



# Nurse Advise-ERR™

## Unit dose – It’s the gold standard for a reason

*Sue was a new graduate nurse who had trained at a university hospital before joining the staff at a Veterans Administration hospital. Both facilities used a bedside bar-coding system to administer medications. One day, she carefully scanned a patient’s wristband and a medication bottle that contained furosemide oral solution, but got distracted during the process. When she returned to her task, she gave the patient the entire contents of the bottle of furosemide. Later she noticed that the bottle actually held 600 mg (60 mL), not 40 mg, as she had thought.*

How could anyone give a whole bottle of furosemide liquid, you may ask, especially when using bar-code technology? Well, it’s not inconceivable. In the hospital where Sue had trained, all drugs (including oral liquids) had been dispensed in patient-specific unit-dose packages — syringes or containers containing the exact dose prescribed. So Sue expected the bottle of furosemide to contain the dose prescribed.

Bulk containers of parenteral and oral medications are generally intended for use by pharmacists. Dispensing them to nursing units can be hazardous, inviting misinterpretation of the patient’s dose, even when using bar-coding technology. An overdose is possible because additional drug is readily available. With bulk containers of medication, a bar-coding system can only verify the patient, drug,

dosage form, and strength, not the patient-specific dose. While directions may appear on the screen to guide preparation of the patient’s dose, the bar-coding system cannot be utilized to verify the patient’s exact dose.

What about giving a patient 60 mL of an oral liquid? Mental slips like this can happen, especially with frequent interruptions, and because some drugs are dosed in larger volumes, it may not seem unusual. In this case, if the drug had been dispensed in a commercially available unit-dose cup (40 mg/4 mL), the amount would have matched the dose prescribed.

While the Joint Commission and other credentialing organizations recognize unit-dose drug distribution as the standard of practice for inpatient settings, a substantial number of drugs still arrive at pharmacies in bulk packages. Pediatric dosage forms, controlled substances, oral liquids, and injectable drugs available only in multiple-dose vials are especially problematic. Nonetheless, patient-specific unit-dose dispensing should be a goal for nursing and pharmacy to work toward together. Fortunately, there are innovative ways for pharmacies to package bulk medications within hospitals so they can be dispensed in patient-specific unit doses, thus reducing the risk of a potentially serious dosing error.

### *safety*wire

#### Having a bad “air” day?

Prescribers may use a cell phone to give telephone orders after hours, on weekends, while in cars, or even at social events. In an ISMP poll, many respondents reported difficulty recognizing the physician’s voice on the phone and verifying the physician’s identity. It was also noted that the prescribers were often preoccupied and may not have given the prescribing task their full attention. Patient confidentiality was another problem, with a potential breach either through inadvertent or purposeful eavesdropping from people nearby. Combine all of this with poor cell phone reception and you have a situation ripe for medication errors. Of course, it would be best if prescribers used land lines whenever possible, faxed written orders, or transmitted orders electronically. If cell phones must be used for telephone orders, ask the prescriber to spell the patient’s name, drug name, and give the dose using single digits before reading back the order. If the connection is poor, prescribers should be asked to call back on a land line.

Article to the left and the table below were adapted with permission from “Unit Dose – It’s the Gold Standard for a Reason,” by Mary Burkhardt, MS, RPh, FASHP, NCPS TIPS, July/August 2004, the VA National Center for Patient Safety.

### Patient-specific unit-dose systems provide the following benefits to patient care:

Benefit ▾	Human Factors Principle ▾
Labeling of medications to the point of actual administration at the bedside	Improved communication
Reducing the likelihood of a dosing error by packaging drugs in doses prescribed	Standardization
Reducing the likelihood of contamination, mix-ups, and mislabeling by removing preparation from patient care areas to a more centralized and controlled environment in the pharmacy	Centralization
Reducing the need to do complicated mathematical calculations at the bedside	Simplification
Reducing nursing time related to drug preparation	Centralization, simplification, and standardization
Reducing overall drug waste and increasing the ability to recycle unused drugs	Standardization and limiting selections

## Welcome to the state board of nursing inquisition

More than 5 years ago, the Institute of Medicine (IOM) report, *To Err is Human*, drew national attention to the system-based causes of error and the need for a non-punitive, *just* culture of safety that promotes reporting, analysis, and prevention of errors. Building on this groundbreaking work, a 2004 IOM report, *Keeping Patients Safe: Transforming the Work Environment of Nurses*, suggests that, while some progress has been made within health-care organizations, two significant external barriers still exist:

- A persistent professional nursing culture that fosters unrealistic expectations of clinical perfection
- A legal environment and nursing state boards that perpetuate an ongoing punitive focus on individuals who make errors.

The 2004 report notes that, even today, nurses are educated to believe that clinical perfection is attainable, and that good nurses do not make errors. This fallacy is perpetuated by licensing boards, which have unjustly disciplined nurses who were involved in an error, but found blameless by a number of independent authoritative bodies. For example, in 1999, 4 years after a widely publicized fatal chemotherapy overdose, 18 Massachusetts nurses were unjustly reprimanded by their state licensing board, regardless of findings of no fault by the state health department, Joint Commission, and National Institutes of Health.

