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Pharmacy student involvement in a transition of care program

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ABSTRACT

Background and purpose: Cape Fear Valley Medical Center (CFVMC) implemented a Community Paramedic Program (CPP) to improve the transition of hospitalized patients to the home setting. In this program, paramedics conduct home visits for 30 days after qualifying patients are discharged. This article describes pharmacy services provided to CPP patients by fourth-year pharmacy students on Advanced Pharmacy Practice Experiences (APPE) that assisted with home visits.

Educational activity and setting: Students were oriented to the CPP and patient interview technique was assessed through a role-play scenario. A standardized form was created to record drug-related problems (DRP) identified and patient education provided to patients. The primary outcome describes types of DRP identified and education provided. Secondary outcomes compare the types and average number of DRP per patient identified by students as compared to the standard of care (pharmacist review of medications electronically) and trends in patients readmitted within 30 days following discharge.

Findings: Eleven students visited 124 patients and recorded 145 DRP. Extra/continuation of medications stopped at discharge and issues related to medication safety were the most common DRP. The most frequent type of education provided was medication use related. On average, students provided one counseling session per patient.

Discussion and summary: Student involvement is an added benefit to the CPP by providing face to face education and re-assessment of medications at follow-up visits. This article summarizes a unique teaching platform utilizing students to extend care. Real world experiences in programs like the CPP provide students the opportunity to sharpen critical thinking and problem-solving skills necessary for maturing professionally.

Background and purpose

Ineffective transitions at hospital discharge contribute to poor patient outcomes and can negatively impact the quality and safety of patient care.[1] According to the Centers for Medicare and Medicaid Services, 20% of Medicare patients are readmitted to the hospital within 30 days because of medication errors that occur during patients' transitions between healthcare facilities and their homes.[2] In a study analyzing injuries that occurred after patients were discharged, 19–23% of patients experienced an adverse drug event within five weeks of discharge and roughly one-third of these events were avoidable.[3]

Transition of care (TOC) refers to the movement patients make between health care practitioners and settings as their condition

Abbreviations: CPP, community paramedic program; DRP, drug-related problems; TOC, transition of care; HF, heart failure; COPD, chronic obstructive pulmonary disease; PNA, pneumonia; APPE, advanced pharmacy practice experiences; eMR, electronic medical record; PCP, primary care provider

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and care needs change during the course of a chronic or acute illness.[4] Pharmacists can support the TOC of patients through an effective medication reconciliation process as they are distinctively trained in medication management.[5]

Additionally, they can provide education to patients and their caregivers. In the shared definition from the American Pharmacists Association and the American Society of Health-System Pharmacists, medication reconciliation is "the comprehensive evaluation of a patient's medication regimen anytime there is a change in therapy in an effort to avoid medication errors such as omissions, duplications, dosing errors, or drug interactions, as well as to observe compliance and adherence patterns."[6] Recent studies have also demonstrated that pharmacist involvement in medication reconciliation during the TOC process results in improved patient outcomes and an overall reduction in health care costs.[7–9]

Despite the evidence, pharmacy resources are limited at most facilities. This presents a barrier that requires a different approach to optimize the TOC medication reconciliation process. Several TOC models have utilized student pharmacists to provide pharmacy services and demonstrated an improvement in the overall care of patients.[10–12] Furthermore, involving students in TOC services is an innovative way to expand learning experiences.

Cape Fear Valley Medical Center (CFVMC) implemented a community paramedic program (CPP) in January 2015 to improve the transition of patients from the hospital to home setting and reduce 30-day readmissions. This program was provided by the hospital as a transitional service with no cost to patients. The CPP utilized specially trained paramedics to perform assessments, medication review, and care coordination at the patients' home. Specifically, community paramedics conducted initial and follow-up home visits for discharged patients diagnosed with chronic obstructive pulmonary disease (COPD), heart failure (HF), or pneumonia (PNA) and helped manage their care. In addition to communicating with the patients' primary care providers (PCP), paramedics also received support from pharmacists regarding patients' medications. This program also provided a unique opportunity for pharmacy students to directly interact with patients while on a variety of advanced pharmacy practice experiences (APPE) at CFVMC. Pharmacy students started accompanying paramedics in July 2015 and assisted with the medication review during the home visits. The purpose of this project was to identify the pharmacy services fourth-year student pharmacists provided to patients during home visits. For this study, "pharmacy services" was defined as conducting a medication reconciliation and/or providing patient education.

Educational activity and setting

This single-center, prospective, quality improvement project was submitted and evaluated as exempt by the local research review board. Fourth-year student pharmacists on a variety of APPEs participated with a convenience sample of patients enrolled in the CPP. Data collection from home visits began on November 1, 2015 and ended on March 31, 2016. Thirty-day readmission data was reviewed from December 1, 2015 to April 30, 2016.

Patient enrollment and practice description

Upon hospital admission, patients with chronic obstructive pulmonary disease (COPD), heart failure (HF), or pneumonia (PNA) who were considered high risk for readmission (as determined by risk stratification tools set by the hospital) were identified and visited by the CPP coordinator for optional program enrollment. Patients were seen by a community paramedic within 48 h after discharge for an initial home visit. Follow-up visits occurred as often as three times per week for 30 days. The frequency of home visits was determined by the paramedic based on the health status and needs of the patient. If the paramedic detected a change in the patient's status that would require more direct care, the PCP was contacted for further guidance. It is important to note paramedic home visits did not replace PCP appointments, but served as a bridge between PCP visits and discharge from the hospital. Paramedics ensured patients were still seen by their PCP through scheduled follow-up office appointments and coordinated appointments when needed.

Paramedics provided a full spectrum of services to patients ranging from performing in-home assessments to connecting patients with community resources for further assistance in the management of their care. Community paramedics also conducted a medication review. They reviewed the patient's discharge medication list, in addition to all of the medications in the patient's home and created a complete medication list. This list was kept and maintained in the patient's CPP paper chart by the paramedic. The CPP did not include a dedicated pharmacist, but a designated hospital pharmacist was available to help the paramedics with medication reconciliation. The paramedics would fax or email the completed medication list to the designated pharmacist who performed a comprehensive medication review. The hospital pharmacist was able to reference the patient's electronic medical record (eMR) for recent lab data, the admission medication reconciliation, and discharge instructions. When the pharmacist identified a drug-related problem (DRP), the paramedic, prescriber, PCP, or patient's pharmacy was contacted for clarification and resolution. All pharmacist interventions were documented in a secured electronic spreadsheet. Of note, only the medication lists collected from initial visits were reviewed by the pharmacist unless an updated list from a follow-up visit was sent for additional review. This was considered the standard of care for this project and used to compare pharmacy services provided by students during initial home visits.

Student involvement in the CPP

Student involvement in the CPP required organizing schedules between students, preceptors, paramedics, and the CPP coordinator. The APPE preceptors dedicated one to four days per week of the rotation for home visits. The CPP employed seven community paramedics who each conducted home visits for 8–12 patients and accommodated one to two pharmacy students per paramedic. Preceptors were responsible for their students' activities with the CPP.