Role of P4 students in an Inpatient Medication Education Program: An Advanced Pharmacy Practice Experience

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Objectives

• To describe the development of a unique APPE where pharmacy students provide medication education to high-risk patients in the hospital setting
• To recall the impact of first 8 students completing the APPE on the Medication Education Program at the University of Pittsburgh Medical Center
• To list the benefits of the Medication Education APPE to the student, the hospital and the school of pharmacy

Medication Education Program at UPMC

• Goal: Provide all patients with information about their medications throughout their hospitalization
• Nurses and respiratory therapists: provide medication information each time they administered a medication
• Pharmacists: provide education to patients at high risk for medication nonadherence or poor outcome
Pharmacist Component of the Medication Education Program at UPMC

- Patient Identification
  - Daily electronic list of patients meeting criteria
  - Manual triage and prioritization of patients
- Preparation for Medication Education
  - Chart review
- Patient Interaction
  - Health behavior change model
  - Patient-specific medication education

Pharmacist Component of the Medication Education Program at UPMC

- Medication Review/Problem Identification
- Documentation within Permanent Medical Record
  - Description of the education session
  - Assessment of patient’s medication knowledge and compliance
  - Recommendations to improve the patient’s medication regimen, if appropriate

Identification of Student Role

- Known barriers to a successful Medication Education Program:
  - Lack of pharmacist time to conduct a thorough chart review
  - Inadequate pharmacy staffing and inability to immediately hire additional pharmacists

- Options for maintaining the Medication Education Program were contemplated, including offering an experience to pharmacy students

Inpatient Medication Education
Advanced Pharmacy Practice Experience

• Offered to one student for each of the twelve 4-week rotation blocks during the 2007-2008 academic year

• Effectively increasing the personnel devoted to the Medication Education Program by one over 48 weeks per year

• Hospital’s education-trained pharmacists train and oversee the students

APPE Design

• Week 1
  – Orientation to hospital and to Medication Education Program procedures
  – Brief course on Health Behavior Change model
  – By the 4th day, the majority of students are competent to independently triage and work up the patients who require pharmacist education
  – By the sixth day, the majority of students are confident enough to lead the patient education session

APPE Design

• Weeks 2-4
  – Student independently obtains patient list, triages the patients, and begins patient assessment
  – Student presents patients to pharmacist and highlights specific points to be discussed
  – Pharmacist accompanies student into each patient’s room for the education session
  – Student prepares a handwritten progress note that is co-signed by pharmacist
  – Pharmacist provides informal verbal feedback to the student following each patient encounter
APPE Design

- Weeks 2-4 (continued)
  - Students are required to prepare two formal presentations
  - Students meet with one of the pharmacists each week to review a medication or disease topic

Assessment of the Impact of the Students on the Medication Education Program

Students typically triaged 6 to 10 patients and counseled 2 to 5 patients per day


Medication management recommendations made by students

- Add a medication (medication reconciliation)
- Optimize the dose of a current medication
- Add a medication (untreated indication)
- Change a current medication to a more appropriate medication
- Discontinue a medication without an indication
- Change the route of a current medication

74% of these recommendations were accepted by the healthcare team.

Student Evaluation of the Inpatient Medication Education APPE

| I was a contributing member of the patient care team. | 4.5 |
| The educational experience was stimulating and valuable. | 5 |
| Overall practice site experience. | 5 |
| As a result of this rotation, I can more effectively: | |
| Develop and use an effective patient database. | 5 |
| Communicate verbally and persuasively to positively impact a patient’s care. | 4.5 |
| Communicate via writing to positively impact a patient’s care. | 5 |
| Critique my own learning and skills to improve problem solving and self-directed learning. | 4.5 |

**Benefits of the Inpatient Medication Education APPE**

- Opportunity for **Students**
  - Provide and improve patient care
  - Feel a sense of responsibility and accountability for the provision of direct patient care
- Additional manpower for **Hospital Pharmacy** to provide medication education
- APPE site for the **School of Pharmacy**
  - Sees value of its students
  - Is available across all rotation blocks
  - Provides a quality, direct patient care experience

**Summary: Inpatient Medication Education APPE**

- Model for other schools of pharmacy designing rotations that meet ACPE standards
  - Students refine clinical judgment through the patient triage process and prioritization of education points
  - Students assume significant personal responsibility for the content and quality of the patient education provided
  - Students demonstrate professional behavior, attitudes, and values in interactions with patients, caregivers, and other health care providers, and enhance professional confidence
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