The Why, Who, and How of Medication Reconciliation

Why?
The vast majority of available literature attempts to convince the reader that medication reconciliation is indeed important to patient safety and the lack of an accurate process leads to medication errors, which is undeniably true. This is well known, thanks in part to the Institute of Medicine’s recent report and, of course, the Joint Commission’s National Patient Safety Goal. However, those involved in designing a program often fail to convey to the staff performing the reconciliation the “why” behind it. Without helping people understand how this will impact the care of their patients, there is little buy-in, which invariably results in failure or certainly mediocrity — both of which are unacceptable. A culture shift must occur that places the emphasis on safety and accuracy, and that culture shift cannot occur without strong leadership.

When addressing issues with transfer reconciliation, the best answer is automate, automate, automate.

Who?
One missing step that can certainly lead to failure is that of an inappropriate invitation list when designing the medication reconciliation process. Who you invite to the table is critical. Several initial failures have resulted from not inviting physicians to the kick-off meetings, where decisions about the process are made. Clearly, given physicians’ habits, if the process is not simple and convenient, they are not going to use it. And if they are not going to use a process, it will fail. The same applies to nurses; they will find a way around a process that is not simple and convenient. Ensure the group working on designing a process includes representatives from pharmacy, nursing (critical care and medical units, as well as ancillary units/departments, such as radiology, surgery, and emergency services), physician groups, information systems, education department, public relations, administration, retail pharmacy, and patients, if your institution has reached that level of comfort with disclosing your opportunities for improvement (otherwise known as imperfections). Representatives are needed from varying nursing units because their reconciliation issues will differ, especially with transfers and discharges. Your information systems department can play an important role in streamlining the process through automation, and the public

Figure 1: Admission Medication Assessment Form. The form created by McLeod Regional Medical Center serves as an order form for the physician.

<table>
<thead>
<tr>
<th>MEDICATION ASSESSMENT HISTORY/PHYSICIAN ORDER FORM</th>
<th>Affix Patient Label Here</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPLETED BY: __________________________________</td>
<td>DATE AND TIME: __________</td>
</tr>
<tr>
<td>ALLERGIES: ________________________________________</td>
<td></td>
</tr>
<tr>
<td>PHARMACY OF CHOICE: ______________________________</td>
<td></td>
</tr>
<tr>
<td>HEIGHT: ______ ft. ______ in. WEIGHT: __________ lbs.</td>
<td></td>
</tr>
<tr>
<td>Home Med. Dose/Route/ Frequency/Time (Include Herbal/OTC/Vitamins)</td>
<td>Continue</td>
</tr>
<tr>
<td>❑ Patient takes no medication</td>
<td></td>
</tr>
<tr>
<td>Med sent to: ❑ Not applicable ❑ Hospital Pharmacy</td>
<td>❑ Home With: __________</td>
</tr>
<tr>
<td>❑ Other __________________________________________</td>
<td></td>
</tr>
<tr>
<td>PHYSICIAN’S ORDER SIGNATURE: _______________________</td>
<td>DATE AND TIME: __________</td>
</tr>
</tbody>
</table>
relations and education departments can be a great source for communicating change within your institution and to the public. Administrative representation is necessary to facilitate change on a broad level, and their engagement is critical. Developing partnerships with local retail pharmacies can help immensely with closing the loop between discharge from the hospital and an accurate medication list. Patients offer insight and feedback that no one working in health care could ever match. Since this is for their benefit, it makes sense to design a system that will work for them.

Probably the biggest "who" issue to consider is which discipline will be responsible for the initial reconciliation of home meds. A common pitfall is the lack of training for those individuals responsible. Often the nurse assigned to the care of the patient collects this list from the patient or their family and may even collect their prescription bottles if they happen to bring them into the hospital. Perhaps the best approach is to offer specific training to a select group (consider a mix of nurses, pharmacists, pharmacy technicians, pharmacy residents, and students) and limit the task to this group. This creates a sense of ownership and responsibility, which will lead to greater accuracy. The number of employees needed to accomplish accurate medication reconciliation needs to be evaluated based on census and acuity. First, calculate the time it takes to perform an average reconciliation. In my experience, it takes from four to seven minutes, but can take longer if you are dealing with a complicated patient or if you have to call retail pharmacies, physician offices, or other outside sources of information. Multiply that time by your average number of admissions to get a good idea of how many FTEs you will need for your medication reconciliation program. I recommend sharing the medication reconciliation responsibility across disciplines, so that it does not drain one resource completely.

