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The Role of Pharmacy in Supporting Safe and Effective Transitions of Care

Laressa Bethishou

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Abstract

Goal
To inform pharmacists and pharmacy technicians of the importance of and processes for conducting transitions of care when patients are moving among healthcare settings.

Summary
A narrative review of recent events and research into transitions of care (TOCs) — the movement of patients from one healthcare setting to another. To be conducted safely and effectively, the entire patient care team must optimize patient care and communicate up-to-date information among its members. As the medication experts on the healthcare team, pharmacists are well poised to receive and share information that impacts medication use and patient safety. Pharmacy technicians can play an important role by assisting with tasks such as taking medication histories. In this program, the importance of effective TOC practices is examined, including effects on morbidity and mortality, readmissions, emergency department visits, need for follow up, hospital length of stay, quality of care, medication errors, adverse events, and patient satisfaction.

Pharmacist interventions support patients by effectively managing medications, providing patient-centered education, assessing, and addressing access barriers, and supporting continuity of care. The impact of these interventions includes reducing readmission rates, medication error reduction, improved patient satisfaction, and cost savings. Successful TOC practice models should be multimodal and multidisciplinary; interventions should provide continuity of care beyond the inpatient setting and include services at home and in the outpatient setting.

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Learning Objectives
Upon completion of this activity, participant should be able to:

1. Describe challenges and opportunities in improving transitions of care across inpatient and outpatient healthcare settings.

2. Discuss pharmacist interventions that support safe and effective transitions of care.

3. Identify facilitators and barriers to continuity of care and hand-off communications.

4. Identify innovative practice models that address the unique needs of high-risk patient populations.

5. Describe quality improvement metrics that support the value of pharmacist interventions during transitions of care.

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INTRODUCTION

The Centers for Medicare and Medicaid Services (CMS) defines transitions of care (TOCs) as the movement of patients from one healthcare setting to another.[1] Patients may transition among multiple healthcare providers, services, and settings as their health acuity changes. With each transition, the patient care team must optimize patient care and communicate up-to-date information among its members.

Ineffective TOCs have been associated with increased morbidity and mortality, avoidable readmissions, excessive emergency department visits, inadequate follow-up, increased hospital length, ineffective or duplicative care, medication errors, adverse events, and decreased patient satisfaction.[2-4] Additionally, the cost to the healthcare system is substantial because of inappropriate utilization of healthcare resources. Nearly 20% of Medicare beneficiaries — 2.6 million people — are readmitted to the hospital within 30 days of discharge, with an associated cost exceeding $26 billion annually.[5] To encourage hospitals to improve care coordination and communication, CMS created the Hospital Readmission Reduction Program (HRRP) in 2012, penalizing all-cause, 30-day readmission for certain applicable conditions, such as heart failure, myocardial infarction, and pneumonia.[6] While interventions to reduce readmissions have historically focused on interventions during the patient's hospital stay, it is apparent that improving care transitions requires a more holistic approach and consideration of the many factors that can affect patient care.

Every pharmacist plays a role in supporting safe and effective TOCs. As patients move through the healthcare system, they may experience changes in their diagnoses, their symptoms and clinical presentation, their mobility and cognitive function, as well as their treatment goals and level of support. Optimizing medication management requires understanding the treatment goals and the unique needs of each patient. As the medication experts on the healthcare team, pharmacists are well poised to receive and share information that impacts medication use and patient safety. Pharmacy technicians can play an important role by assisting with tasks such as taking medication histories.

CHALLENGES AND OPPORTUNITIES IN THE HEALTHCARE SYSTEM

Ineffective TOCs may be attributed to multiple factors. Poor communication and collaboration between providers results in inconsistent and incomplete sharing of information.[7] As patients prepare to leave the hospital, discharge summaries are commonly incomplete and not delivered in a timely manner to the next care provider.[8] There needs to be standardized processes specifying the method of hand off, such as written or verbal communication, the timing, and the templates used for sharing of information. Additionally, providers may have limited or no access to a shared electronic health record (EHR). This means that healthcare providers need a consistent model or mechanism for sharing and receiving information in a timely manner.

Failure to engage and address patient and caregiver needs is another contributor to ineffective TOCs.[7] Confusion results when discharge education is incomplete, conveys conflicting information among providers, or is inappropriate to the patient's learning style or health literacy level.[9] A lack of clear communication may result in patients not understanding their treatment regimen

Case Vignette 1

A patient with hypertension, chronic heart failure, and deep-vein thrombosis (DVT) diagnosed 2 months ago is admitted to the hospital with acute renal failure. A list of his current medications is updated in the emergency department; he is taking rivaroxaban, which is a blood thinner requiring dose adjustment or discontinuation in renal failure. His medication is switched to warfarin, a blood thinner that is safe to use in renal failure but requires stringent monitoring. He is treated for his acute and chronic conditions over the course of his stay.