Sadly, not much has changed since then. Just last year, three nurses were disciplined by their state nursing board for their involvement in a medication error, which was clearly caused

by a manufacturer-admitted design flaw in a patient-controlled analgesia pump that allowed a hidden default setting to occur during pump programming.

In fact, in many states, one needs to look no further than state board publications for evidence of a punitive culture. Many contain exhaustive lists of all disciplinary actions taken against nurses. Sanctions due to human error are interspersed with reports of unethical, unlicensed, or criminal activity, further increasing the shame and blame culture.



The 2004 IOM report recommended sweeping changes within the state boards of nursing; specifically, the National Council of State Boards of Nursing, in consultation with patient safety experts and healthcare leaders, should design uniform processes and guidelines across states to better distinguish human errors from willful negligence and intentional misconduct. The IOM committee underscored that defenses against human errors can be put in place only if nurses are not afraid of disciplinary action when reporting errors.

While some nursing boards may be making great strides by abandoning this disciplinary model, the journey is slow. Objective measurement and feedback is needed to manage any planned change successfully, and efforts to create a *just* culture of safety are no exception. One place to start is an initial assessment of your perceptions about your state licensing board. **Please take a minute to complete our survey on page 3.** Your feedback might be just what is needed to spur change.

### out of date?

If your drug reference isn't the most current version, it's not reliable! Since publication, there could be new medications, incompatibilities, and adverse event information, as well as changes in practice. Thus, errors are possible, as in the example that follows. While intending to retrieve a 600 mg dose of the anticonvulsant **CARBATROL** (carbamazepine, extended-release) from the pharmacy night cabinet, a nursing supervisor inadvertently chose the immediate-release formulation, **TEGRETOL** (carbamazepine). She had looked up the drug by its generic name, carbamazepine, but the outdated reference did not list the newer, extended-release product. She assumed the products were equivalent. Luckily, the patient was not harmed.

Older references may also contain erroneous information that has since been corrected in more recent editions. For example, in the 2002 Mosby's *Nursing Drug Reference*, information was switched inadvertently on two different insulin products — insulin aspart (**NOVOLOG**) was listed as having a 24-hour duration instead of a rapid onset, and insulin glargine (**LANTUS**) was listed as having a rapid onset instead of a 24-hour duration.

Work with pharmacy to standardize the nursing text references used in your organization. Budgets should allow nurse managers to provide a sufficient number of medication references annually. Don't forget to discard the outdated texts. As a rule, do not bring your personal drug references to work. It's hard to discard your old favorites, and even harder to discard a colleague's personal drug reference, even if it's outdated. Electronic references which are updated frequently, either online (e.g., *Micromedex*, *Lexi-Comp*) or on a personal digital assistant (PDA) (e.g., *ePocrates*, *Davis's Drug Guide*), should also be available to nurses. If your reference does not give you complete information, current version or not, talk to your pharmacist before giving a medication.

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## ISMP Survey on State Licensing Boards' Responses to Medical Error

In the 2004 report: *Keeping Patients Safe: Transforming the Work Environment of Nurses*, the Institute of Medicine committee recommended changes in the way state licensing boards handle nurses who are involved in errors. To this end, one pivotal place to start is an initial assessment of nurses' experiences with and perceptions about their state licensing board. Please complete the survey below and submit your responses via the web at [www.ismp.org/s/survey200502.asp](http://www.ismp.org/s/survey200502.asp) (or by fax, 215-914-1492, if without Internet access) by **April 15, 2005**. Thank you!

**1** Please place a checkmark in each potential licensing board action that **you believe** your state licensing board would take if it received a report(s) that you were involved in a medication error(s) as described below. **Please check all potential licensing board actions that may apply to each type of medication error.** Base your answers on the licensing board in the state in which you currently practice. If you practice in more than one state, please complete a separate survey for each state.

Type of Medication Error	Potential Licensing Board Action								
	No action	Verbal reprimand	Written reprimand	Required remedial education	License placed on probation	License suspended	License revoked	Monetary fine	Notification to other states in which licensed
Intercepted (did not reach patient)									
Minor (no harm)									
Potentially harmful									
Harmful (but not fatal)									
Fatal									
Error in which organization policy/procedure violated									
3 or more errors reported/year									

**2** If you receive a newsletter from your state licensing board, do you find the content helpful in providing safe and quality healthcare services to patients?

- Yes, very helpful     Yes, somewhat helpful     Not sure     No, not helpful

**3** Please place a checkmark in the box that best describes your current professional practice.

- LPN     RN     Nurse Attorney     Other \_\_\_\_\_

**4** Are you, or have you ever been, an employee or panel member of any professional state licensing board?

- Yes     No

**5** Have you been involved in a medication error that has been reported to your state licensing board?

- Yes     No     Don't know

**6** In which state do you currently practice? \_\_\_\_\_

Please submit your responses by **April 15, 2005**, via [www.ismp.org/s/survey200502.asp](http://www.ismp.org/s/survey200502.asp) or fax (215-914-1492).

**Thank you for participating!**