**How?**

The key to a successful program lies in the development of a process that results in useful, reliable, and timely information for the physician to use when making decisions regarding a patient’s medication regimen. One of the most successful first steps is the creation of an admission medication assessment form that serves as an order form for the physician. (See Figure 1.) This eliminates the need for transcription, which, in turn, reduces the chance for error. Automating this step further promotes safety by eliminating illegibility as an issue, and makes the transfer and discharge reconciliations much easier and more accurate, since this information follows the patient through their entire hospital stay. An inpatient drug list can be pulled from your pharmacy information system and the patient’s home medication list can be pulled from the information electronically entered into the hospital’s information system upon admission. This information is then used to automatically populate a form for your physicians’ use during transfer and discharge. Some software vendors offer automated form generation as a standard feature, or your hospital’s IT department can create it in-house. Do not be afraid to modify this form 25 times if that is what it takes to make it work for the staff. And certainly do not be afraid to borrow someone else’s form. (See Figure 2.)

Include tactics in your specific reconciliation training for how to best interview patients or their families. Use open-ended questions, such as “Which prescription medications do you take?” versus the closed approach of “Do you take any prescription medications?” Follow up with “How do you take that medication?” versus simply noting what the bottle says or the way they are sup-
posed to take it. Remember that the most reliable reconciliation information will come from the patient. With a little training and skill, interviewers will discover that Mrs. Smith really only takes that blood pressure medicine once a day, instead of the prescribed twice daily dose, because it costs too much. The physician will need to make decisions regarding this patient’s care based upon the information collected and the patient’s physiological presentation. It is vital for the physician to know how the patient is really taking her meds. Some may say there are no poor historians, only poor history takers, but in the case of an unconscious patient, the history taker is off the hook. In these situations, use available resources such as physicians’ office records, retail pharmacies, and family members.

It is easy to forget the variety of agents that qualify as medications, and each needs to be addressed when collecting the list. Be sure to ask about prescription drugs, over-the-counter drugs and remedies, herbals, inhalants, samples, nutritionals, topicals, and even injectable drugs. Be sure to ask which retail pharmacy the patient usually uses, in case you need to call and verify any information. Keep in mind, however, that patients are not loyal to their pharmacist anymore; they are loyal to price. Patients will often shop for the best prices and use multiple pharmacies.

When addressing issues with transfer reconciliation, the best answer is to automate, automate, automate. If the initial home medication list is also automated and, therefore, follows the patient throughout their hospitalization, ensure this list is made conveniently available to the physician during transfers. The best way to ensure compliance with transfer reconciliation is to automatically generate an active medication list from the pharmacy profile system that can be used as an order form for the physician. Some pharmacy systems offer this in their software packages, but many hospital information system departments have also developed their own. This order form should have a space for the physician to quickly and easily decide what to continue, discontinue, or change in the patient’s regimen with a mere check in a box. (See Figure 2.) Ensure the policy enforces the requirement for transfer reconciliation to occur for all patients changing level of care and those visiting the OR and cath lab. Do not accept blanket orders to “continue all previous meds”.

The “how” for discharge can very closely follow the process with transfer reconciliation. Automation is key. Provide the physician with either a computer-based or computer-generated discharge medication order form, listing both current in-hospital medications and those the patient was taking at home. This way, the physician will be able to compare the lists and make informed decisions about the best regimen for the patient. Again, it cannot be stressed enough that this needs to be very available and very easy.

**Conclusion**

Medication reconciliation is a vital step in a medication safety program. Focusing on the why, who, and how are vital to organizing a team and creating and implementing a successful program. Avoid the pitfalls that result in failure and be willing to change and be flexible along the way, and a successful program will be the end result.

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**Pitfalls to Avoid**

Keep an eye out for the following commonly made mistakes in order to ensure the success of your medication reconciliation program.

**Why**
- Failing to communicate to staff the importance of medication reconciliation
- Communicating medication reconciliation must be done because the Joint Commission says so (does not help in shifting the culture to one of safety versus regulations)

**Who**
- Failing to invite all parties affected by this process to make decisions
- Failing to reconcile to the patient
- Failing to provide training for those responsible for reconciliation

**How**
- Failing to ask the right questions the right way
- Lack of automation
- Not making information readily available for physicians
- Unwillingness to rework the process over and over if necessary

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*In September 2007, Natasha Nicol, PharmD, took on her current post as the medication safety director for Cardinal Health. Prior to assuming this role, she was the director of pharmacy for McLeod Regional Medical Center in Florence, South Carolina, for six years. Nicol earned her doctorate of pharmacy degree, with honors, from the University of Maryland.*

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*To learn about a variety of automated solutions for medication reconciliation, see: PP&P’s Buyer’s Guide for Automated Medication Reconciliation Solutions on pages 8 and 10*
IN HER ARTICLE ON PAGES 2 THROUGH 6 OF this issue of PP&P, author Natasha Nicol writes, “When addressing issues with transfer reconciliation, the best answer is automate, automate, automate.” However, in Pharmacy Purchasing & Products’ 2007 State of Pharmacy Automation survey, a significant number (62.6%) of directors of pharmacy indicate they are not currently using an automated solution to facilitate the medication reconciliation process. (See Figure 1.) In an effort to help you source automated medication reconciliation systems, PP&P brings you the following buyer’s guide, offering descriptions of some of the products available in the market.

