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Advancing Medication Reconciliation in an Outpatient Internal Medicine Clinic through a Pharmacist-Led Educational Initiative

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ABSTRACT

Objectives: To develop and deliver an effective pharmacist-led educational initiative to clinic staff to advance medication reconciliation in the electronic medical record of an outpatient internal medicine clinic.

Methods: An educational initiative designed to improve the ability of nursing staff in medication reconciliation was launched in the outpatient internal medicine clinic of a regional healthcare system. The education was provided by the pharmacist to clinic nursing staff, including registered nurses, licensed practical nurses, and certified medical assistants. The impact of this training was measured through pre-initiation and post-implementation surveys, competency assessments and an audit.

Results: The educational initiative was successfully designed and delivered to clinic nursing staff. Assessment of the initiative found that all nursing staff completing competency assessments successfully passed. Pre-initiation- and post-implementation- survey responses on the self-assessed ability to gather and document accurate medication lists did not show significant changes. Informal observations in the clinic indicated that this initiative changed the culture of the clinic, creating increased awareness of the importance of accurate medications and increased emphasis on medication reconciliation.

Conclusions: The expertise of pharmacists can be utilized to educate nursing staff on the skills and abilities necessary to gather and document accurate medication lists. This study did not find measurable changes in the accuracy of medication lists in this clinic. Future research is needed to determine the best methods to train health professionals in medication reconciliation to ensure accurate medication lists in the outpatient setting.

Background

In 2005, The Joint Commission on Accreditation of Healthcare Organizations (now known as The Joint Commission) first included medication reconciliation as part of their National Patient Safety Goals. The rationale for this addition is that accurate communication of patients' medications reduces the risk of transition-related adverse drug events.¹

This addition by the Joint Commission created increased awareness of the need for medication reconciliation, and exposed the challenges which exist to maintain accurate medication lists within the healthcare system. In fact, health care organizations have faced such challenges in meeting the Joint Commission Standards for medication reconciliation, that in 2009, the medication reconciliation standard was not factored in the accreditation decision. The Joint Commission is continuing to evaluate this issue and expects to issue an updated National Patient Safety Goal for medication reconciliation in January 2011.²

The Joint Commission Standards are clear in the need for medication reconciliation in both inpatient and outpatient settings. National Patient Safety Goal 8 states health systems must: "accurately and completely reconcile medications across the continuum of care."¹

There is evidence in the literature that outpatient medication records are often incorrect. A study published in 2000 found discrepancies between reported medication use and what was documented in the medical record in 76% (239/312) of patients studied. This study was conducted in an outpatient practice of cardiology and internal medicine.³ A recent study of discrepancies between the medication record of an electronic medical record (EMR) and a patient interview in a family medicine clinic found an average of 2.7 discrepancies per medication list. In this study, the most common error was having a medication listed in the EMR which the patient was no longer taking.⁴ Although the advent of the EMR has created improved opportunities for maintaining an accurate medication list in the medical record, this study illustrates that discrepancies may still exist. The EMR allows the functionality to update a medication list and print a clear list for patients. However, it can also create the risk of new types of errors, such as selecting the wrong strength or formulation of a drug from a list.

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Despite the recognition of the importance of medication reconciliation in all settings, and the evidence that outpatient medication records are often inaccurate, most of the current literature written on how to best implement medication reconciliation processes focuses on inpatient settings.⁵⁻⁷ A recent publication by PeaceHealth Medical Group describes a system-wide initiative to improve medication reconciliation in their ambulatory care clinics. The use of the EMR was an important tool in this initiative, as was clear collaboration between nursing staff and medical providers.⁸

The American Society of Health Systems Pharmacy's (ASHP) Policy on Pharmacists Role in Medication Reconciliation recommends that pharmacists "are responsible for coordination of interdisciplinary efforts to develop, implement, maintain, and monitor the effectiveness of the medication reconciliation process."⁸ In order to reach the goal of achieving accurate medication lists in the outpatient setting, pharmacists need to be involved in the process. As recognized by ASHP, pharmacists have the expertise in drug therapy and the necessary communication skills to be the most logical professional to improve medication reconciliation. Pharmacists can use their skills and knowledge to augment the skills and knowledge of nursing staff typically responsible for medication reconciliation in outpatient clinics. The educational initiative described here is one example of how a pharmacist working in an outpatient clinic can impact the medication reconciliation process in this setting.

