CASE STUDY

Implementation of a Novel Resident-led Pharmacy Transitions of Care Service

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Primary Intended Outcomes

1. Manage patients through their transition from the acute care setting back into the community after discharge by focusing on medication- and pharmacy-related needs.
2. Ensure admission medication history is obtained and medications are reconciled with acute care orders, provide education regarding medications and disease states, coordinate discharge needs to help decrease potential medication errors, adverse events, or readmissions.
3. Establish interprofessional involvement focusing on care progression planning that includes pharmacy in order to build relationships with providers, nurses, case managers, social workers, physical/occupational therapists, and patient liaisons.
4. Provide a layered learning model with clinical pharmacists, pharmacy and community pharmacy residents, and student pharmacist interns to create opportunity for professional growth while providing enhanced care to our patients.
5. Improve PGY1 resident satisfaction by requiring staffing through inpatient pharmacy clinical services and the pharmacy transitions of care service, thus providing diverse experiences and decreasing the frequency of weekend staffing.

Relevant PAI Recommendations

B7. Hospital and health-system pharmacists must be responsible and accountable for patients' medication-related outcomes.

B20. Pharmacists should facilitate medication-related continuity of care.

B23: The following characteristics or activities should be considered essential to pharmacist-provided drug-therapy management in optimal pharmacy practice models:

B23a. Accountability for the development and documentation of medication-related components of the patient care plan.

B23k. Medication reconciliation in the emergency department; upon admission, interhospital transfer, and discharge; and in the ambulatory care setting.

B23l. Establishment of processes to ensure medication-related continuity of care for discharged patients.

B23m. Provision of discharge education to patients.

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Situation Analysis

University of Colorado Hospital (UCH) is a 648-bed academic medical center within the UCHealth system. UCH is regionally ranked as the #1 hospital in Colorado and is nationally ranked in 10 adult specialties. Pharmacy practice development is strongly supported to enhance medication safety and patient satisfaction. Interprofessional team efforts with pharmacy presence are utilized for the best outcomes possible.

Since mid-2015, PGY1 pharmacy residents have been creatively involved with staffing a new Pharmacy Transitions of Care Service (PTOCS) to focus on managing patients and their medication-related needs through transition from the acute care setting back into the community. The PTOCS qualifies as a portion of each resident's staffing requirement and allows less frequent weekend staffing as a result. This unique idea resulted from the acknowledgement of a previously unmet need to focus on fragile points of transitions of care and methods to potentially decrease the rate of readmissions to the hospital. The timing coincided with a desire to create new staffing opportunities for residents and also to support a partnership with the University of Colorado Skaggs School of Pharmacy and Pharmaceutical Sciences (SSPPS) as they added a new rotation component to their Community Pharmacy residency program.

The PTOCS has evolved to now include two UCH clinical pharmacists, six Pharmacy PGY-1 residents, three Community Pharmacy PGY-1 residents, and eight pharmacy interns. In approximately 18 months since service implementation, over 800 patients have been enrolled in the PTOCS to receive bedside medication education, coordination of discharge needs, and post-discharge telephonic outreach. The residents gain invaluable patient experience in this role and are also given the opportunity to practice preceptorship by being paired with an intern learner on each shift.

Service Description

Clinical pharmacists participate in rapid interprofessional discharge rounds each morning with internal medicine teams, apply inclusion/exclusion criteria to identify patients who could benefit from PTOCS involvement, provide facilitation of service-related information, and maintain data collection. A sign-out report within the electronic health record (EHR) is updated to communicate patient needs and movement. Group messages within the EHR are used to communicate the checklist of patient needs to the evening staff. A secure online portal for training tools and references is utilized by the PTOCS group to have resources and supportive documents readily available. This is also where data collection is stored for assessment of our service and identification of trends. Frequent workflow enhancements are implemented based on feedback from the residents and interns.

Residents and interns staff the PTOCS Monday through Friday from 4:00 pm to 8:00 pm. These specific hours of operation were selected to keep residency program rotations a priority. Rotations usually run from 7:00 am to 3:30 pm. This schedule allows residents to staff PTOCS after their rotation. Typical staffing includes one resident and one intern working together each evening. They introduce the service to patients for voluntary enrollment and are responsible for ensuring completion of admission medication history, verification of prescription insurance coverage, and counseling of disease states and anticipated discharge medications during hospitalization. They identify and communicate potential pharmacy-related barriers to the primary internal medicine team, coordinate prescription processing with the hospital discharge pharmacy, fax final discharge medication lists to the patient's preferred established community pharmacy, and conduct a post-discharge follow up phone call to answer questions, encourage adherence, and offer triage to reduce likelihood of readmission. Patients fall within different checklist categories based on whether they are still hospitalized or already discharged.

All members of the PTOCS group are expected to address discrepancies and potential medication-related barriers as

part of the care progression planning prior to discharge. Pharmacists will address urgent issues as needed, but complete coverage of the PTOCS is not available outside of the normal operating hours. Partnerships with the patient's primary internal medicine team allow for follow through with recommendations and interventions. Thorough documentation in the EHR is made available for review by others by updating medication histories, detailing education activities, and outlining all steps of the PTOCS process in a detailed progress note.

