resident misheard the drug name as **FLU**oxetine.
	A telephone order for propafenone was mistaken as propranolol.
	An emergency department physician verbally ordered "**KENALOG**" (triamcinolone acetonide), but the nurse misheard the drug as ketamine and handed the vial to the physician. The physician drew up the medication and administered it.
	A nurse misheard a physician's verbal order for **HYDRO**morphone as morphine.
Prescriber confusion	A physician verbally ordered "100 mg of **TORADOL**" (ketorolac) when he meant to say "tra**MAD**ol."
Misheard dose	"50" mg was misheard as "15" mg.
Misunderstood dose	During an emergency at the bedside, a prescriber asked for "10" of diaze**PAM**, but the nurse prepared 10 mL (5 mg/mL), not the intended 10 mg.
Misheard frequency	A nurse misheard a verbal order for temazepam "qhs" PRN for sleep as "q8h" and entered the order into the computer. A pharmacist called the physician to clarify the order, and the physician corrected the frequency to every night at bedtime as needed.
Route confusion	Subcutaneous **EPINEPH**rine was prescribed. The route was misunderstood, and the drug was administered by the IV route.

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rors and harm to patients, including: medicines with a high risk of harm if used improperly; patients who take multiple medications for different diseases or conditions; and patients going through transitions of care. The planned actions will focus on four areas: patients and the public; healthcare professionals; medicines as products; and medication systems and practices.

No, not methotrexate. Despite its name, **MTX TOPICAL PAIN** does not contain methotrexate or mito**XANTRONE**, both drugs associated with the dangerous abbreviation "MTX," which has led to mix-ups between them. When we saw "MTX" used for this over-the-counter (OTC) topical lidocaine 4% and menthol 1% patch sold by Unik Pharmaceuticals, we were taken aback. Perhaps more concerning is that arthritis sufferers are commonly treated with methotrexate and may be misled by the "MTX" on this patch. The image on the product's package also implies that it is used to treat joint pain, which it does not. Methotrexate is also used to treat psoriasis, a disease characterized by skin lesions, while the MTX Topical Pain product specifically warns against use in patients with damaged skin.

This combination of lidocaine and menthol ingredients is marketed "for temporary relief of pain and itching associated with minor burns, cuts, scrapes, and minor skin irritations" under the OTC Drug Monograph process. OTC products in compliance with an OTC Drug Monograph may be marketed without submitting a product name for review or undergoing a preapproval review by the US Food and Drug Administration (FDA). According to FDA, the monographs establish conditions under which certain OTC active ingredients are "generally recognized as safe and effective." FDA has been alerted to this error-prone abbreviation. We would appreciate hearing from readers who may have experienced an issue with this OTC product.

Avoiding inadvertent parenteral injection of oral liquids. Occasionally, we receive reports about mental slips in which a patient or resident is inadvertently given an oral liquid medication intravenously (IV)

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Classes of medications. Respondents also identified medication classes for which they have received verbal orders in the past year (**Table 1**, on page 1), some of which are high-alert medications. Analgesics, agents used to control blood pressure, fluids for hydration, and antiemetics were reported by more than half of the respondents. Despite being highly discouraged by ISMP, 2% of all respondents, and just one LTC respondent, reported receiving verbal orders for oncologic agents/chemotherapy in the past year.

Medication errors. Fourteen percent of respondents were aware of an error that occurred in the past year due to mishearing, misunderstanding, or incorrectly transcribing verbal orders. Selected examples of the 211 errors reported by respondents are described in **Table 2**, on page 2.

Recommendations

Because there are situations in which verbal orders are unavoidable (e.g., during emergencies), consider the following recommendations to reduce the risk of an error.

Organizational Policies and Procedures

Limit verbal orders. Limit verbal orders to true emergencies or circumstances in which the prescriber is physically unable to electronically transmit, write, or fax orders. For example, except in emergent situations, do not allow verbal orders for entire order sets when admitting, transferring, or discharging residents, or during medication reconciliation when prescribing medications. Do not allow verbal orders for convenience or as a means of circumventing an electronic prescribing system.

Limit to formulary drugs. If verbal orders are necessary, only allow them for items on formulary because the names and dosages of drugs unfamiliar to practitioners are more likely to be misheard.

Define the process. Define the prohibitions and limitations on verbal orders and when they are acceptable; a mechanism to establish the identity and authority of the prescriber; elements of a complete verbal order; and the requirements for clear communication of verbal orders, direct transcription into the medical record or onto a formal verbal order form, and the readback process for verification.

Prohibit verbal orders for chemotherapy. Do not allow verbal orders for chemotherapy except to hold or discontinue it. These medications are not administered in emergent situations, and the dosing regimens are often complex.

Prescribers and Receivers

Clarify all communications. Avoid all drug name abbreviations and error-prone dose, route, or frequency abbreviations. Spell out drug names, and for sound-alike letters consider using a phonetic alphabet (e.g., "T" as in "Tango," "C" as in "Charlie"). Communicate each single dose, not a total daily dose, and pronounce each digit of a number separately (e.g., "sixteen, one six," to avoid confusion with "sixty"). When appropriate, use leading zeros but not trailing zeros when specifying doses.

Prescribers

Confirm resident and allergies. Before issuing the order, identify the resident using his or her full name and birth date, and confirm the resident's allergies with the practitioner receiving the order.