On day 5 of his admission, his international normalized ratio (INR) is elevated, indicating his dose of warfarin is too high. His dose is held, with the intent of resuming his warfarin at a lower dose once his INR is back within normal limits. However, later that evening, the covering attending physician places discharge orders for the patient. He is not aware that the patient should be on warfarin, as there is no active order, and therefore discharges him with no anticoagulation. The patient, in a rush to leave, declines discharge medication education from the pharmacist.

A week later, the patient presents to the emergency department with complaints of shortness of breath and chest pain. He is diagnosed with a pulmonary embolism, secondary to his untreated DVT. He states that he has not been taking any anticoagulation since his discharge, as he was told to stop his rivaroxaban and no other medication was on his discharge medication list. He did not have a follow-up visit with his primary care physician or cardiologist after discharge. The hospital wants to review his case to determine how its processes can be improved to improve TOCs in the future and avoid preventable medication errors.

What went wrong?

This patient experienced multiple gaps in therapy and communication as he transitioned into and out of the hospital. Each of these contributed to ineffective transitions of care, medication errors, and poor outcomes for the patient. Poor communication among providers, a lack of interdisciplinary collaboration and follow-up, and a lack of clear documentation are all major contributors in this case. There was no hand-off communication between the attending physician about the patient's plan for discharge and his discharge-related needs, such as the change in anticoagulation and the need for increased monitoring related to this change in medication. Interdisciplinary collaboration, such as including a pharmacist to review medications and provide education, or a case manager to help coordinate discharge planning and postdischarge follow-up, would have helped proactively identify this gap in therapy. Additionally, there was no written documentation in the EHR to clearly draw attention to the change in his medication, which is a limitation of the EHR that makes the problem easily overlooked.

and plan for follow-up. Poor care coordination can lead to patients who do not have access to follow-up appointments, medications, transportation, or other necessary support.

Neglecting to manage chronic comorbid conditions is another contributor to ineffective care transitions.[7] Regardless of the primary complaint, patients presenting to any healthcare setting benefit from a comprehensive workup to identify and address opportunities for TOC interventions that optimize their care. This is further supported by programs such as the HRRP and the associated penalty for all-cause 30-day readmission, leading to a shift in the provision of care to provide comprehensive and continuous care.[6]

Understanding these challenges allows healthcare providers to identify better opportunities for the healthcare team to improve interprofessional collaboration and coordination to best support the patient's needs across different healthcare settings. Patient populations, health acuity, access to patient information, patient care resources, and provision of care vary among ambulatory/community, inpatient, and long-term care settings. Appreciating the unique considerations in each care setting allows for a comprehensive approach for optimizing care transitions (Table 1).

PHARMACY INTERVENTIONS

Medication discrepancies with the potential to cause moderate-to-severe adverse effects are common during TOCs.[10,11] One study found that on admission, 53.6% of patients had at least 1 unintended medication discrepancy, and 38.6% of these errors had the potential to cause moderate-to-severe discomfort or clinical deterioration.[10] Another study found that 58.6% of patients were taking 1 or more unnecessary prescribed medications at hospital discharge.[11] Pharmacists and pharmacy technicians are valuable members of the healthcare team who provide interventions that can optimize medication regimens and use.[12] Working with their pharmacy technicians and staff, every pharmacist plays a role in supporting TOCs and should consider the medications, relevant medical history, and patient-specific factors that impact the patient's ability and willingness to adhere to their medication regimen.

Table 1. TOC Challenges Across Different Care Settings

Care Settings	TOCs Challenges
Acute Care	• Incorrect admission medication list • The patient is poor historian • Multiple providers and care teams involved in care • Changes to diagnosis, health status, laboratory tests, and medications • Therapeutic interchange leading to duplication errors • Incomplete discharge medication reconciliation • Omission, duplication, interaction, or dosing errors • Poor patient understanding of medication changes • Orders not sent correctly or in a timely manner • Hand-off communication incomplete or delayed
Ambulatory Care	• Poor communication among providers • Lack of standardized processes to share and receive information • Reliance on patient self-reporting medications and medication adherence • Lack of timely follow-up
Community Pharmacy	• Incorrect or incomplete prescriptions sent by providers • Incomplete or missing health information • Lack of standardized processes to share and receive information • Medications or medical equipment not in stock • Delays in therapy caused by insurance coverage issues and prior authorizations • Challenges reaching healthcare providers • Angry patients
Long-Term Care	• Incomplete or inaccurate information sent from discharging facility • Variance in frequency of physician and pharmacist monitoring and medication review • Laboratory tests or medications not ordered in timely manner • Updated medication reconciliation required when transitioning home

Abbreviation: TOCs, transition of care.