Key Elements for Position Success

1. Establish a service model to involve pharmacists, residents, and interns in transitions of care.
2. Practice within an interprofessional approach to focus on care progression planning and needs to identify and troubleshoot potential barriers proactively.
3. Timely identification of anticipated discharges to allow for adequate pharmacy involvement before discharge.
4. Support from hospital and school of pharmacy leadership to adjust residency requirements to re-distribute resident staffing time to the PTOCS.
5. Establish PTOCS as a longitudinal staffing requirement, thus enabling personal and professional growth in the pharmacy residents and interns over the course of the year.

Resource Utilization

Personnel: Two clinical pharmacists, nine PGY1 residents, eight pharmacy interns. All PTOCS participants are shared members of the UCH Pharmacy Department or University of Colorado SSPPS and also fulfill other roles and duties.

IT and other infrastructure: electronic health record (Epic ©), software for data collection and reference sharing (Microsoft ® Excel, Microsoft ® SharePoint), hospital intranet for access to online drug information tools, dedicated phone line with voicemail, fax machine, and two computer workstations.

Supply Expense: None. A shared office space with departmental computers and supplies is utilized.

Return on Investment: Positive patient and provider feedback from anecdotal responses within post discharge follow up calls and involvement in interprofessional care progression teams. Increased prescription capture within hospital discharge pharmacy. Workplace satisfaction improvements for the clinical pharmacists, PGY1 residents, interns, and members of interprofessional teams. Collective focus to decrease length of hospital stay, though formal assessment of length of stay related to the PTOCS intervention has not been conducted.

Recognized Intangible Benefits

The addition of this service has extended the ability for pharmacists, residents, and interns to reach out to high risk patients. These patients receive focused education and coordination to proactively work through medication-related barriers and follow up after discharge from the hospital to ensure success. Also, community pharmacies are now receiving communication about changes to the patient's medication list, allowing for information sharing and partnership with the hospital for the patient's transition of care. All members of the PTOCS are shared within the pharmacy department or school of pharmacy and have other job duties and expectations, therefore there was no need to acquire additional full-time equivalents (FTEs) with the development and implementation of this program.

Outcome Measures

1. Phone call interventions (over the most recent 9 month period), as assessed by resident or intern conducting call:

    a. 36%: no questions or concerns from patient
    b. 25%: patient had a logistical question
    c. 32%: resident/intern used clinical skills to answer patient questions
    d. 2%: resident/intern contacted the discharging team for follow up based on need identified during phone call
    e. 5%: patient was referred to contact provider, visit ED, or other high level intervention was made to prevent an adverse outcome

2. From October 2015 through April 2017, 831 patients have been enrolled in PTOC S. 557 patients have been reached via phone for post discharge outreach. 508 discharge medication lists have been faxed to preferred established community pharmacies post discharge (fax is not sent if pharmacy is within the UCHealth system).
3. We initially set out to measure a reduction in readmissions, however, during the first year of service when we compared our PTOCS enrolled patients to matched control patients, we found a higher readmission rate than expected. We attribute this to the specific inclusion and selection of high-risk patients who were more likely to be readmitted compared to other patients. When we further assessed the readmissions, we concluded that the readmissions were actually not related to factors we likely could have controlled with our PTOCS interventions, such as disease progression or secondary illness.

Lessons Learned

1. The longitudinal and layered learning approach provides a unique opportunity for residents and interns to develop skills that can be applied in any future area of practice.
2. Points of transition in healthcare are unpredictable and many outlying situations can change the course for a patient to successfully discharge from the hospital. Scenarios identified through care progression planning, discharge, and movement back into the community necessitate pharmacy personnel to often think critically and creatively to problem solve appropriately.
3. Due to the limited hours of operation, we have encountered challenges contacting both patients and the primary internal medicine teams. An optimization goal would be to expand the service beyond 20 hours per week to allow more availability and flexibility of residents and interns.

Other Considerations

While there have been many significant interventions, it has been challenging to measure the direct impact of the PTOCS on preventing readmissions. While receiving positive feedback and reinforcement, system interest in monetary values related to interventions remains difficult to define.

Suggestions for Other Hospitals/Health Systems

Transitions of Care continues to be a hot topic nationwide as it relates to decreased length of stay and reduced readmission rates, especially if linked to payment and reimbursement. If there is an opportunity to develop a high functioning interprofessional team to focus on care progression planning and discharge needs, by utilizing staff already dedicated to other duties, the impact could be significant, both subjectively and objectively.

Helpful References

1. American College of Clinical Pharmacy, Hume, AL, Kirwin, J, et al. Improving care transitions: current practice and future opportunities for pharmacists. Pharmacotherapy. 2012 Nov; 32(11) e326-e337; DOI: 10.1002/phar.1215

2. Kirkham HS, Clark BL, Paynter J, et al. The effect of a collaborative pharmacist-hospital care transition program on the likelihood of 30-day readmission. American Journal of Health-System Pharmacy. 2014 May 1, 71(9) 739-745; DOI: 10.2146/ajhp130457.

3. Cassano, A, ASHP-APhA Medication Management in Care Transitions Best Practices. American Society of Health-System Pharmacists, American Pharmacists Association. 2013 Feb.