In outpatient clinics, it is typically the certified medical assistants or licensed practical nurses that are rooming patients, checking vital signs, and updating patients' medication lists. This is often a rushed situation, in which staff may feel pressured to quickly prepare the patient for the medical provider. In many cases, these staff members have limited knowledge of all medications, which creates a challenge for them to be able to update a medication list efficiently. This can lead to inaccuracies in the medication documentation.

It has been the observation of these authors that accurate entry of medications in today's electronic environment depends on two factors: 1) the ability of the health care professional to gather complete information from the patient, patient's caregiver, or other appropriate source and 2) the ability of the health care professional to accurately input that information into the EMR. This educational initiative was designed to address both of these factors.

Initiation of this work was a result of growing concern among clinic physicians, nurses, and the pharmacist regarding the accuracy of medication lists in the electronic medical record.

Each of these professionals noted numerous instances when an inaccurate medication list was identified during the patient care process.

Objectives

The objective of this project was to develop and deliver an effective pharmacist-led educational initiative to clinic staff to advance medication reconciliation in the electronic medical record of an outpatient internal medicine clinic. Available results of the education assessments will also be reviewed.

Methods

Setting

The practice site is an outpatient internal medicine clinic within a larger regional health care system in northern Minnesota. The electronic medical record used at this institution is EPIC. The department has approximately 20 medical providers on staff, consisting of internal medicine physicians and nurse practitioners. The clinic has a pharmacist providing medication therapy management services (MTMS) to patients within the clinic. In addition to providing MTMS to patients in need of this service, the pharmacist serves as a resource to the department on medication issues. This includes the development of nursing protocols related to medications and education for staff on medication related topics. The pharmacist collaborated with the clinic nurse manager to develop and implement this educational initiative. The clinic staff was divided into 3 professional roles: credentialed medical providers (CMP's: physicians and nurse practitioners), registered nurses (RN's) and clinical assistants (CA's: licensed practical nurses and certified medical assistants). The pharmacist leading this initiative was the only pharmacist at the clinic, and therefore was not included in the survey. Registered nurses and clinical assistants collectively comprise the "nursing staff" as referred to in this report.

Summary of Educational Initiative

This educational initiative was conducted during a 2 year period from 2005-2007 and consisted of the following steps: pre-initiation survey of nursing staff and credentialed medical providers, discussion with credentialed medical providers on survey results, inservices with competency assessments for nursing staff, a post-implementation survey, a "refresher" inservice for nursing staff, and a random audit by the pharmacist (See Table 1). This initiative was reviewed by the University of Minnesota Institutional Review Board and the St. Mary's Duluth Clinic Institutional Review Board and determined to be exempt from review.

Surveys

A survey was developed by the clinical pharmacist and the nurse manager to determine the existing opinions on medication reconciliation, including identifying barriers for achieving accurate medication documentation. There was also an opportunity for staff to provide input on ideas for improvement. The surveys were specifically designed for each staff type (CA's, RN's and credentialed medical providers), and were color-coded to be able to sort responses by staff type, yet remain anonymous. The surveys were not validated. The pre-initiation survey included questions on belief in the accuracy of the medication list and the staff's comfort level in gathering and documenting the patients' medication list (see Table 2). In addition, there were items asking for the staffs' opinion on the potential barriers for gathering and documenting an accurate medication list (see Table 3). The results were then presented to the credentialed medical providers for discussion in a series of 3 one-hour meetings, led by the pharmacist. These discussions were used to facilitate decisions among the providers regarding the responsibilities of each staff role in keeping the medication record complete and up-to-date. This information was helpful in developing the principles on which to focus during the inservices.

The post-implementation surveys were completed approximately 8 months after the initial inservice, which was 11 months after the pre-initiation surveys. These surveys contained the same questions asked on the pre-initiation survey regarding belief in accuracy of the medication list and the professionals comfort level in gathering and documenting a patient's medication list.

Statistical Analysis

Statistical analysis was completed on the pre-initiation and post-implementation surveys. The data from these surveys was de-identified, therefore, the data was not paired. Specifically, the questions relating to belief in the accuracy of the medication list and the professional's comfort level in gathering and documenting a patient's medication list were evaluated. The Kruskal-Wallis test was completed to determine if there were differences between the 3 health care roles on each of these three questions. In addition, each question was evaluated per individual and combined roles for pre-initiation vs. post-implementation results using the Mann Whitney U test.