Speak clearly. Speak slowly and clearly when giving a verbal order and expect (or ask) the receiver to read back the order exactly as it was entered into the resident's medical record or transcribed onto an order form. Provide the indication for

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or intramuscularly (IM). This happens most often when an oral liquid is placed into a parenteral syringe, and the medication in the parenteral syringe is then inadvertently administered either IV or IM. Nurses may not realize that the Luer connection on parenteral syringes allow misadministration of an oral liquid by the parenteral route.

We highly recommend that the pharmacy dispense all oral liquids in unit-dosed oral syringes. Long-term care (LTC) facilities should also make sure oral syringes are readily available in all resident care areas, and their location is known by staff. But there still seems to be another reason these errors happen, which has to do with knowledge deficits.

First, not all nurses know that oral syringes are available, that they look different from parenteral syringes, what their purpose is, or why it is important to use them. Unfortunately, in some cases, oral syringes have been inserted into a needleless port (jury-rigged to make it fit or simply held against the port) and then the oral medication is injected, despite part of the contents leaking out of the "connection." Some nurses do not understand or have not been taught that if the syringe does not fit easily into the connection, something is wrong. In other cases, when a needle cannot be attached to an oral syringe, the nurse transfers the contents to a parenteral syringe and then administers it by the IM route.

Although it doesn't happen often, oral liquids have sometimes been injected parenterally by health professionals who were not aware of the associated dangers. For example, oral tablets have been crushed, mixed in water, and administered IV to patients who were nauseated. In one case, a nurse crushed and mixed together **PAXIL** (**PAR**oxetine), potassium chloride solution, and a multivitamin tablet, and then administered the medications IV, after the patient refused the oral medications. The patient died 30 minutes later. It should be noted that most of these rare incidents seem to occur with recent graduates or inexperienced nurses. So, in addition to purchasing and using oral syringes, we highly recommend that accidental injection of oral liquids and the purpose for using oral syringes be included as part of nursing

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the medication to help distinguish between sound-alike medications.

Provide complete orders. Include all elements of a complete verbal order, including the unit of measure (mg vs. mL) for each dose and the frequency of administration.

Repeat order on voicemail. Avoid leaving orders on voicemail. But if leaving a voicemail is necessary, repeat the complete order a second time. Supply a return number so the receiver can call back with questions.

Provide weight-based doses. Include the mg per kg dosage along with the resident-specific dose for all weight-based medication orders.

Request resident verification. To verify resident identification, ask the recipient to read back the resident's name and birth date on the screen or order form that was used to transcribe the verbal order.

Receivers

Transcribe directly into the medical record. Immediately transcribe verbal orders into the resident's medical record or onto a formal verbal order form as they are being communicated. Transcription from scrap paper to the medical record introduces another opportunity for error. Based on survey comments, the challenge of directly entering verbal orders into an electronic health record may need to be addressed. For order clarifications by a pharmacist, provide a mechanism for the pharmacist to transcribe the orders directly into the resident's medical record.

Read back the order. Read the order back to the prescriber for verification. This step is essential and should become habit even if the receiver is confident that he or she has initially heard the order correctly. Do not assume that this practice is widespread in your facility despite a longstanding policy. Assess how prevalent this practice is in your organization, if staff are merely repeating back rather than reading back the order, and take any necessary steps to help practitioners fulfill this safety check. *The readback process is perhaps the single most important strategy to reduce errors with verbal orders.*

Understand the indication. Ensure that the verbal order makes sense in context of the resident's condition. This helps to differentiate sound-alike drug names. Record the medication's indication directly on the order or with the order.

Discourage misuse. Do not accept verbal orders when the prescriber is present and physically able to document the order. Do not accept verbal orders from a "go-between" (e.g., physician office staff) who is not the original prescriber. Do not accept verbal orders for chemotherapy. When telephone communication results in the need to prescribe or change an existing medication, ask the prescriber to transmit the order electronically or by fax, instead of communicating the order by phone.

Do not accept abbreviations. If an abbreviation is given as part of a verbal order, transcribe and read back the meaning of the abbreviation, not the abbreviation itself. For example, if the prescriber states QID, document and read back "four times daily."

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orientation. Nursing programs should also incorporate the availability, use, and purpose of oral syringes into the curriculum, and licensing and pre-employment exams should be designed to validate this knowledge. Finally, a pharmacist should **never** recommend using a parenteral syringe for oral liquids if an oral syringe is unavailable; facility policies should not allow it, either.

Worth reading...

Relationship of medication regimen complexity and ADEs in LTC facilities.

Tam SHY, Hirsh JD, Watanabe JH. Medication regimen complexity in long-term care facilities and adverse drug events-related hospitalizations. *Consult Pharm.* 2017;32(5):281-4.

A recent article reviewed the evidence that a complex medication regimen (based on the number of medications, dosage forms, dosing frequency, and administration instructions) increases the number of adverse drug events (ADEs) and ADE-related emergency department visits and hospitalizations among nursing home residents. The authors recommend the following strategies to reduce the medication regimen complexity and thus reduce ADEs and ADE-related hospitalizations:

- Combine similar dosing frequency drugs to be given at the same time
- Switch to longer-acting formulations, when appropriate
- Change to fixed-dose combination drugs when stabilized on a dose, rather than giving multiple drugs
- Switch to a dosage form with easiest access (e.g., tablet vs. liquid)
- Replace tablets that need to be split with a lower strength whole tablet

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