Medication Reconciliation

Medication reconciliation, defined as the process by which a patient's medication list is obtained, compared, and clarified across different care sites, is integral to safe and effective TOCs.[13] Medication reconciliation involves assessing the appropriateness of therapy to identify intentional and unintentional discrepancies.[14] Unintentional medication errors during TOCs are well documented in the literature, and medication reconciliation should be completed at each transition as patients move among providers, settings of care, and levels of care.[14] Medications should be evaluated against treatment goals; changes in diagnosis, clinical presentation, and symptoms; laboratory tests; and adherence and access barriers to ensure patients are discharged from an encounter with the most appropriate medication list.

Because medication discrepancies can affect patient outcomes, accreditation agencies such as The Joint Commission mandate processes to reconcile medications the patient takes or should be taking against newly prescribed medications.[15] The Joint Commission National Patient Safety Goal 03.06.01 requires organizations to maintain and communicate accurate medication information by collecting medication history on admission, identifying and addressing medication discrepancies, educating patients and caregivers, and communicating medication changes at discharge.[15] Medication discrepancies may include omission, duplication, incorrect or unclear indication, drug interactions, missing instructions, or incorrect dose, route, or frequency.[15,16] The pharmacist plays a critical role in evaluating the medication list at each transition to ensure patients are on the right medications and can access and administer those medications correctly.[17]

Individual states may have their laws and regulations around medication reconciliation processes. In California, Senate Bill (SB) 1254 requires pharmacy staff, including pharmacists, pharmacy technicians, and interns, to obtain a medication profile for all high-risk patients in acute care hospitals with more than 100 beds. Among high-risk patients, pharmacy-obtained medication histories have intercepted medication errors that could have led to incorrect inpatient or discharge medication orders, emphasizing the value of this integral step in the medication reconciliation process.[18]

Collecting a Best-Possible Medication History

At each transition of care, a best-possible medication history (BPMH) should be collected as the first step, allowing for a more effective medication reconciliation process. Errors in medication history were found in up to 67% of patients admitted to the hospital, and these errors often carried over to discharge.[19,20] A BPMH should provide a comprehensive medication list, which includes the medication name, dose, route, and frequency. Newly prescribed medications, adjusted or held medications, and over-the-counter (OTC) medications and supplements should also be included. Importantly, a BPMH should incorporate how the patient is actually taking a medication versus how it was prescribed. When adherence barriers are identified, this information should be integrated into the BPMH and communicated to healthcare providers, as addressing these adherence and access barriers is a critical piece of ensuring patients are on the right medications for them.

Case Vignette 2

JS is an 85-year-old woman admitted to the hospital after a fall. A nurse obtains the medication history in the emergency department, using the EHR to pull a medication list of previously prescribed medications. She relies on the patient to self-report if those are her correct medications. Upon discharge, when providing medication reconciliation and discharge education, the pharmacist realizes the patient is confused. She complains that she has too many medications and cannot manage them all. She also reports that her daughter manages her medications and states that the pharmacist should talk to the daughter. A telephone call to the daughter identifies additional OTC medications the patient is taking. These include the sedating antihistamine diphenhydramine for her allergies, a sleep aid (which also includes an antihistamine) for insomnia, and a headache product that contains acetaminophen and caffeine.

What steps should have been taken to collect the BPMH more accurately and comprehensively?

First and foremost, the BPMH should have evaluated whether the patient manages their medications, and the daughter should have been consulted at admission. A BPMH should include a comprehensive list of medications, including OTC medications, and identify adherence barriers. In this case, the patient has both OTC medications, which are likely contributors to her confusion and fall, and she has a complaint of too many medications that she has difficulty managing. Collecting a BPMH history is a critical first step of the medication reconciliation process, and identifying the patient's concerns and adherence barriers will ultimately impact her treatment plan. In this case, a physician or pharmacist reconciling the medications could use that BPMH to identify medications that should be discontinued (such as duplicate antihistamines) and medications that may be unnecessary (such as a headache medication containing caffeine, which may be causing her insomnia). Additionally, while the patient (or, in this case, the caregiver) should be the primary source of information, verification against a secondary source will increase the completeness and accuracy of the list. An older patient with confusion and falls is a high-risk patient and would benefit from a BPMH obtained by a pharmacist or pharmacy technician.

