Impact of a Pharmacist-managed, Student-supported Inpatient Warfarin Education Program on HCAHPS Scores in a Community Teaching Hospital

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Primary Intended Outcomes
1. Ensure all inpatients initiated on warfarin therapy on non-maternity, critical care, and mental health units receive appropriate education prior to discharge.
2. Expand clinical pharmacy services to areas not routinely served by clinical pharmacists.
3. Increase the pharmacy department’s clinical and quality improvement impact.
4. Enhance the educational experience for the advanced pharmacy practice experience (APPE) students.

Relevant PAI Recommendations
B23. The following characteristics or activities should be considered essential to pharmacist-provided drug-therapy management in optimal pharmacy practice models:
B23m. Provision of at-discharge education to patients.

B24. Every pharmacy department should:
B24a. Identify drug-therapy management services that should be provided consistently by its pharmacists.
B24b. Develop a plan to reallocate its resources to devote significantly more pharmacist time to drug-therapy management services.
B24c. Develop a plan to allocate pharmacy student time to drug therapy management services.

Situation Analysis
Capital Health is a two-hospital, 500-bed health system that serves an area that straddles the Delaware River in Mercer County, New Jersey and Bucks County,
Pennsylvania. The Capital Health Department of Pharmacy has more than a decade of experience providing introductory pharmacy practice experiences (IPPE) and advanced pharmacy practice experiences (APPE) with local schools of pharmacy. The pharmacy manager and one clinical pharmacist precept students within Hopewell Medical Center, a community hospital that provides a wide array of services, including Institute for Neurosciences, neonatal intensive care (NICU), Chest Pain Center, and Center for Oncology. The pharmacy director, two clinical pharmacists and one pharmacy school faculty member precept students within the Regional Medical Center (RMC). Capital Health RMC is a community teaching hospital that supports a Level II Trauma Center, Comprehensive Stroke Center, and postgraduate training programs in Internal Medicine and Pharmacy (postgraduate year one, PGY1). Most students rotate through RMC and support their respective preceptor's service/unit, e.g. infectious disease, internal medicine, neurocritical care, and pharmacy department.

Up until June 2013, patient medication education and counseling was one of many responsibilities of a pharmacy school faculty members practicing within Capital Health. Over the past decade, the organization has attempted to expand clinical services through decentralization of staff pharmacists, but barriers to the expansion of clinical services have remained. With a small decentralized staff, the Department of Pharmacy identified an untapped resource to support an expansion of clinical services—pharmacy students.

A small team made up of two clinical pharmacists, a staff pharmacist, two PGY1 pharmacy residents, a director of pharmacy, and a faculty member who served as the team leader gathered to address the appropriate utilization of student resources. Team members determined they could make an immediate impact by focusing efforts on improving Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) “medication communication” scores by enhancing the anticoagulant therapy education for prescribers, staff, patients, and families that is mandated by the Joint Commission National Patient Safety Goal 03.05.01 - Element of Performance (EP) 71. HCAHPS is a standardized survey and data collection instrument for evaluating patient perspectives on hospital care. Medicare reimbursement is dependent upon institutional participation and scoring in the HCAHPS survey.

The team accomplished its goals by piloting a medication education program with a special focus on warfarin at the Regional Medical Center. The program focus on adult patients who were new to warfarin therapy after being admitted to the following specialty areas: medical/surgical, surgical stepdown, telemetry, neurological step down, and neurology–stroke. Patients excluded from the pilot program included those receiving warfarin prior to admission; patients located in maternity, mental health, or critical care units; and patients discharged to a long-term care facilities or hospice. A pharmacist managed the program with help from PGY1 pharmacy residents and pharmacy students.

Service Description

The warfarin education program operates Monday through Friday, excluding weekends and holidays. The managing pharmacist or his/her designee obtains a “Yesterday’s Coumadin Order” report that prints automatically at 10:35 am, seven days a week. The program manager or designee reconciles the current day’s report with the patient tracking flowsheet and the previous day’s report to remove any patients who have already been counseled or duplicate patients from the preceding day.

Prior to patient admission, the pharmacist or designee reviews the remaining patients’ medication profiles, intake medication reconciliation, and history and

physicals for warfarin therapy. If the patient has not taken warfarin prior to admission, he/she is highlighted for a visit by the pharmacy department. The report is then handed to a student or students assigned to the warfarin education program for that day. Students participating in the Internal Medicine APPE are given priority for patient counseling duties, followed by Hospital Practice APPE and IPPE students.

Postgraduate year one (PGY1) pharmacy residents, staff pharmacists, or the managing pharmacist provide backup for the program when students are not available. The students must make time within their schedules to review the patient’s medication profile, intake medication reconciliation, patient medical record, and discharge plan if available. If the patient and/or caregiver is agreeable to receiving education, the student provides verbal and written counseling utilizing the teach-back method. Following the patient encounter, the student documents the patient name, gender, age, location, medications counseled, medication indications, and any need for follow-up on a patient tracking flowsheet located in the main pharmacy. The student also charts any reasons why counseling could not be completed. The student debriefs the managing pharmacist or designee on the patient encounter prior to leaving for the day. The managing pharmacist or designee then documents the patient counseling session in the electronic medical record.

