Roles for Pharmacy Technicians in Medication Reconciliation During Transitions of Care

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Abstract

Objective: To provide an overview of medication reconciliation and to identify opportunities for pharmacy technicians to help improve patient safety and quality of care. **Data Sources:** Articles were identified through searches conducted in May 2016 by means of MEDLINE/PubMed (2000-2016) using search terms designed to identify English-language articles describing the role of the pharmacy technician, medication reconciliation, and transitions of care. Additionally, resources on medication reconciliation were used from The Joint Commission, the Institute for Healthcare Improvement, American Pharmacists Association, American Society of Health-System Pharmacists, and Agency for Healthcare Research and Quality. **Study Selection and Data Extraction:** Articles describing the role of the pharmacy technician, medication reconciliation, and transitions of care. **Data Synthesis:** Pharmacy technicians can help pharmacists perform medication reconciliation by taking on 3 specific roles in the process: obtaining preadmission medication history, obtaining relevant patient information from outpatient pharmacies and health care providers, and documenting the compiled medication list. Pharmacy technicians can help resolve discrepancies in medication lists, therefore improving patient care, the ability of pharmacists to communicate with physicians, and thus to clinically intervene in patient care. Furthermore, with proper training, pharmacy technicians may take on expanded roles designed to aid pharmacists with advanced patient care services to eliminate medication discrepancies and improve transition of care. **Conclusions:** Pharmacy technicians can play a vital role in helping pharmacists to obtain accurate patient medication histories in order to decrease medication discrepancies at transitions of care.

Keywords

clinical pharmacy, pharmaceutical care, risk management, teaching/training, technician education training

Background

As the profession of pharmacy continues to put forth efforts to improve the safety and quality of health care, it is important for pharmacists to engage in opportunities to provide services at transitions of care points. Transitions of care can be defined as the movement of patients between health care locations, providers, or different levels of care within the same location as their needs change. Patients are most susceptible to medication discrepancies on admission to, and discharge from, a hospital.¹ According to the MEDMARX reporting program conducted by the US Pharmacopeia in 2004, preventable medication reconciliation errors occur at all transitions of care handoffs; 66% of errors occur during the patient's transition to another level of care, 22% during the patient's admission to the facility, and 12% at the time of discharge.² These discrepancies occur frequently and may lead to unintentional therapeutic changes, duplicated drug therapy, undesirable drug interactions, and suboptimal communication at the transition of care juncture that leads to

medication errors, some with serious repercussions.^{3,4} For this reason, in 2005, The Joint Commission prioritized medication reconciliation as a National Patient Safety Goal at transitions of care. In 2009, The Joint Commission acknowledged the stringency of the requirements for medication reconciliation in the 2005 National Patient Safety Goal and revoked them to be replaced with less intensive and complicated revisions, which became effective in July 2011.

Although The Joint Commission recognizes that organizations face challenges with medication reconciliation, much of the intricacy surrounding the process can be attributed to the number of individuals involved in the process. Currently,

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medication reconciliation is often implemented by pharmacists, physicians, nurses, administrators, and other health care professionals. As medication experts and patient advocates, pharmacists are in a unique position to take on a leadership role in the process of medication reconciliation to ensure patient safety by

- Developing policies and procedures regarding medication reconciliation processes
- Implementing and continuously improving those processes
- Training and assuring the continuing competency of those involved in medication reconciliation
- Providing operational and therapeutic expertise in the development of information systems that support medication reconciliation
- Advocating for medication reconciliation programs in the community⁵

Establishing a means by which these services provided by pharmacists can be evaluated and differentiated for their exceptional quality could help improve the effectiveness of the medication reconciliation process and decrease medication discrepancies during transitions of care.

Medication Reconciliation

While medication reconciliation is a widely discussed topic, there is yet to be consensus on the definition. The Joint Commission defines the term “medication reconciliation” as “the process of comparing the medications a patient should be using (and is actually using) to the new medications that are ordered for the patient” in an effort to resolve any discrepancies in therapy.⁵ In addition, an expert panel established by the American Pharmacists Association and the American Society of Health-System Pharmacists met and developed a more in depth definition that agrees with the one used by both the Pharmacy Quality Alliance and The Joint Commission. This definition recognizes that medication reconciliation is done “in an effort to avoid medication errors such as omissions, duplications, dosing errors, or drug interactions, as well as to observe compliance and adherence patterns” and should occur at each transition of care in which new medications are prescribed, existing orders are rewritten or adjusted, or if the patient has added nonprescription medications to their therapy.⁶

Based on these working definitions, The Joint Commission has developed a process of 5 steps in which to effectively execute medication reconciliation:

1. Develop a list of current medications, OTC (over-the-counter) items, herbals and supplements
2. Develop a list of medications to be prescribed
3. Compare the medications on the 2 lists

4. Make clinical decisions based on the comparison
5. Communicate the new list to appropriate caregivers and to the patient⁵

Based on this process, The Institute for Healthcare Improvement has further simplified the process into just 3 steps:

1. Verification (collection of the medication history)
2. Clarification (ensuring that the medications and doses are appropriate)
3. Reconciliation (documentation of changes)⁷

Regardless of the process used, the goal of medication reconciliation is to obtain and maintain complete and accurate information for a patient to warrant safe and effective medication use.