Whenever possible, a BPMH should be collected by interviewing the patient or caregivers involved in medication management. Medication information should be verified against a secondary source by inspecting medication vials, previous health records, prescription drug claim histories, or a patient medication list obtained from a pharmacy, physician, or electronic health record. However, these sources should not substitute for a patient interview, providing valuable information only the patient can provide.[21]

Pharmacists, pharmacy technicians, and pharmacy interns can collect a BPMH. Literature supports the value of pharmacy technicians in conducting a comprehensive BPMH with greater accuracy than other healthcare providers. A well-trained pharmacy technician will have greater familiarity with medication names and doses and proficiency in communication techniques and problem-solving strategies.[22,23]

Patient Education

As medications are optimized, patients require education on their comprehensive medication list, including what medications are new, adjusted, continued, or discontinued.[15] Education should include information on medication doses, administration technique, adverse effects, storage, and monitoring parameters. Additionally, patient education should include treatment goals, relevant disease state management, instructions for follow-up, and guidance on monitoring for warning signs and when to seek urgent or emergent care.[3,4,15] For example, a patient discharged with newly diagnosed diabetes treated with insulin would require a comprehensive review of their complete medication list, including administration techniques for their new medications, a review of how to monitor blood glucose, and counseling on recognizing and addressing signs of hypoglycemia.

Effective delivery of patient education should engage the patient and any caregivers involved in medication management by using teaching strategies that are tailored to the patient's preferred language, health literacy level, and teaching style.[9] Pharmacy health literacy refers to the degree to which a patient is able to obtain, process, and understand health information. Low health literacy has been associated with a higher risk of medication errors and adverse health outcomes.[24] Pharmacists can support patients with different levels of health literacy by using patient-appropriate educational aids and connecting patients to resources that meet their educational needs.[24,25]

If a patient needs a co-learner or caregiver to be present during patient education sessions, this need should be identified and proactively coordinated in advance of the session. Educational resources should be provided in the patient's preferred language when possible, and arrangements made for an interpreter to be available. If a patient has difficulty hearing or seeing, visual aids with an appropriate font should be provided. Patients can also be provided with visual communication aids — which include pictures, graphics, and diagrams — to help understand complicated diseases and health information.[25]

One method that allows patient engagement is the "teach-back" method. This education style involves using open-ended questions, speaking in plain language instead of medical jargon, and creating opportunities for frequent patient engagement throughout the teaching session. Patient understanding is assessed by asking patients to "teach back" what they have learned in their own words and to demonstrate their learning when appropriate, such as with the inhaler technique. Having patients "teach back" the information or technique provides an assessment of how well the concept was explained; it should not be viewed as a measure of how well the learners understand the material.

> If the learner is not able to "teach back" the information or technique or if a concept is not well understood, the healthcare provider should try a different approach to providing education.[26] The Agency for Healthcare Research and Quality (AHRQ) provides a multitude of resources on how to use and incorporate the "teach-back" method. [21]

Motivational interviewing is another educational strategy that can be used to share and communicate information in a collaborative way.[27] This is a patient-centered, empathic, and nonjudgmental approach designed to increase behavioral change by drawing on patients' internal motivation for change. The intent is to enhance intrinsic motivation and commitment to change by facilitating patient sense making. This method is used to assess a patient's readiness to act on a specific behavior by applying strategies that respect the patient's autonomy and facilitate patient confidence and decision-making. During TOCs, this strategy can be used to help promote medication adherence, disease state management, and preventive measures that optimize chronic comorbidities.[3]

Assessing and Addressing Access Barriers

As pharmacists collect BPMHs, reconcile medications, and provide education, they also need to assess and address access barriers that impact medication use and disease state management. Pharmacists should consider patient-specific needs that affect access to medication and healthcare services. Patient needs vary based on their required level of support and care. These include medication cost and socioeconomic barriers, health and functional status, cultural factors and personal beliefs, and health literacy.[3,4] Pharmacist interventions include addressing financial barriers, securing access to medications and durable medical equipment (DME), and ensuring patients have clear instructions for follow-up and monitoring.

In 2013, per capita spending on prescription drugs in the United States was $858, comprising an estimated 17% of overall personal healthcare services.[28] Pharmacists can support patients in addressing financial barriers by identifying formulary restrictions and selecting cost-effective therapies when appropriate.[3,4] If prior authorization is required, identifying the need and initiating the process as early as possible can prevent delays to therapy. If patients require support with insurance enrollment, payment vouchers, manufacturer assistance programs, or access to other health resources, referrals to social workers and case managers can help meet those needs. Community pharmacists and technicians knowledgeable about billing and payment are also good resources for information on medication assistance programs.

Pharmacists also play an important role in securing access to medications and DME to prevent delays in receiving medication therapy and providing appropriate

monitoring. This can include ensuring hospital medications are available and in stock, refills are available for take-home medications, new prescriptions comply with prescribing requirements, and prescription delivery services have been coordinated when appropriate.[3,4] For patients who are prescribed medications that require medical equipment to support administration and monitoring, such as blood glucose meters, insulin syringes, test strips, blood pressure meters, or nebulizers, pharmacists can confirm that patients have the necessary supplies and the education to use their medications correctly.