Key Elements for Position Success
1. Enthusiastic PGY1 pharmacy residents to coach and mentor the APPE students.
2. Motivated APPE students with experience in patient education who will train and model best practices for IPPE students.
3. Students who are prepared sufficiently to have independence as early in the rotation as possible.
4. Pharmacy preceptors who allow students to work independently.
5. A pharmacy school faculty member who acts as a student manager.

Resource Utilization
Personnel: While a program manager is desirable (which was accomplished with an established pharmacy faculty member), no additional personnel is needed.

IT and other infrastructure: Students are given a generic pharmacy username and password and can access patient information, the hospital intranet, and online drug information tools from any computer within the department and hospital. Orientation and computer training is held within the pharmacy department’s conference room to allow for consistent training for all students. Printers were available to students within the pharmacy department and throughout the hospital to print patient education materials on-demand. Patient tracking and data collection oversight was accomplished through the use of a password-protected and encrypted version of Microsoft Excel on the department’s share drive.

Supply Expense: None. A binder for student patient tracking and hand-off communication and paper for patient education materials was used from the general hospital supply.

Return on Investment: The pharmacy department was able to visit a larger number of inpatients and/or their caregivers. In doing so, documented patient encounters have improved and both “Medication Communication” and “Overall” patient satisfactions scores (HCAHPS) have increased by approximately 7% since program inception. Funding provided by the partner pharmacy schools for hosting their students can be used toward continuing education and other programming to further develop pharmacists in both their clinical and precepting skills.

Recognized Intangible Benefits
This program has extended the activity and geography of clinical pharmacy services without adding full-time equivalents (FTEs). Physician and nurse satisfaction with the pharmacy department has improved. Pharmacy's
presence in a larger portion of the institution builds rapport and develops relationships with other healthcare providers and leadership. After the program was implemented, we have received a greater number of solicited warfarin, injectable anticoagulant, and NOAC patient education consults. Patient encounters related to warfarin education often developed into larger education sessions on the patient’s entire inpatient and/or outpatient medication regimen. By providing IPPE and APPE students with real-life practical patient education experiences, they can continue to promote practice model changes in future experiential rotations or encourage other institutions to do the same. The students can provide guidance to the practice of utilizing students as pharmacist-extenders. Lastly, this program has boosted student interest in Capital Health as an experiential learning site. An increased number of APPE students have selected the hospital for more than one rotation during their fourth-professional year as they share the available opportunities with their peers.

Outcome Measures
1. “Medication Communication” and “Overall” HCAHPS scores,
2. Increased volume of documented warfarin (anticoagulant) patient education encounters (captured in the institution’s clinical computer system), and
3. The growth of IPPE and APPE student satisfaction as students gained greater independence.

Lessons Learned
1. It is vital to designate a pharmacist to manage patient education activities such as orientation and training. Ideally, this manager would be a school of pharmacy faculty member rather than a full-time staff pharmacist or expecting a clinical pharmacist to take on the additional responsibility.
2. A pharmacy resident and/or pharmacist backup to provide warfarin patient education is necessary when students are not available.
3. Daily warfarin patient lists need to be available and accessible to students and pharmacy staff.
4. Your team should plan for and accept formal and informal consults from physicians and nursing staff to provide warfarin patient education.
5. Your team should be open to providing counseling on injectable anticoagulants and new novel oral anticoagulants (NOACs) when consulted formally or informally.

Other Considerations
Students must be able to function independently. An assessment tool is invaluable to determining students’ readiness to interact with patients and caregivers following a short training session. APPE students who participate in sequential rotations at the institution gain sufficient knowledge and experience to model and coach IPPE students in providing warfarin education to patients and/or caregivers. Staff pharmacists and pharmacy residents can serve as co-managers, preceptors, and mentors for the students with appropriate coaching and direct patient counseling experience.

Suggestions for Other Hospitals/Health Systems
It’s important to partner with local or additional schools of pharmacy to ensure 12 months of consistent student coverage. Many schools do not provide rotations during the holiday months. Preceptors and pharmacy staff must work with students during orientation and training in order to have student buy-in. Methodical orientation helps to prepare students for patient care responsibilities, achieve student buy-in, and avoid negative outcomes. Be sure to educate students that rotation hours may change based upon patient volume. Preceptors and pharmacy staff must hold students
accountable for patient care regardless of the time of day. Access to the necessary patient information, hospital policies, and drug information tools will ensure consistent and accurate information as the students become representatives of the pharmacy department. Lastly, because fellow professionals who may be uninformed about the value of the APPE and IPPE experience may consider pharmacy students to be a burden, it’s critical to work with pharmacy and hospital staff to achieve buy-in. Departmental and interdepartmental collaboration improves patient care, interprofessional relations, and offers valuable interactions for students.

Helpful References