Enhancing Practice Efficiency and Patient Care by Sharing Electronic Health Records

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Abstract

One primary function of community pharmacies is to dispense medications to patients. In doing so, pharmacists frequently communicate with physicians' offices to clarify prescription orders and obtain additional information to ensure the safe and accurate dispensing of medications. Such communication is often done by telephone or fax, which is inefficient for both the pharmacy and the physician's office. This problem was highlighted in a recent American Medical Association resolution defining certain pharmacy inquiries as "interference with the practice of medicine and unwarranted." As a result, many are seeking to understand how to balance the needs of the patient care process with the need for operational efficiency in the physician's office and pharmacy. This study presents one example of a health information technology–based solution involving shared access to an electronic health record (EHR), and describes a case in which a physician's office and a community pharmacy experimented with this model to promote practice efficiency while also providing enhanced access to clinical information in both directions. The rationale behind the process change, a brief description of how the new process came into existence, and a description of how information sharing can be helpful in related clinical situations are provided. Similar models that involve sharing of EHRs may create valuable opportunities for collaboration between physicians and pharmacists to enhance patient care and improve workflow efficiency.

Keywords: electronic health record, pharmacy, interdisciplinary

Introduction

In an era of rapidly expanding electronic health record (EHR) usage by physicians, there is little connectedness between pharmacy dispensing information systems and the EHRs in physicians' offices.[1, 2] E-prescribing, in which prescriptions are sent electronically to the community pharmacy, is on the rise, but crosstalk between information systems for the sharing of data related to patient safety and billing does not frequently occur.[3, 4] Additionally, the roles and responsibilities of pharmacists in the community setting continue to expand beyond dispensing medications and into areas of extended-duration medication counseling, such as medication therapy management (MTM) and disease state management.[5] The pharmacist may need additional information in order to advise patients about their medication use and to evaluate medication regimens to ensure that they are appropriately indicated, efficacious, and safe, and that the patient is adherent.[6, 7] Traditionally, employees of the pharmacy and of the physician's office have communicated via telephone or fax throughout the day to ensure normal business operations, but repeated telephone calls can create workflow inefficiencies and cause distractions, and faxes may not be reviewed for several days, especially if they must be scanned into the EHR prior to provider review.

In response to the evolving problem of workflow disruption, a resolution from the American Medical Association (AMA) in mid-2013 stated that certain pharmacy inquiries relating to the verification of prescriptions are an "interference with the practice of medicine and unwarranted." Specific inquiries referenced included diagnoses, rationale behind prescriptions, and treatment plans.[8] However, some of these inquiries, such as ICD-9 codes, may be required for billing. Additionally, diagnosis and disease information may be critical to ensuring a safe dose of medication for a patient, such as when a patient is taking medications that may interact and are prescribed by different practitioners. The AMA resolution does indicate that strategies may be taken at the national level, in collaboration with the National Association of Chain Drug Stores and others, to address this issue.[9] It is unclear at this time what those strategies may look like.

Although many physicians and pharmacists have good working relationships that allow for collaborative patient care efforts, physicians may see news like the AMA resolution as a rationale for reducing communication with pharmacists. However, as patient-centered medical homes and other avenues of collaboration between healthcare disciplines further blossom, bidirectional communication is needed between physicians and pharmacists (e.g., pharmacists obtaining information from physicians to reinforce proper medication use, physicians obtaining information from pharmacists on medications prescribed by other healthcare professionals and medication adherence). The purpose of this article is to offer for discussion one method by which a pharmacy and a physician's office overcame communication barriers by advancing the role of health information technology (HIT) in clinical practice to allow for shared access to the EHR. The following sections describe the rationale for shared EHR implementation, provide one example of successful implementation, and offer a list of barriers and strategies to overcome them for others wishing to implement similar collaborations.

Evidence: Why Is Sharing of Information Important?