Coordination of Care

Coordination of care refers to the practice of intentionally organizing patient care activities and communication of information to ensure safe and effective care transitions.[28] This process requires deliberate and proactive planning to identify and meet patient needs in a timely manner. The Institute of Medicine has identified care coordination as a key strategy that improves outcomes for patients, providers, and payers.[29] Specific care coordination activities include creating a proactive care plan, hand-off communication to share key information, ensuring patients have appropriate follow-up and monitoring, supporting TOCs, and connecting patients to community resources.

Effective coordination of care is an interdisciplinary effort. Each member of the healthcare team, including the patient, plays a vital role in addressing patient needs and meeting treatment goals.[3,4] Patients may require referrals to social workers, case managers, physical or occupational therapists, nutritionists, speech therapists, and more, depending on their care plan.

Pharmacists can support care coordination by ensuring all medication-related needs are accounted for by reconciling medications, providing patient education, addressing adherence and access barriers, and ensuring that patients have appropriate medication-related follow-up and monitoring.[9]

For patients admitted to the hospital, discharge planning should begin as early as possible to avoid overwhelming patients with information and tasks at the time of discharge. While it is not always possible to accurately identify the exact date of discharge, proactive planning, and interdisciplinary communication can help identify patient needs in advance and initiate processes such as prior authorization requests, coordination of follow-up appointments and monitoring, and patient education with the opportunity for reinforcement well in advance of the discharge date.[9] Interdisciplinary discharge planning rounds are an effective strategy to support proactive discharge planning, as each discipline can provide updates and insight to patient care and needs in preparation for discharge.[30]

SUPPORTING CONTINUITY OF CARE

Interventions provided during TOCs help support continuity of care, which describes the quality of care over time.[31] While continuity of care may refer to the relationship between a patient and their primary care provider, multiple providers are commonly involved in patient care. Therefore, continuity of care requires collaboration and communication among members of the healthcare team to maintain quality of care as the patient transitions from one care setting to another.

Effective hand-off communication is an integral component of maintaining continuity of care as readmissions are frequently attributed to poor communication.[32] Poor communication is especially prominent during TOCs and in settings where information exchange is fast-paced.[33] Furthermore, even when health information is communicated during TOCs, it is not always used. A study found that although 80% of community pharmacists received discharge medication lists, only 6% reported using this information to offer TOC services.[34] There is an opportunity to improve hand-off communication during healthcare transitions.

Hand-Off Communication Considerations

The Joint Commission describes a hand-off as a transfer and acceptance of patient care responsibility achieved through effective communication. This is a real-time process of passing patient-specific information from one caregiver to another or from one team of caregivers to another for the purpose of ensuring the continuity and safety of the patient's care.[35] This can encompass communication from pharmacist to pharmacist, pharmacist to other healthcare providers, among care settings, and with the patient.

The information shared, as well as the timing and the mode of communication, will vary depending on who is sharing and receiving information.[3,4] When communicating with the next care provider — whether this is a physician, a pharmacist, or another specialist or allied health professional — information sharing should be aligned with treatment goals. Hand-off communication may include a summary of chief complaints, history of present illness, laboratory tests, vital signs, medication lists, and scheduled and suggested monitoring and follow-up.[35] Providing a list of action items, including highlighting drug therapy problems and any adherence barriers, is helpful in optimizing medication management.

Lack of standardized processes, insufficient time or personnel to support hand-off communication interventions, and electronic health record limitations make it difficult to share and use information in a meaningful and efficient manner.[36] However, incorporating standardized forms, methods, and tools can help create consistent expectations for patients and their healthcare providers on what information is being communicated during TOCs.[35]

Hand-Off Communication Tools and Templates

I-PASS is a hand-off tool that concisely and consistently summarizes **I**llness severity, **P**atient summary, **A**ction list, **S**ituation awareness and contingency planning, and **S**ynthesis by the reviewer.[37] Implementation of this tool was associated with a 30% reduction in preventable adverse errors and a 23% reduction in medication errors. There was an improvement in the quality of both verbal and written communication, with no increase in time

required to complete hand-offs and no decrease in the time spent on direct patient care.[37]

Another communication strategy is the SBAR method, which stands for **S**ituation, **B**ackground, **A**ssessment, and **R**ecommendation. The clear structure of SBAR calls for the provision of relevant information in an organized and consistent manner.[33] It also sets clear expectations for both the sender and receiver of information in terms of what will be shared, allowing for preparation in advance of hand-off. SBAR is considered a best practice in communication and a valuable tool to increase patient safety. Like I-PASS, the use of SBAR is associated with improved communication, increased employee satisfaction, and improved interdisciplinary communication and collaboration.[33] Most importantly, using these tools improve efficiency and lead to less time spent on communication, further supporting the value of standardized processes to facilitate more effective hand-off communication.[37]