Types of Medication Reconciliation Errors

At hospital admission, greater than half of patients admitted will have one or more unintentional medication discrepancies. Medication discrepancies can be described as any difference between the medication the patient actually takes at home and those which they are prescribed or discharged home on during transitions of care. Of these discrepancies, 6% possess potential for severe harm, 33% moderate harm, and the remaining 61% possess no harm potential.³ The most common type of error reported in medication reconciliation is omitting a home medication.^{3,4} Of other errors reported, the vast majority are due to improper dose/quantity and other prescribing errors, such as drug frequency and formulation. Less frequent errors tend to include inappropriate drug, form, dose, time, patient, and administration technique.^{2,8} Many of these errors can be attributed to 5 main causes that may be linked to barriers in the implementation process of medication reconciliation: (1) performance deficit, (2) transcription inaccurate/omitted, (3) documentation, (4) communication, and (5) workflow disruption.²

Data Sources

In this review, articles pertaining to medication reconciliation during transitions of care and pharmacy technicians were identified through searches conducted using the electronic database MEDLINE/PubMed (2000-January 2016), in May 2016. Initially, a limited search of literature was undertaken by searching the terms “medication reconciliation,” “medication discrepancies,” and “transitions of care.” Further searches were performed after analysis of keywords contained in the title of this article and the provided abstract to identify the use of pharmacy technicians in the process of medication reconciliation. Searches were limited to articles

published in the English-language. Articles were excluded if they did not address the use of pharmacy technicians in medication reconciliation. Additionally, resources on medication reconciliation were referenced from The Joint Commission, the Institute for Healthcare Improvement to address current standards of practice. Furthermore, organizations such as American Pharmacists Association, American Society of Health-System Pharmacists, and Agency for Healthcare Research and Quality are also referenced to evaluate the current practice of medication reconciliation.

How Pharmacy Technicians Can Help

In addition to actively participating in medication reconciliation activities, pharmacists have 5 essential functions to perform in this process: developing policies and procedures regarding medication reconciliation processes, implementing and continuously improving those processes, training and assuring the continuing competency of those involved in medication reconciliation, providing operational and therapeutic expertise in the development of information systems that support medication reconciliation, and advocating for medication reconciliation programs in the community.^{6,9} The extent, however, of pharmacist involvement in these functions will depend on the resources available. Several studies have shown the success of pharmacists at effectively decreasing medication errors.⁹⁻¹¹ While the literature validates the imperative role of pharmacist involvement in medication reconciliation, substantial resources, such as cost and availability of an additional role for pharmacists to perform such tasks, are required to perform them proficiently. This need, due to resource constraints, promotes opportunities for expanding the roles of pharmacy technicians and their ability to perform medication reconciliation. Based on the 2002 White Paper on Pharmacy Technicians, “technicians are instrumental to the advancement of pharmaceutical care.”¹² Pharmacy technicians are individuals who are familiar with the dosage forms, strengths, and usual dosing schedules of a wide range of medications. Such pharmacy technicians are thus suitable candidates for completing medication histories.^{13,14} Utilizing pharmacy technicians in the medication reconciliation process, in one study, potential errors due to illegible orders, incomplete or incorrect information, and serious drug interactions were reduced by 82%, when compared to those completed nurses.¹⁵

Roles of Pharmacy Technicians

A pharmacy technician is “an individual working in a pharmacy [setting] who, under the supervision of a licensed pharmacist, assists in pharmacy activities that do not require the professional judgment of a pharmacist.”¹² The logistical process of a medication reconciliation encounter requires work that does not require the professional judgment of a pharmacist

and could be handled quite well by a pharmacy technician. The implementation of a technician-centered program to perform medication reconciliation, directly supervised by a pharmacist, is a slow process to adapt, yet proves to be innovating when used correctly and allows the pharmacist the opportunity to resolve medication errors by clinically intervening through direct communication with physicians. While each medication reconciliation process may vary at different transition of care settings, some global suggestions for pharmacy technician involvement in such processes are listed below.

Obtaining Preadmission Medication History

Often it is noted that medication histories are inconsistently documented in the medical record and are found to be incomplete or inaccurate. Proper attainment of the patient’s home medication, including prescription medication, non-prescription medications, herbals, and vitamins, are necessary in order to provide satisfactory patient care. In order to obtain accurate histories, pharmacy technicians need to record the drug name, dosage, route, frequency, and any special instructions. Pharmacy technicians may do this by using a standardized form to ensure proper documentation is obtained. During this time, a proper allergy history should also be obtained to avoid any potential adverse events in the patient’s new transition of care. For concerns that arise during face-to-face medication history interviews, the supervising pharmacist must be available to the technician by phone or pager to manage these situations.^{10,15}

Obtaining Information on Patient From Outpatient Pharmacies and Health Care Providers

