Continuous Quality Improvement to Implement Novel Introductory Pharmacy Practice Experiences at an Academic Medical Center

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BACKGROUND

The Accreditation Council for Pharmacy Education (ACPE) requires no less than 300 introductory pharmacy practice experiences (IPPEs) hours before pharmacy students begin advanced pharmacy practice experiences (APPEs). A minimum of 150 of these hours should be balanced between community and institutional settings. IPPEs must expose students to common practice models involving team-based patient centered care. Currently, variability exists amongst schools in how these hours are structured, and a best practice standard has not been developed. UCSF Medical Center and UCSF School of Pharmacy have a close partnership, and the medical center serves as a practical educational center for many of the pharmacy students for both IPPE and APPE activities.

OBJECTIVES

The purpose is to describe a continuous quality improvement structure utilized to implement, assess, and improve a novel introductory pharmacy practice experience (IPPE) summer program at a tertiary, academic, multi-campus, hospital system with over 100 pharmacist FTEs.

METHODS

• 91 student pharmacists immediately following the second year of the didactic curriculum participated in two week, 80 hour blocks at UCSFMC from June to September 2015.
• 15 different pathways that provided either hospital operations overview or service-based direct patient care activities were developed.
• Rotation pathways were created in 10 service areas, including the Infusion Centers, the central pharmacies in the Intensive Care Unit, Ortho-surgery, Oncology, Cardiology, General Medicine, Infectious Disease, Pediatrics, and Neurosurgery.
• Prior to the start of the rotation, an electronic survey tool was used to assess 1) the best pathway for each student based on experience and interest 2) preceptor availability and willingness.
• In a 4 to 8 item post-rotational survey, a scoring system of 1 (strongly disagree) to 5 (strongly agree) was utilized to assess perceived value by students and preceptors. The electronic survey tool was adjusted for blocks 3-7 based on student feedback during the first two blocks.
• The impact or value-add of the student pharmacists as pharmacist extenders and as contributors to the UCSFMC was documented through student projects collected through the electronic survey.

RESULTS

• A total of 11 to 15 students were assigned each block across the UCSFMC Health System. Rotation blocks were service-based direct patient care, operational, or a combination of clinical and operations (hybird) in 10 service areas.
• Overall preceptor survey response rate was approximately 40% while overall student survey response rate was approximately 70%.
• Post-rotation preceptor surveys indicated a perceived high value of working with IPPE students regardless of rotation, with a continued score greater than 4 (N=30).
• Students maintained a high perceived value of the service based pathways with a score > 4 across all survey blocks. Students assigned operational pathways had an average initial perceived value of 2.2 (Figure 1).
• Continuous quality assessments and improvements were implemented in the operations rotation to improve perceived student value, including the following:
  a) Diversifying the operations and project experience
  b) Implementation of a self-directed checklist
  c) Service based pharmacists shadowing opportunities
• Quality improvement processes were focused in low perceived value areas. Assessment continued and changes were implemented each block until students in all pathways had a perceived value of 4.5 or greater (Figure 2).
• Student projects highlights (Table 1) included medication use evaluations, pharmacoeconomic projects, research data collection, and operations based projects.
• Flyers were distributed to all Medical Center and School of Pharmacy pharmacists to highlight student projects and accomplishments, and to encourage continued participation in the IPPE program.

RESULTS (cont.)

Table 1: IPPE Student Project Highlights

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Financial Impact</th>
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<tbody>
<tr>
<td>Levothyroxine IV MUE with $70,000 cost savings recommendations</td>
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<tr>
<td>IV to PO interchange expansion recommendations with cost analysis [ $196,000 annual cost savings]</td>
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</tr>
<tr>
<td>IV chlorothiazide restriction guideline [ $50,000 cost savings]</td>
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<td>Chemotherapy dose rounding [ $100,000]</td>
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<tr>
<td>NSAIDs use and AKI incidence in critically ill patients</td>
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<tr>
<td>Assembled 500 OR trays [320 hours]</td>
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<tr>
<td>PGY1 &amp; PGY2 residency project data collection</td>
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<td>Continuous infusion neuromuscular blockade medication use evaluation</td>
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<td>Quetiapine for ICU delirium continuation in transitions of care</td>
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<tr>
<td>Update critical care infusion guideline</td>
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Figure 1: IPPE Student Project Value Results (blocks 3 to 7)

Figure 2: IPPE Student Experience Value Results (blocks 2 to 7)

Figure 3: IPPE Summary Flyer

IMPLICATIONS

ACPE requires pharmacy students to complete IPPE hours; however, there is no standard guidance for structuring individual activities. A method to implement, assess, and improve new IPPE rotations over a 14 week period is described. Student perception of the value of all pathways increased with implemented changes. Preceptors believed that students provided value to UCSFMC.

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