The American Pharmacists Association (APhA) Transitions of Care Hand-Off Communication Tool can be used to facilitate hand-off communication between pharmacists across different healthcare settings and between pharmacists and other healthcare providers, with a focus on medication management.[38] Similar to those described above, this tool provides relevant background information that affects medication management, such as past medical history, recent hospitalizations, and changes to health status, laboratory monitoring tests, and medications. Additionally, the resource can be used to highlight drug therapy problems and barriers to medication use, while providing recommendations for optimizing medications.

While there is no universally used approach, identifying a hand-off communication tool that meets the goals of the individual provider or health system can help support safe and effective information sharing and continuity of care. Successfully standardizing hand-off communication processes requires buy-in from key stakeholders, including leadership, healthcare providers involved in the process, and support staff. Standardized communication tools and templates (Table 2) should be used whenever possible, and information should be shared consistently in a timely manner. Education and training should be provided for all those involved in hand-off communication processes, including those who are receiving information, so they are aware of how to best use and integrate the information provided into their own workflow. Interventions should be documented, and metrics should be periodically evaluated to assess the impact and success of the processes.[35]

Table 2. TOCs Hand-Off Communication Tools and Resources[30,34,35]

Hand-Off Communication Tool	Components
I-PASS	• **I**llness severity • **P**atient summary • **A**ction list • **S**ituation awareness and contingency planning • **S**ynthesis by reviewer
SBAR	• **S**ituation: What is going on with the patient? What do we need to communicate? • **B**ackground: Relevant subjective and objective information • **A**ssessment: Rationale for recommendation • **R**ecommendation: What is the plan for the patient, including recommended follow-up?
American Pharmacists Association (APhA) Transitions of Care Hand-Off Communication Tool	• Patient and provider contact information • Pertinent past medical history • Patient barriers to medication use • Drug therapy problems identified during medication reconciliation • Laboratory tests • Follow-up • Recommendations to the next care provider

Abbreviation: TOCs, transition of care.

Case Vignette 3

A patient admitted to an acute-care facility for an asthma exacerbation admits he does not regularly take his daily prescribed maintenance inhaler because he does not feel it is as helpful as his rescue inhaler (albuterol). He also does not feel the cost is justified. The pharmacist educates the patient on the benefits of his maintenance inhaler and why it is harmful to overuse the rescue inhaler in place of his daily medication. He informs the inpatient physician, who acknowledges how this nonadherence is a contributor to the patient's asthma exacerbation but prefers the primary care physician optimize the medications.

How can SBAR be used to provide hand-off to the primary care physician?

In this case, the pharmacist has identified a significant nonadherence issue that contributed to the patient's hospital admission. While education to address knowledge deficits and set treatment goals is certainly helpful, the primary care provider should absolutely be made aware of the situation, as this adherence issue will require follow-up and incorporation into the patient's care plan. A tool such as SBAR can help in the hand-off of critical pieces of information. Here is an example of use of SBAR in this situation:

Situation: Patient admitted for asthma exacerbation admits to nonadherence of daily maintenance inhaler medications, which is a contributor to his exacerbations.

Background: Patient does not understand why he needs the daily inhaler and feels the albuterol is more helpful and uses that on a regular basis. He also does not feel the cost of the maintenance product is justified.

Assessment: Patient has a knowledge deficit on how these medications should be used as well as unclear expectations about the value of the different medications. He may also have a cost issue, but this is linked to his lack of perceived value of the medication.

Recommendation: Set treatment goals with the patient and provide education and a plan for follow-up that helps the patient understand how each medication should be used, what to expect, when to expect it, and the adverse effects of overusing the rescue inhaler and underusing the maintenance medication. Additionally, provide the patient with resources to offset the cost of the maintenance medication or consider a less expensive alternative.

Hand-Off Communication to Patients and Caregivers

As described above, patient education is a valuable intervention provided by pharmacists during TOCs. The patient is a key member of the healthcare team and should be engaged in making decision-making and in taking a role in the management of their health. Therefore, patient education should include hand-off communication to the patient. At each transition in the care process, patient education should include information on the patient's diagnosis, their active problems, and changes to their health status.[17] Patients should understand their treatment plan, including follow-up appointments and monitoring needs. Medication education should highlight changes to their medication list, including new medications, discontinued medications, dosing changes, and medications that are being continued. Self-management strategies should be discussed, and patients should know when to seek follow-up, including urgent or emergent care.