Ultimately, medication orders are written based on the medication history that is obtained from the patient and therefore deserves proper attention to detail. On obtaining a preadmission medication history from the patient, pharmacy technicians are then responsible for calling all appropriate pharmacies and physicians’ offices to verify all outpatient medication information. This information would include drug name, dose, frequency, any special instructions, and the patient’s last refill of the medication. Once verifying this information, the pharmacy technician should compare the finalized medication list to the list reported by the patient and the preadmission list that is noted in the electronic health record (EHR) and note any discrepancies for the pharmacist to address.^{10,15}

Documenting Obtained Medication List

Patient medication lists should be updated in the EHR at every transition of care. Once the technician and pharmacist reconcile any discrepancies between all medication lists

obtained at admission, the technician is responsible for updating the EHR before handing off the medication record to the pharmacist. By entering the updated medication list, the pharmacist can then utilize the information from the medication list obtained from the patient and the updated preadmission list to address any questions about the medication history with the technician before making a pharmacist note on the EHR.¹⁰ As provided by the American Society of Health-System Pharmacists Pharmacy Practice Model Initiative Summit Recommendations, once the documentation of these lists has been completed by the pharmacy technician, it is best practice that the pharmacist reviews the accuracy of the documented list prior to finalizing the medication list in the EHR.¹⁶

Necessary Qualifications and Trainings for Pharmacy Technicians

Pharmacists have noted that pharmacy technicians performing medication reconciliation with patients should possess strong communication skills, attention to detail, and self-motivation.¹⁰ Before allowing pharmacy technicians to interact with patients, a technician should possess several additional qualities to perform efficient and effective medication reconciliation. A high priority should be placed on obtaining a pharmacy technician who displays professionalism, since the pharmacy technician may be the first person to interact with the patient. In addition, while not required, it would be beneficial for the pharmacy technician to have a solid foundation in good interpersonal and communication skills, and education or extensive experience in hospital and/or community pharmacy settings in order to serve as a vital communication link between the patient and the pharmacist.^{14,15} Pharmacy technicians with experience in diverse settings are familiar with medications that are dispensed in both the inpatient and outpatient settings and therefore are more equipped to identify medication errors.

While there are technician qualities essential to obtain an adequate medication history, the skills required to perform a medication reconciliation can be taught. Training programs may vary from facility to facility but should globally contain similar standards. For example, it would be ideal that each program provide a training manual with descriptions listing the steps to perform an appropriate medication reconciliation, the role of the technician, and how to identify patients who may be at a higher risk for medication errors.¹⁰ On completing the training manual, all pharmacy technicians would preferably undergo a training period consisting of one-on-one supervision by a medication reconciliation technician mentor. The technician mentor should be an individual trained by the medication reconciliation pharmacist. During this time, the technician will shadow the mentor performing medication reconciliation and observe interview techniques and how to appropriately

document the history in the EHR. When competent, the technician will begin to perform medication reconciliation under observation of the mentor. It is then, at the discretion of the mentor or pharmacist, that the technician is deemed competent to obtain medication histories on their own without direct supervision.^{10,14,15}

Discussion

Medication reconciliation is a process that involves special attention to detail by all individuals who have direct contact with patients during transitions of care in order to actively prevent medication errors caused by incomplete or incorrect medication histories. Not only does medication reconciliation allow health care professionals to obtain a complete list of medications the patient is on, but it also allows pharmacists and clinicians the opportunity to identify problems the patient may be having or may experience in the future due to their medication regimen. By identifying these problems early on, pharmacists and clinicians are better equipped to appropriately treat the patient and avoid future hospital admissions due to unidentified drug therapy problems, which in turn could lead to decreased health care costs. While many health care professionals are capable of providing medication reconciliation, as medication experts, pharmacists are in a compelling role to take charge of this aspect of transition of care. Due to time constraints and lack of resources, it is difficult for pharmacists to be present to perform such tasks. As direct assistants to the pharmacist, being familiar with medications, the dosage, and the regimen, pharmacy technicians face a unique opportunity to provide these services in place of the pharmacist to avoid medication discrepancies, after appropriate training. The appropriate training of pharmacy technicians to perform the nonjudgmental task of medication reconciliation without the supervision of a pharmacist allows the pharmacist to utilize his or her time more efficiently in order to collaborate with other health care professionals to provide better patient care. As the role of clinical pharmacists continues to grow, so will the need for pharmacy technicians to adapt and expand their role in the pharmacy settings where this level of direct patient interaction to obtain accurate medication histories will be invaluable in improving patient safety and advancing health care.

Conclusion

As the profession of pharmacy continues to grow, the role of the pharmacy technician needs to advance appropriately to assist pharmacists accordingly. Being that medication reconciliation is considered a national patient safety goal, trained pharmacy technicians can play a vital role for institutions by obtaining accurate patient medication histories to decrease medication discrepancies at transitions of care. Specifically by obtaining

preadmission medication lists, information on patients from outpatient pharmacies and health care providers, and by documenting the obtained medication list. By obtaining medication reconciliation, pharmacy technicians are in an exciting position to possess an integral role during transitions of care.

Declaration of Conflicting Interests

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