Inservices

Learning objectives were developed for each inservice in collaboration between the pharmacist and the clinic nurse manager. The pharmacist utilized her clinical and teaching experience to define the skills needed to obtain and

document an accurate medication list. Each inservice was delivered by the pharmacist and was given twice so that all nursing staff had the opportunity to attend. Inservices were mandatory for all registered nurses and clinical assistants within the internal medicine department. Handouts containing all pertinent information were provided to the participants at each of the inservices. The learning objectives, teaching strategies and assessment methods for each inservice are listed in Table 4. Inservices 1 and 2 occurred 2 months apart, and Inservice 3 occurred 21 months after Inservice 1.

Inservice 1 was entitled *Building Blocks of Medications*, and was focused on basic medication information. This inservice was delivered in a traditional lecture format, followed by discussion and a question-and-answer session. Following the first inservice, staff were required to pass a written 12-item competency exam consisting of multiple choice and matching questions. Written by the pharmacist, this exam assessed the objectives of the session, including the ability to recognize brand and generic names of common medications. Nursing staff were allowed to utilize their handouts from the inservice, and were expected to achieve 100% correct on the exam. Staff could retake the exam, if necessary, until reaching this level. The exam was distributed immediately following the inservice, and a deadline for submission was assigned.

Inservices 2 and 3 were specifically designed to create an active learning environment utilizing role play examples. In Inservice 2, participants role-played a patient and clinical assistant updating a patient's medication list in the EMR. As the role play occurred, the medication list in the EMR was updated on a projected screen, so that all participants could view the process of efficiently working through the EMR. Staff was educated to resolve medication discrepancies by making the medication list in the EMR consistent with how the patient was using the medication, even if it was different than prescribed. Nursing staff was taught to alert the credentialed medical provider of any discrepancies between the actual use of medication compared to the prescribed directions. Following Inservice 2, the clinical pharmacist observed each clinical assistant in one or more encounters in order to evaluate competency of the learning objectives. Registered nurses were not directly observed, as the bulk of their responsibilities were in telephone triage, not in patient rooming. The pharmacist determined the total number of encounters observed based on performance. If the clinical assistant achieved competency in the first encounter observation, no further observation occurred. Competency was defined as asking appropriate open-ended questions and accurately documenting the patient's medication list in the

EMR. However, if the clinical assistant lacked competency in an area, or if the patient being seen was on less than five medications, a second encounter was observed. Verbal feedback was provided to each clinical assistant, and a written evaluation form was submitted to the nurse manager.

Inservice 3 occurred 21 months after the first. This was intended to be a “refresher” for nursing staff who were involved earlier and new education for new staff members. Therefore, the learning objectives for this inservice were repetitive from Inservice 2. Since this was a review of the topics covered in Inservice 2, there was a brief 15-minute presentation, followed by scripted role-playing examples. Once again, the EMR was updated on a projected screen to illustrate efficiencies in medication documentation.

Audit

A random audit took place the month following Inservice 3. This audit was completed by the pharmacist to assess competency of clinical assistant staff. Clinical assistant staff was unaware of the exact timing of the pharmacist audit, but they were informed that it would occur. The pharmacist randomly chose patients on approximately 5-10 medications and reviewed the medication list with the patient at the conclusion of their clinic encounter, after having met with the medical provider, to ensure accuracy. The pharmacist completed the audit by asking open-ended questions to gather the medication list, utilizing the same interviewing techniques taught to the nursing staff during the inservices. The purpose was to provide feedback to the clinical assistant on the accuracy of the medication list. Each of the seven full time clinical assistants was included. Due to difficulty in scheduling, it was not possible for the part time clinical assistants to be included (although part-time staff was included in the earlier inservices).

Results

Surveys

The initial Kruskal-Wallis test showed a statistically significant difference between the three staff type groups for the assessment of the belief of accuracy of the medication list ($p=0.02$). No statistically significant difference was found between professional groups for the other items. Further analysis using the Mann Whitney test (using a priori level of 0.05) indicated that there was a statistically significant difference between credentialed medical providers and clinical assistants on the confidence of the accuracy of the medication list ($p=0.005$) in the pre-initiation-test. This indicates that clinical assistants were more likely to agree with the statement that medication lists are 100% accurate by the time a patient completes an encounter compared with credentialed providers (see Table 2). This is a notable

discrepancy, because the individuals doing the initial work to update medication lists (clinical assistants) were more likely to agree that the lists were accurate, while the professionals held responsible for making clinical decisions based on this information (credentialed medical providers) were less likely to agree that the medication list were accurate.