To receive more information about any of the products listed in the guide, simply circle its corresponding number on the reader service card bound in this issue.

Automated Medication Reconciliation Solutions

HealthCare Systems
www.hcsinc.net
For more information, circle reader service number 38.

HCS Medication Reconciliation now includes HCS e-Medication Reconciliation to assist facilities in reconciling patient’s medication therapy from admission to discharge. HCS e-Medication Reconciliation provides the clinician with the ability to:
• obtain a patient’s prior medication history from retail pharmacies and previous visits
• analyze the data to check for drug interactions, duplicate therapy, and potential non-compliance
• manage initial order and transfer reconciliation
• create a printed or electronic discharge summary and prescriptions.

ExitCare, LLC
www.exitcare.com
For more information, circle reader service number 31.

ExitMeds allows users to create prescriptions electronically, perform medication reconciliation, and print drug information sheets. Medication orders can be imported from other systems via an HL7 interface, retrieved from a patient’s history, or entered manually. The system allows users to apply changes in medication status and print documentation for charts and for patients. A second optional system can check for drug-to-drug and drug-allergy interactions. The ExitMeds module costs $1,000 per year for users of the ExitCare Patient Education System.

Design Clinicals, LLC
www.designclinicals.com
For more information, circle reader service number 30.

MedsTracker 2.0 is a Web-based medication reconciliation application that features
• decision support functions
• an HL7 interface for full demographics/ADT and pharmacy messages,
• an interface engine for integration with other hospital information systems,
• First DataBank’s medication databases,
• patient-friendly language for ease in interpreting medication instructions,
• electronic prescriptions,
• automated communication to the next provider of care,
• duplicate therapy checking,
• persistence of the home medication list,
• and auditing and reporting capabilities

ExitMeds
OZtech Systems, Inc.
www.oztechsystems.com
For more information, circle reader service number 35.

OZtech's Medication Reconciliation System can ensure that a complete and current list of a patient’s medications be obtained upon admission, updated during the course of care, and communicated to the next care provider. Upon discharge or transfer, the system generates all required reports, prescriptions, patient instructions, and a list of prescribed medications for the next health care provider. OZtech's solutions can be customized to meet a facility's specifications and needs.

Mediware Information Systems, Inc.
www.mediware.com
For more information, circle reader service number 34.

MediREC is an online tool that enables clinicians to electronically access a 12-month history of home medications, including specific fill dates, quantities, day’s supply, and pharmacy and prescriber information. A Web-based application documents and manages the patient’s list of home medications, and an interface allows hospitals to obtain medication histories from an industry medication database, which includes prescriptions fulfilled through retail pharmacies, mail order suppliers, and Medicare Part D providers. MediREC can also create an electronic medication record for use throughout the patient’s stay.

Iatric Systems, Inc.
www.iatric.com
For more information, circle reader service number 33.

For hospitals operating Meditech Magic or Client/Server systems, Iatric Systems can streamline the process of gathering and reconciling patients’ medications upon admission, transfer, and discharge. The Iatric application integrates directly with Meditech and can save clinicians time by automatically pre-populating current and home medications with data from other Meditech applications. Caregivers can add, modify, or delete medications at each transition, and the system creates an electronic record of reconciliation. Upon discharge, the system also produces customizable medication instructions for the patient.

RelayHealth
www.relayhealth.com
For more information, circle reader service number 36.

IntegrateRx provides health care organizations with a record of a patient’s medications, based on information extracted from insurance claims and/or prescription records. The solution is made possible through the participation of leading national pharmacies, pharmacy system vendors, hospital medication reconciliation vendors, and RelayHealth’s intelligent pharmacy claims processing network. IntegrateRx allows for delivery of patient data through the hospital’s current electronic health record software, in order to replace manual processes during patient interviews, and offers drug interaction screening capabilities.

Thomson Healthcare
www.thomsonhealthcare.com
For more information, circle reader service number 37.

Thomson Healthcare’s Clinical Xpert Medication Reconciliation is a Web-based application that creates a patient’s home medication list – using internal and external data sources—and manages the reconciliation of medications for each patient at each transfer within the hospital. The application provides automatic checking for drug interactions. At discharge, the application finalizes patient medications by e-prescribing to the patient’s local pharmacy, printing the personal medication card and medication instructions, and communicating the discharge medications to the referring physician.

HealthTek Software Solutions
www.rxreconcile.com
For more information, circle reader service number 32.

HealthTek's medication reconciliation tool, RxReconcile, is a point-and-click software solution that integrates medication reconciliation with the orders process, in order to eliminate redundancy, reduce medication errors, and improve patient safety. RxReconcile 3.0 includes full medication reconciliation for admission, transfer, and discharge; First DataBank databases; HL7 integration with other clinical systems; and customizable features. The program is also compatible with mobile computing devices.