IMPLEMENTING TOC SERVICES

In implementing TOC services, it is important to consider what interventions will be provided, who will be providing and receiving interventions, the frequency and timing of care, and the desired outcomes. There is no single one-size-fits-all model. Each institution should consider what workflow works best given available resources and the needs of the patient population.

Patients who may benefit most from TOC interventions include those at high risk for readmission, such as older adults and patients with multiple comorbidities, polypharmacy, homelessness, low health literacy, cognitive impairment, or disabilities. Patients with complex medical conditions, including those defined under the HRRP, may also benefit, such as those with heart failure, myocardial infarction, pneumonia, chronic obstructive pulmonary disease, or hip or knee arthroplasty.[6] Effectively using resources will produce a more sustainable and successful TOC model.

Organizational barriers can hinder the success of TOC programs. These can include inability or unwillingness to allocate resources to support TOC practice models, lack of sponsorship from leadership, limitations in the EHR that support TOC services, and lack of interest from medical, pharmacy, and administrative staff. [3] This can be further compounded by incomplete or failed prior efforts to implement TOC services.

To address these barriers, the TOC program must be properly tailored to the institution's needs. Obtaining buy-in from leadership and key stakeholders, such as those involved or impacted by the new TOC model, is critical. Aligning program outcomes with organizational priorities can help strengthen justification for implementation. For example, if reducing readmissions, preventing medication errors, improving patient satisfaction, or reducing costs are organizational goals, pharmacist interventions during TOCs can be directed toward addressing these outcomes.[39-42] Feedback should be solicited from key stakeholders and program participants and incorporated into the program. All healthcare providers and staff involved in TOC services should receive appropriate education and training to help increase the program's success.[3]

A quality assurance program should be incorporated to adjust TOC services as needed. Desired outcomes should be defined and key metrics collected to periodically evaluate program progression. Examples of such metrics that may be collected to include evaluation of the success of implementation, including readmission rates, clinical outcomes, medication error reduction, cost savings, and patient satisfaction. A clear process for documenting metrics should also be defined to allow for continued quality improvement.

Implementing TOC Services in the Inpatient Setting

Interventions provided in the inpatient setting include collecting a BPMH, admission and discharge medication reconciliation, patient education, coordination of care and discharge planning, hand-off communication, and postdischarge follow-up. It is important to first assess current discharge and postdischarge processes. Meeting with key players such as physicians, nurses, pharmacists and pharmacy staff, case managers, social workers, and other allied health professionals can better inform the gaps and opportunities in which pharmacy involvement would be most beneficial. The timing of interventions and patient populations who would most benefit from pharmacist involvement must also be considered.[3]

Pharmacy technicians, interns, and pharmacists can collect a BPMH. Pharmacists and pharmacy residents can reconcile medications on admission, at discharge, and during other inpatient transitions. However, given limited resources, high-risk criteria are useful to identify which patients require pharmacy involvement. When providing patient education, the timing of education, the scope of education, and educational techniques should be clearly defined. Patient education can include medication information, disease state management, self-care, and demonstration of the use of devices. Education techniques can include verbal education as well as incorporating visual aids and handouts. High-risk patients may derive greater benefits from pharmacist education, and this may lead to more efficient use of resources and program success. Interventions that promote continuity of care, such as care coordination, hand-off communication, and postdischarge follow-up, may benefit from pharmacist involvement. However, a referral-based system to identify patients with medication-related needs can improve pharmacy workflow.

Implementing TOC Services in the Community Pharmacy Setting

Community pharmacist involvement in TOC interventions is associated with improved patient outcomes, including reduced readmissions, decreased medication-related problems, and improved medication adherence and patient knowledge of medications.[3] The community pharmacist is well positioned to support continuity of care through reinforcement of discharge instructions, identification and resolution of drug therapy problems, and targeted medication counseling.

Implementing a TOC service in a community pharmacy setting requires collaboration and communication from referring providers, especially when shared EHRs are not available. Utilization of a hand-off communication template and a standardized workflow, as described above, can more efficiently incorporate TOC interventions into pharmacist workflow. Upon receiving a referral from either an inpatient setting for a discharging patient or a primary care provider, the pharmacist should review the medication list against pharmacy fill records and develop a comprehensive medication review. Pharmacists should assess whether the patient is taking newly prescribed medications correctly, especially after hospital discharge, to identify any adherence or access barriers. Any identified drug therapy problems, barriers, and recommendations should be communicated back to the referring provider, and appropriate documentation should be completed.