There were no statistically significant differences between the pre-initiation and post-implementation test responses regarding accuracy and gathering ability (see Table 2). There was one statistically significant difference with registered nurses in pre-initiation and post-implementation tests regarding the ability to accurately document medications in the EMR (pre-initiation- survey mean of 4; post-implementation- survey mean of 5; $p=0.017$). This indicates that the nurses felt more comfortable documenting the medication lists after the educational interventions.

The pre-initiation surveys noted that the major barriers toward achieving accurate medication lists were “patients don’t know what medications they are taking” (100% agreed), and the major barrier to documentation was “accurately tracking dosage changes” (See Table 3).

Inservices

Since inservices were mandatory for registered nurses and clinical assistants, 100% of appropriate staff attended. Following Inservices 1 & 2, each nursing staff member was able to pass the competency assessment assigned. Inservice 1 had a written exam follow-up, and Inservice 2 was followed by direct observation by the pharmacist as described above. Staff was able to repeat the assessments until they passed.

Inservice 3 was followed up by a random audit by the clinical pharmacist. Of the 7 clinical assistants included in the audit, one achieved a 100% accurate list. A total of 7 errors were found and 5 of these errors were associated with non-prescription products. Three of the errors were a result of a medication missing from the medication list, and 4 of the errors had the wrong dose listed for a medication. None of the errors were considered severe enough to cause harm at the time of the encounter. Some examples include missing a patient’s vitamin or rarely-used as needed medications, such as acetaminophen for headaches.

Discussion

The Joint Commission has placed great emphasis on the importance of medication reconciliation, and its recommendations indicate that it is essential to communicate accurate medication lists throughout the continuum of care. The 2010 National Patient Safety Goals for Ambulatory Care state: “A process exists for comparing the patient’s current

medications with those ordered for the patient while under the care of the organization.”¹ Clearly, in order to reach this goal, outpatient sites need to be able to document accurate medication lists.

This project was successful in developing and delivering an educational initiative for clinic staff on medication reconciliation. The initiative effectively involved all members of the clinic staff who have access to the patient’s medication record. The credentialed medical providers gave critical input to the project leaders on the challenges they had encountered with medication reconciliation, and this input was valued and utilized in the educational inservices. The nursing staff was the most involved, as active participants in the inservices and the competency assessments.

It was no surprise to see that health care professionals of all levels agreed that the biggest barrier to creating an accurate medication list is patients who do not know their medications. When a patient is unsure of their medication list, which can often happen in a clinic setting, the staff has few other options to determine an accurate medication list. Telephoning the patient’s pharmacy is an option, but as more patients use mail order or multiple pharmacies, it becomes more difficult to complete the extra step.

It is notable that the barriers to gathering and documenting medications lists did differ between the health care professional roles. A full 75% of clinical assistants agreed that not knowing brand and generic drug names was a barrier, compared to 0% of providers. This illustrates the need for clinical assistant staff to receive additional education and resources on brands and generic names of commonly used medications.

Separating the process of gathering an accurate medication list and documenting the medication list accurately was important in this project. Being able to efficiently enter medications into the EMR was a challenge for all clinic staff. Many issues were raised regarding inefficiencies in the system. By bringing staff together for these educational sessions, many were able to pick up helpful hints and efficiency advice from their colleagues regarding documentation. However, the basic skills of being able to gather information from the patient or caregiver are still the most crucial. It is essential to emphasize both components; otherwise staff may increase their focus on the documentation part and lose their effectiveness in asking open-ended questions to gather an accurate medication list.

There are intangible benefits that resulted from this educational initiative. The topic of medication reconciliation

was emphasized in the clinic by clinic management during staff meetings. In addition, the pharmacist emphasized the importance of medication reconciliation during daily clinic encounters and conversations with staff. This increased emphasis created a greater awareness of the importance of accurate medication lists. The increased awareness helped to create a culture in which accurate medication lists are viewed as essential.

In addition, this increased awareness resulted in more of the nursing staff, particularly clinical assistants, bringing their documentation questions to the pharmacist. This led to recognition of potential problems and solutions for accurate documentation within the electronic medical record. For example, clinical assistants would point out instances in which they had updated the medication list for a patient, and then when the patient returned for follow-up 2 weeks later (without any medication changes), the EMR medication list would be inaccurate again. It appeared in these instances that the changes made 2 weeks earlier were not saved in the system. These types of problems were typically a result of glitch within the EMR. Prior to this educational initiative, these problems may have gone unnoticed or unreported. With the increased awareness on the importance of medication list accuracy, these problems were able to be addressed and corrected through the EMR team.