Pharmacists have a track record of improving patient care through multidisciplinary collaboration. Additionally, pharmacists have long provided medication counseling services in the physician's office setting as physician extenders.[10] Despite the benefit of these models to the patient and healthcare team, examples of these services are not very common. However, a recent report by the Centers for Medicare and Medicaid Services described how pharmacists, including community pharmacists in a traditional drugstore setting, are providing medication review services that have resulted in improved patient adherence to prescribed regimens and have reduced costs. For example, when patients meet with a pharmacist, hospitalizations for some disease states are reduced.[11] While it may not be financially feasible for many physicians to employ a pharmacist full time in their practice, collaboration with neighboring community pharmacists practicing in a dispensing pharmacy may allow for many of the benefits of physician-pharmacist collaboration, such as improved clinical outcomes for patients, without significantly increasing expenses for the physician's office.

In additional to medication review services, some physician offices and community pharmacies find it beneficial to collaborate around other areas, such as the following:

- Immunizations: Some physicians do not wish to stock, store, and administer certain immunizations, particularly those that require special storage or must be billed through prescription insurance (e.g., herpes zoster vaccine requires storage in a freezer and is covered under Medicare Part D prescription coverage, as opposed to Medicare Part B medical coverage). Patients residing in rural communities may not be able to travel frequently enough to their physician's office for vaccinations. Additionally, some physician offices have higher patient need than available appointments. Physicians may be able to make direct referrals to community pharmacies that offer immunization services, particularly if the immunization services are offered during evening and weekend times when the physician's office is closed.
- Targeted medication reviews: Some patients have generally sufficient knowledge about their medications and health conditions, but may need targeted support on an as-needed basis. Pharmacists can provide interventions focused on single disease states or medications, or even advise on over-the-counter product selection. Examples may include teaching a patient how to administer insulin or use a new inhaler, which may save a physician or other members of the healthcare team a considerable amount of time.
- Transitions of care services: Patients being discharged from the hospital or other health facility may be confused about medication changes that occurred during the hospitalization and at discharge. Pharmacists can help to sort out these discharge details and medication discrepancies before the follow-up appointment with the primary care physician, particularly as the community pharmacy is more likely to have evening and weekend hours.[12] Allowing the pharmacist to clear up confusion immediately after discharge might result in fewer medication-related questions at the patient's first postdischarge appointment with the physician.

In each of these collaborative opportunities, sharing access to an EHR is likely to support more efficient communication without creating constant interruption of the workflow of the physician's office. Interestingly, adoption of shared EHR use within the community pharmacy setting is not common,[13] despite evidence to support pharmacists' desire for EHR access and belief that EHR access can improve patient care and care coordination.[14-16] Models have demonstrated that off-site pharmacists can share EHR access to perform similar services to those mentioned above,[17] but to the best of the authors' knowledge, literature describing the implementation of such a system in a community pharmacy is limited.

Although one might assume that pharmacists' offering of these services would yield fewer patient encounters for the physician, that assumption may not be true. One study in North Carolina demonstrated that when pharmacists provide clinical services such as MTM, patients engage in their healthcare more (e.g., by seeing their outpatient physician more frequently), have improved health outcomes, and experience fewer hospitalizations.[18] Therefore, effective collaboration may allow for better care with improved clinical outcomes at a reduced cost.

Strategy: Sharing Electronic Health Records

A pharmacist at a supermarket chain pharmacy identified that many patients who received care at a nearby physician's office and picked up prescriptions at the pharmacy had low health literacy, multiple chronic conditions, and a lengthy medication list. Patients frequently had many questions about their medications and were unsure how to manage their health conditions. This situation resulted in the pharmacy calling the physician's office multiple times every day for clarification of prescriptions and treatment plans, simply to answer patients' repeated questions. Because of hold times and workflow disruption, this model was not best for the physician's office or for the pharmacy, so new ways of communication were sought.