Implementing TOC Services in the Ambulatory Care Setting

Pharmacist involvement in ambulatory clinics can also improve patient safety and quality of life, decrease health care costs and hospital readmissions, optimize medications, and improve quality measures.[3] TOC interventions and practice models may vary based on the needs of the patient population and the healthcare providers involved. Opportunities for pharmacist involvement can include medication reconciliation, chronic disease state management, medication management under a collaborative practice agreement, medication monitoring, and medication and disease state education. Pharmacists working with other providers can bill for transitional care management (TCM) services.[3]

TCM is a service under Medicare Part B in which approved healthcare providers can provide TOC interventions during the 30 days after discharge from an inpatient facility. [3,42] When patients are discharged from an approved inpatient facility, specific components must be provided to support TOCs. Patients must have interactive contact with clinical staff within 2 business days after hospital discharge. Physicians or nonphysician practitioners (NPPs) can review discharge information and provide patient education, and medication reconciliation must be provided before or at the time of a required face-to-face meeting.[42] As allied health professionals, pharmacists cannot directly bill for TCM services but can provide services and bill under a physician or NPP. [42]

Implementing TOC Services for Patients in Long-Term Care Settings

Patients transitioning to and from long-term care settings, such as acute rehabilitation centers or skilled nursing facilities (SNFs), benefit from TOC interventions because of the high risk of medication errors and potential harm during these healthcare transitions.[43] Patients admitted to these settings do not manage their own medications; information must be collected from, and communicated to, the care facility at each transition.

Pharmacist and physician monitoring may vary in SNFs and other long-term care facilities, making it even more important that a comprehensive and accurate medication list and monitoring plan are shared during the hand-off communication process. When started too late in the discharge process, coordinating transfer to a long-term care facility can lead to delays or provision of outdated or incorrect information. Effective and standardized processes for sharing accurate and up-to-date information are required in this process. Additionally, patients may have a short-term stay at these facilities; an additional medication reconciliation is required when the patient is discharged to home.

Because of patients' high risk, complex medication regimens and the unique challenges associated with

transitioning to and from a long-term care setting, TOC interventions are tremendously important in this patient population. TOC processes should be incorporated during the inpatient admission. Pharmacists and members of the healthcare team should consider the challenges presented and collect comprehensive information from the long-term care facility, as well as implement a process for timely hand-off to both the care facility and primary care providers.

Case Vignette 4

HE is an 89-year-old man admitted to the emergency department from a SNF 5 days ago with a heart failure exacerbation. He was treated for fluid overload and ready for discharge on day 3 of his admission. An updated medication list was sent to his SNF, but while waiting for transportation to be coordinated, the patient spiked a fever. The discharge was canceled, and the patient was found to have a urinary tract infection and started on antibiotics. His blood pressure medications were also held at that time due to low blood pressure. On day 5 of his admission, he was stable and ready for discharge back to his SNF with 3 more days of antibiotic therapy. An updated medication reconciliation was conducted, transportation was coordinated, and at the time of his discharge, an updated and correct medication list was sent to his SNF. A pharmacist also updated the SNF by phone to highlight the new antibiotic for 3 more days, the held blood pressure medications, and to ensure the patient would have a follow-up to assess when it would be appropriate to resume his blood pressure medications.

What strategies make this an effective discharge?

In the time this patient was waiting for his transportation during his initial planned discharge, a new problem (his UTI) was identified. Therefore, the information communicated was no longer up to date and relevant. However, on day 5, transportation was coordinated, and an up-to-date medication list was sent at the time of his actual discharge. Additionally, the pharmacist took steps to hand off to the SNF and ensure his short course of antibiotics; the held medications were clearly communicated. Follow-up was also addressed, ensuring there would be a plan to reassess when his medications should be resumed.

THE VALUE OF PHARMACIST INTERVENTIONS

The impact of pharmacist interventions in improving patient safety and optimizing medication management is well documented.[3, 39-42] Pharmacist interventions support patients by effectively managing medications, providing patient-centered education, assessing, and addressing access barriers, and supporting continuity of care. The impact of these interventions includes reducing readmission rates, medication error reduction, improved patient satisfaction, and cost savings. [3,39-42] It is worth noting that there is no single ideal practice model that leads to improved outcomes. However, single-modal interventions are rarely associated with improved outcomes such as reduced readmissions.[44] Successful TOC practice models should be multimodal and multidisciplinary; interventions should provide continuity of care beyond the inpatient setting and include services at home and in the outpatient setting.[44]

CONCLUSION

It is critical that patients are safely and effectively transitioned among different healthcare providers, settings, and levels of care. Patient needs vary based on the setting of care and the level of support provided. Therefore, effective transitions require communication and collaboration among providers and the patient to best meet changing needs across the continuum of care. Pharmacists, as the medication experts on the healthcare team, are well poised to optimize medication management through interventions, including medication reconciliation, patient education, addressing access barriers, and supporting hand-off communication. TOCs is an interdisciplinary effort, and every healthcare provider can contribute to optimizing TOCs and improving patient outcomes.

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