This educational initiative was well received by the internal medicine clinic. Nursing staff verbalized appreciation for the education, and credentialed medical providers also appreciated the increased focus on accurate medication lists. It is important to note that keeping medications lists up-to-date and accurate in an outpatient clinic takes a conscientious effort by all health care team members. This internal medicine clinic adopted the standard procedure that anytime a patient has contact with the clinic staff, their medication list was updated. For a face-to-face clinic visit, the medication list is initially verified by the clinical assistant, and then the credentialed medical provider checks for accuracy and updates the list for any changes made as a result of that visit. In addition, patients often have telephone encounters with registered nurses, clinical assistants, or provider staff. In these cases, the staff member is expected to verify the medication list with the patient. If a patient contacted the clinic for appointment scheduling only, he/she was advised to bring an updated list of medications to their encounter.

Unfortunately, the results from the audit and surveys do not illustrate an objective improvement in the medication reconciliation process in this outpatient internal medicine clinic. Specifically, significant changes between the pre-

initiation- and post-implementation-surveys were limited to registered nurses' self assessment of their ability to document accurately in the EMR. The survey outcome is limited by the small number of participants in the pre-initiation and post-implementation survey; therefore, it is possible that it was too small to detect a statistically significant difference. In addition, there was a significant length of time (8 months) between the first inservice and post-implementation surveys, which could have diluted the impact of the education. It is also possible that staff completing self-assessments in the pre-initiation survey were not educated well enough on the topic to understand what they didn't know, making it difficult to find a significant improvement. This is a limitation of the self-assessment survey method.

The pharmacist random audit following the educational initiative illustrated that errors were still occurring. The audit found only 1 of 7 (14%) medication lists was found to be 100% accurate. Although the audit found errors, it was notable that these errors were deemed as unlikely to cause harm. Unfortunately, a baseline audit was not completed, therefore it is unknown if this was a decline, an improvement, or a maintenance of the status quo. However, it is known that the goal of achieving 100% accurate medication lists was not achieved.

Since this audit occurred after the patient had met with both the clinical assistant and the medical provider, it is concerning that medical providers did not catch these errors. Since most of the errors were related to nonprescription medications, it is possible that the medical providers were not consistently addressing nonprescription medications with their patients. As the medical providers are prioritizing the needs of their patient at the time of the visit, the need to reconcile nonprescription medications may not be of a high enough significance to be completed in the busy clinic environment. In addition, providers may assume the list was updated correctly by the clinical assistant and do not ask further questions of the patient.

When analyzing the results of this educational initiative, it raises more questions for future research. An important remaining question is: who is the most appropriate health care professional to be completing medication reconciliation in outpatient clinics? As discussed, the audit showed that even after this educational initiative, medication lists continued to be inaccurate at the completion of an encounter. This indicates that both the clinical assistant and the credentialed medical provider did not appropriately

reconcile the medication list. The missing medications were only found on an additional interview with the patient by the pharmacist. Is this indicative that a pharmacist should be completing medication reconciliation at all outpatient clinics? If this isn't possible, how can pharmacists best train the individuals responsible for medication reconciliation to be accurate in their work? Although this report did not find a quantifiable improvement, it is unclear if this is a result of a poor educational initiative, poorly matched assessment strategies, or numbers that are too small to see a difference. Future areas of research include determining how to best prepare health professionals to reconcile medications, and to determine which professionals are best suited to complete medication reconciliation. In addition, the systems and workflow of the medication reconciliation process need to be clearly defined so that the work can be completed efficiently.

Conclusion

Pharmacists can contribute to the development and delivery of educational initiatives to increase awareness of and advance medication reconciliation in the outpatient setting. Pharmacist inservices, combined with staff assessments, may be useful tools to improve staff skills in gathering and documenting an accurate medication list. Although this study was unable to find quantitative changes in the medication list accuracy, it does illustrate the need for continued research in the area of outpatient medication reconciliation to determine the best methods to improve a system which is currently inadequate.