The pharmacist first approached the physician's office management team to discuss an MTM service, which would include a review of all prescription, over-the-counter, and herbal supplements with the patient; a personal medication record; a list of action steps that reinforce proper medication use; and proper documentation to communicate with providers.[19] This service was being provided in the pharmacy already to patients who had insurance that covered MTM, but it was not optimal for the patient because neither the patient nor the pharmacist knew the entire medical plan that the physician had set. The pharmacy team thought that expanding medication review services to include more comprehensive information from the physician would be beneficial for patients because it would allow the pharmacist to reinforce the physician's healthcare plan, and it could potentially decrease the number of medication-related questions that would be directed throughout the day to the physician's office from both patients and pharmacists.

This discussion resulted in a pilot program in which the physician's office securely faxed medication lists to the pharmacy for each patient being seen. Although this procedure reduced the number of questions, the community pharmacists realized that they could better reinforce the physician's treatment plan and answer more patient questions if they had access to additional information such as laboratory data and physician notes. The pharmacists initially tried obtaining this information by calling and speaking with a nurse; however, this method proved to be inefficient and time consuming for both parties. After the pharmacists brought the concerns about efficiency related to communication to the attention of clinic management and physicians, the collaborative relationship was expanded to allow several community pharmacists to read and eventually document in the physicians' EHR system.

Multiple benefits of shared EHR access were identified. Pharmacists were able to more readily collect data related to patients' medical conditions, prescribed medications, lab data, and treatment plans. Communication between the pharmacists and providers was significantly enhanced. Additionally, the pharmacists and providers were able to enhance their professional relationship, resulting in increased trust between healthcare professionals.

Barriers and Strategies for Success

Some pharmacies are beginning to move in the direction of EHR use. However, recently published examples that describe sharing of information between pharmacies and physicians do not always involve the pharmacist and related dispensing system in the pharmacy, but may instead only involve the nurse practitioner clinic that exists within some pharmacies.[20] The lack of published literature regarding the experience of community pharmacies and local physician offices sharing an EHR contributed to the authors' needing to find new ways to combat multiple barriers, including maintaining open communication with collaborators, determining the goals for the new practice model, establishing appropriate HIT access, providing necessary EHR training, and integrating the EHR and medication dispensing systems. These challenges as well as potential strategies to overcome these barriers are described below.

Maintain Open Communication with Collaborators

Identifying a practice champion who is enthusiastic about developing an innovative partnership using HIT can help to push the new service forward. The effectiveness of the collaboration can be increased if the champion is willing to continually look for

quality improvement opportunities and is able to motivate colleagues to adopt the new model. The ability to effectively communicate with staff at the physician's office and community pharmacy, as well as with patients who may be affected by the changes, is a necessity. The practice champion should feel empowered to take a leadership role during the development and implementation of the new model that meets the needs of both the physician's office and the pharmacy.

In addition to working with a practice champion, it is important to identify a workgroup of physicians, pharmacists, and support staff willing to candidly discuss progress and opportunities for improvement. The workgroup should also share key findings with their colleagues, such as at provider or staff meetings. For example, as the partnership progresses, it is important to review whether the types of communication (e.g., length and style of notes) and the method of communication for urgent (e.g., telephone call) and nonurgent (e.g., EHR notes) questions or concerns are working for each healthcare professional. All individuals should be encouraged to provide feedback to the workgroup to continually improve the collaborative efforts between the physician's office and the community pharmacy.

Determine Goals of the New Practice Model

Before the service was implemented, it was necessary to conduct a needs assessment at both the physician's office and the pharmacy. Practices interested in implementing a new collaborative service may find it helpful to ask for input from clinicians, pharmacists, and support staff, such as through a staff meeting or a short survey. In some cases, an office manager or triage nurse may have excellent input for enhancing efficiency in communication with pharmacists. External goals that focus on providing appropriate services, such as Healthcare Effectiveness Data and Information Set (HEDIS) measures, should be considered as the partnership is being developed. For example, community pharmacists may be able to influence HEDIS measures related to high-risk medications in the elderly; pharmacologic management of chronic conditions, such as asthma, chronic obstructive pulmonary disease, diabetes, and hypertension; immunization rates; and adherence to medications.[21]

