



Building a case for medication reconciliation

What do all these medication errors have in common?

■ Using the patient's handwritten list of medications taken at home, a physician misunderstood an entry for **DESOGEN** (ethinyl estradiol and desogestrel) and prescribed digoxin 0.25 mg daily. Several days later, a nurse discovered the error when she asked the patient why she was receiving digoxin.

■ Shortly after admission, a patient became lightheaded and fell in the bathroom after her physician prescribed **TOPROL XL** (metoprolol extended-release) at a dose larger than she took at home. The patient required telemetry monitoring and hydration for 24 hours.

■ A newly admitted patient with pulmonary hypertension had been receiving **FLOLAN** (epoprostenol) IV at home at 2.4 mL/hour. The physician prescribed FloLAN at the same flow rate, but did not specify the concentration. The hospital used a concentration of 0.5 mg/100 mL, but the patient had been using a 0.3 mg/100 mL concentration at home. The error was discovered after the patient experienced symptoms common with higher doses.

■ **PAMELOR** (nortriptyline), an antidepressant, was prescribed for a newly admitted patient. While clarifying another order with the patient's pharmacy several days later, a pharmacist learned that the patient had been taking **PANLOR** (acetaminophen, caffeine, dihydrocodeine) to treat pain at home, not Pamelor.

■ Enalapril 2.5 mg IV, to treat hypertension, was administered to a patient after transfer from a critical care unit to a medical unit. The drug

was to be discontinued upon transfer, but the orders had not yet been transcribed.

■ An emergency department patient with chest pain received a 7,000 unit heparin bolus prior to starting a heparin infusion. Upon admission to the critical care unit, the heparin bolus dose was repeated in error, delaying the patient's cardiac catheterization.

■ Before discharge, a patient's **LEXAPRO** (escitalopram) was increased to 10 mg daily, but the discharge instructions listed 5 mg daily. When the error was noticed, a pharmacist called the patient (who had been cutting the 10 mg tablets in half) and provided her with a new prescription.

Each error is the direct result of failed communication among practitioners about prescribed medications during vulnerable transition points in the continuum of healthcare: admission, transfers between care settings, and discharge. Another shared characteristic that might surprise you is that these errors, and so many more, were reported to ISMP within the past year. (*Some were reported through the PA Patient Safety Reporting System.*)

According to the Institute for Healthcare Improvement (IHI), experience from hundreds of organizations has shown that poor communication of medical information at transition points is responsible for as many as 50% of all medication errors and up to 20% of adverse drug events in hospitals. This is precisely why the Joint Commission has focused attention on reducing errors during these transition points through medication reconciliation. continued on page 2

check it out! ✓✓✓✓

Below are the basic steps involved with medication reconciliation.

✓ Obtain a medication history.

Obtain the most accurate list possible of the patient's current medications upon admission to the organization, before administering the first dose of any medications (except in emergency or urgent situations). This includes prescription, over-the-counter medications, herbals, and dietary supplements. List the dose, route, frequency, indication, and time of last dose. Most facilities use a specific form for this purpose, on which an assessment of patient compliance with drug therapy and the source of the medication history information can also be documented. Besides the patient and family, other sources of information may include visual inspection of the medications brought into the facility by the patient or family, previous medical records, as well as the patient's pharmacy and physician.

✓ Place list in a prominent place.

The form listing the patient's home medications, which is used for reconciliation and, often times, for prescribing admission medication orders, should be placed in a highly visible location in the chart for reference.

✓ **Review and prescribe drugs.** As soon as the list is reasonably complete, have the prescriber review each medication on the list for reference when prescribing medications for the patient upon admission to the facility.

✓ **Reconcile and resolve discrepancies.** Within a specified timeframe, require another person to compare the prescribed admission medications to those on the medication history list. Then resolve any discrepancies and document the resolution. To ensure

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Medication reconciliation continued

Medication reconciliation is the process of comparing a patient's current medication orders to all of the medications that the patient has been taking. This way, medications are not duplicated, omitted, or ordered incorrectly. You may be aware of the Joint Commission National Patient Safety Goal (NPSG) that requires hospitals to reconcile medications across the continuum of care. This means that reconciliation must occur any time the hospital requires orders to be rewritten; and any time the patient changes service, setting, provider or level of care, and new medication orders are written.¹

Medication reconciliation is not just for hospitals. The Joint Commission has also made it a NPSG in ambulatory care, assisted living, behavioral health, home care, and long-term care organizations. Since all of these healthcare settings are involved in the process, it should make obtaining an accurate medication history of prescribed therapy much easier.

In **checkitout** (right column, starting on page 1), we have outlined the basic steps for implementing medication reconciliation. We recognize that there are numerous challenges in carrying out this process successfully. We'd like to hear about those challenges, as well as success factors, so please complete our survey on page 3 (or online at: www.ismp.org/survey/survey200604.asp).

For more information on medication reconciliation and sample documentation forms, visit the IHI website at: www.ihl.org/IHI/Topics/PatientSafety/MedicationSystems/Changes/Reconcile+Medications+at+All+Transition+Points.htm.

Audiotapes of our recent teleconferences on this subject are also available for purchase at: www.ismp.org/educational/teleconferences.asp.