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TABLE 1: Summary of Educational Initiative

Activity	Professional Involved	Date
Pre-initiation survey	Nursing staff, Medical providers	March 2005
Discussion with Providers on survey results	Medical providers	April-June 2005
Inservice 1	Nursing staff	June 2005
Inservice 2	Nursing staff	August 2005
Post-implementation survey	Nursing staff, Medical providers	February 2006
Inservice 3	Nursing staff	March 2007
Random audit by pharmacist	Clinical Assistants only	April 2007

TABLE 2: Comparison of Pre-initiation and Post-implementation Surveys by Staff Type

ACCURACY			
Statement: I think the internal medicine department is currently able to ensure that patient's medication lists in the EMR are 100% accurate at the time they finish an encounter in our department.			
1=strongly disagree, 3=neutral, 5 = strongly agree			
	Pre-Test*	Post-Test*	P-value***
Clinical Assistant	3.42** (n=12)	3.71 (n=7)	0.527
Registered Nurse	3.0 (n=7)	3.13 (n=8)	0.951
Credentialed Provider	2.18** (n=11)	2.88 (n=8)	0.152
Combined	2.87	3.22	0.227
GATHERING ABILITY			
Statement: I currently feel comfortable with my ability to gather an accurate medication list from a patient.			
1=strongly disagree, 3=neutral, 5 = strongly agree			
	Pre-Test	Post-Test	P-value
Clinical Assistant	3.92 (n=12)	4.43 (n=7)	0.299
Registered Nurse	4.0 (n=7)	4.63 (n=8)	0.155
Credentialed Provider	4.36 (n=11)	4.13 (n=8)	0.822
Combined	4.10	4.39	0.191
DOCUMENTING ABILITY			
Statement: I currently feel comfortable with my ability to document a patient's current medications accurately in the EPIC medical record system.			
1=strongly disagree, 3=neutral, 5 = strongly agree			
	Pre-Test	Post-Test	P-value
Clinical Assistant	4.55 (n=12)	4.43 (n=7)	0.550
Registered Nurse	4.0 (n=7)	5.00 (n=8)	0.017
Credentialed Provider	4.8 (n=11)	4.63 (n=8)	0.334
Combined	4.28	4.70	0.133

*All ratings listed as mean scores

**A statistically significant difference existed between clinical assistants and providers on the pre-test, p = 0.005

***p-value refers to the difference between pre-initiation and post-implementation

TABLE 3: Barriers for gathering and documenting an accurate medication list

	Clinical Assistant	Registered Nurse	Credentialed Medical Provider
Barriers to gathering a medication list			
Patients don't know the medication they are taking	100% (12/12)	100% (7/7)	100% (11/11)
There isn't enough time to gather the information	50% (6/12)	57% (4/7)	73% (8/11)
I don't know all of the brand/generic names of the medications	75% (9/12)	29% (2/7)	0% (0/11)
Barriers to documenting the medication list			
Finding the right medication in the database	50% (6/12)	57% (4/7)	18% (2/11)
Finding the right dose of the medication in the database	17% (2/12)	29% (2/7)	18% (2/11)
Accurately tracking dose changes	50% (6/12)	86% (6/7)	55% (6/11)
The time it takes to organize the medication list	42% (5/12)	57% (4/7)	55% (6/11)

TABLE 4: Inservice Descriptions

Title	Learning Objectives	Teaching Strategies	Assessment
Inservice 1: Building Blocks of Medications	<ul style="list-style-type: none"> • Recognize proper techniques for gathering medication information from patients. • Understand the importance of including necessary details in the medication record. • Understand and be able to explain the difference between brands, generics, nonprescription, and herbal products. • Understand the process that occurs in pharmacies during dispensing, specifically how patients are switched from brands to generics. • Identify resources to determine names and spelling of medications. • Identify the most-commonly prescribed classes of medications, and at least 2 brand and generic names in each class. • Be able to identify controlled substances. 	Traditional lecture format, ending with question and answer sessions	Participants were required to pass a written competency test
Inservice 2: Improving Medication Documentation: Working Within EPIC	<ul style="list-style-type: none"> • Understand and demonstrate effective patient interviewing techniques to gather patient's medication lists. • Understand and demonstrate efficient methods to work within the EMR to update medication lists. 	Role playing examples	Pharmacist observation of clinical assistants completing medication reconciliation
Inservice 3: Medication Reconciliation: Tools & Tips	<ul style="list-style-type: none"> • Understand and demonstrate effective patient interviewing techniques to gather patient's medication lists. • Understand and demonstrate efficient methods to work within the EMR to update medication lists. 	Scripted role play examples	Pharmacist audit of random patients

EMR = Electronic medical record

EPIC = the electronic medical record utilized at this institution