The development of goals for both partners that are specific, measurable, attainable, realistic, and timely (SMART) will help to guide the next steps in the collaboration and provide a benchmark for evaluating the success of the service.[22] Short-, medium-, and long-term goals should be set. For example, a short-term goal may be to work with the individuals who have experience in HIT from both practices to identify how information will be shared. A medium-term goal might be for the pharmacy to use the EHR to help answer medication-related questions and, when necessary, to communicate more efficiently with the physician's office. A long-term goal could be to expand the partnership to include additional services that align with HEDIS measures, particularly because a significant number of measures include pharmacologic management. An alternative long-term goal would be to integrate the EHR into the medication dispensing system to increase efficiency further at the community pharmacy.

Establish Appropriate HIT Access

Initially, pharmacists were provided read-only access to the EHR. This access allowed the pharmacists to obtain additional information about patient care plans; however, it did not allow for bidirectional communication with the rest of the healthcare team. As a result, pharmacists faxed notes to the physician's office, which then had to be scanned into the EHR by a staff member. This process could take several days, creating a gap between when the pharmacists interacted with the patient and when the provider saw the note. Additionally, it created additional work for the staff at the physician's office. After several months of using this process, pharmacists were granted read/write access in the EHR, which allowed the pharmacists to directly document each patient encounter and route the note to the provider. From an information security standpoint, pharmacies must already achieve a high level of compliance with security based on patient privacy laws. The computer that was used to access the EHR was kept in a locked facility and could be viewed only by pharmacy personnel with appropriate privacy training.

Provide EHR Training

An additional challenge that arose after the pharmacists obtained read/write access in the EHR was related to learning how to use the system. Limited training was provided, which allowed the pharmacists to search for patients; review the patient's medication list, labs, and physician notes; and send a communication to the provider. When one pharmacist left the organization and a new pharmacist was hired, the current pharmacist users were responsible for providing the necessary training. This

setup could have been problematic if the old and new pharmacists did not overlap. A plan for training new collaborators and providing updates about the shared system may be valuable.

Integrate EHR and Medication Dispensing System

After obtaining EHR access, the pharmacy encountered a barrier in the form of the lack of integration between the EHR and the medication dispensing system. As a result, extra time was required for the pharmacist to obtain information about the patient from the EHR when preparing a medication. This challenge was compounded because the pharmacy was part of a large supermarket chain pharmacy that had information technology requirements that prevented the pharmacists from accessing the EHR using the computer systems involved in the dispensing workflow. To address this issue, the pharmacist needed to turn on a laptop computer used primarily for this purpose, connect to the Internet by turning on a mobile hotspot device, and then log into the EHR. This multistep process made it especially time consuming for the pharmacist to review the EHR for each patient. Instead, patient profiles were reviewed when specific information was needed to ensure the appropriate dispensing of medications or to provide education for patients regarding their medications or disease states. As collaborative services continue to develop, it may be valuable to direct specific attention to increasing the read/write capabilities of the EHR system in multiple practice settings.

Potential Next Steps

While the collaboration described in this article is in the early stages, further investigation into the merits, challenges, and successes of such a model could be helpful for the advancement of HIT integration in outpatient medical care. For instance, research into the perceptions and perspectives of medical office employees, pharmacy employees, and patients could help to describe the potential value and hurdles to success of such a model. Furthermore, objective studies looking analytically at time savings or reduced "interruptions" in workflow could be valuable to determine how much of an impact EHR sharing brings to a physician's office–pharmacy collaboration.

Conclusion

Exploring strategies for physicians and pharmacists to communicate more effectively can be beneficial for patients, physicians, and pharmacists. This real-world example of collaboration through HIT may help to justify further research into similar areas for improvement of patient care. Sharing EHR access is one way that collaboration can benefit patients while simultaneously improving workflow efficiencies for both the physician and the pharmacy. Physicians and pharmacists may find it valuable to explore collaboration opportunities to enhance patient care and improve workflow.

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Notes

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