Reference: 1. Joint Commission on Accreditation of Healthcare Organizations. Using medication reconciliation to prevent errors. *Sentinel Event Alert* Issue 35, January 25, 2006. Oakbrook, IL: JCAHO. Available at: www.jointcommission.org/SentinelEvents/SentinelEventAlert/sea_35.htm.

nicecatch

Vaccine mix-up caught. A birthing-center nurse discovered that a box of adult-strength hepatitis B vaccine vials (10 mcg/mL) had been sent to the unit

instead of the pediatric vaccine (5 mcg/0.5 mL vial). While the concentration of both vaccines is the same, a mix-up could result in administration of a full mL (10 mcg) to children, instead of the recommended dose of 0.5 mL (5 mcg). Fortunately, the nurse discovered the error before administering any doses to newborns. One of the contributing factors uncovered was look-alike labeling and packaging of the vaccines (see photo), both manufactured by Merck. The reporter believes the labels do not provide enough visual differentiation despite the difference in border color. ISMP has suggested labeling enhancements to Merck. Consider doing what nurses at this hospital did—talk to your pharmacists about separating the pediatric and adult strengths in all areas where the products are stocked, and suggest affixing auxiliary labels before dispensing either form of the drug to better distinguish them.



Adult and pediatric vaccines look alike

checkitout! cont'd from page 1

safety, match the medications to the patient's problem list or diagnoses.

✓ **Reconcile again upon transfer and discharge.** Each time a patient moves from one setting to another, review previous medication orders alongside new orders and plans for care, and resolve any discrepancies. When the patient is discharged, the reconciled list of admission medications must be compared against the physician's discharge orders along with the most recent medication administration record. Any differences must be fully reconciled and explained to the patient before discharge from the facility.

✓ **Share the list.** Communicate a complete list of the patient's medications to the next provider of service when transferring a patient to another setting, service, practitioner, or level of care within or outside the organization. This includes sending a list of medications prescribed upon discharge from the hospital to the patient's primary care physician, as well as encouraging patients to share the list with their pharmacy.

► Special Announcement

Free webinar for nurse leaders. On **May 1, 2006**, ISMP, the American Organization of Nurse Executives, Joint Commission Resources, and the National Patient Safety Foundation will be presenting a 1-hour free webinar, sponsored by McKesson and Intel, on **Technology as an Enabler**. A panel of three speakers will discuss what nurse leaders can do to maximize the use of technology to improve patient safety. Continuing education credit will be offered. Visit www.ismp.org/pressroom/events.asp for details.

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ISMP Survey on Medication Reconciliation

ISMP is interested in knowing how staff within healthcare facilities are progressing with the Joint Commission's National Patient Safety Goal (NPSG) requiring medication reconciliation. Please take a few minutes to complete this survey and submit your responses via our website at: www.ismp.org/Survey/Survey200604.asp (or by fax at 215-914-1492 if without Internet access) by **May 19, 2006**.

About you

- 1 What is your profession? Nurse Pharmacist Physician/prescriber Other _____
- 2 What is your staffing level? Staff Manager Administrator Other _____
- 3 Are you familiar with the JCAHO NPSG related to medication reconciliation? Yes No
- 4 Have you attended inservice education regarding your role in medication reconciliation? Yes No

About your facility

- 5 In what type of facility are you employed? Hospital Outpatient/office-based facility
 Surgery center Assisted living Home care Long-term care Other
- 6 For admissions, how long has a medication reconciliation process been in place on your unit/in your department/facility?
 0 months 1-3 months 3-6 months 6-12 months More than a year Don't know
- 7 For transfers to a different level of care, how long has a medication reconciliation process been in place on your unit/in your department/facility?
 0 months 1-3 months 3-6 months 6-12 months
 More than a year Don't know
- 8 For discharges from your care, how long has a medication reconciliation process been in place on your unit/in your department/facility?
 0 months 1-3 months 3-6 months 6-12 months More than a year Don't know

9 Who is primarily responsible for the following (you may choose more than one category)...	Nurse	Pharmacist	Physician/Prescriber	Medical Records	Other	Don't Know
a. Collecting an initial medication history						
b. Assuring the medication history is accurate						
c. Reconciling medications between the history and the admission orders						
d. Reconciling medications upon transfer of a patient to another level of care						
e. Reconciling medications at the time of discharge						
f. Sending the patient's discharge medication list to the patient's physician/next provider						

About your process

- 10 After an admission medication history is obtained, your policy states all medications must be reconciled within how many hours?
 12 24 36 48 Other Not sure
- 11 Does your policy specify a different timeframe for reconciliation depending upon the critical nature of the drugs on the medication history list? Yes No Not sure
- 12 Your medication reconciliation process is documented on which type of form?
 Paper chart Computer charting system Combination of both Not documented Not sure
- 13 Does the prescriber order medications directly on the same form or screen used to document the initial medication history?
 Yes No Sometimes Not sure

14 Please rank the relative importance of success factors and barriers encountered during the implementation of the medication reconciliation process at your facility. Scale: **1=most important, 8=least important** (use each number once in the ranking process).

a. SUCCESS FACTORS	Rank	b. BARRIERS	Rank
i. Teamwork among disciplines		i. Unreliable patient	
ii. Clearly defined protocols		ii. Documentation from other sources	
iii. Centralized history form/screen		iii. Lack of teamwork among disciplines	
iv. History collection by pharmacist		iv. Extra burden	
v. Easy communication with outpatient providers		v. Lack of frontline staff input into process	
vi. Reasonable expectations for "complete" history		vi. Lack of administrative leadership	
vii. Awareness of the role of each contributor		vii. Lack of physician leadership	
viii. Other: (list)		viii. Other: (list)	

- 15 On a scale of 1 to 5, with **1=not valuable** and **5=very valuable**, please circle a number below indicating your perception of the value of the medication reconciliation process to patient safety overall:

Not Valuable 1 -----2 -----3 -----4 -----5 Very Valuable