

## Standardizing and improving the education of pharmacy students in a large health system

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Student pharmacists can make important contributions to patient care in hospitals and health systems.<sup>1</sup> In broad terms, student pharmacists include both introductory pharmacy practice experience (IPPE) and advanced pharmacy practice experience (APPE) students and paid pharmacy interns. They can all serve as pharmacist extenders when appropriately trained and oriented. The purpose of this report is to describe a staff-led “system pharmacy education team” (SPET) that focuses on optimizing the use of student pharmacists as patient care extenders to ensure the best medication-related outcomes possible.

**Who we are.** Saint Luke’s Health System (SLHS) is a faith-based, not-for-profit health system including 18 hospitals and campuses across the Kansas City region. Our flagship hospital, Saint Luke’s Hospital (SLH) has a level 1 trauma center, level 3 neonatal intensive care unit, and stroke and STEMI (ST-segment elevation myocardial infarction) centers. In addition to acute care hospitals, the system also offers home health, hospice care, and behavioral health services and has a skilled nursing facility and nursing home and dozens of affiliated physician offices. The organization takes a system approach to the delivery of pharmacy services, with the goal of standardizing whenever possible. We operate on a common information technology platform, employ a decentralized distribution model managed by our certified pharmacy technicians, and employ an integrated, patient-centered practice model, with our pharmacists accepting both distributive and clinical responsibilities for their patients.<sup>2</sup> We also have community pharmacies that fill prescriptions for both health-system employees and “meds-to-bed” patients in our academic medical center and our other 3 acute care facilities.

**What we did.** SLH, our tertiary care teaching hospital, began training pharmacy students on rotation from 2 local, public schools of pharmacy in 1988. Since then the teaching program has expanded to include IPPE and APPE students in our 3 acute care hospitals, 2 critical

access hospitals, 4 outpatient oncology clinics, 4 community pharmacies, internal medicine and abdominal transplant clinics, and our home health pharmacy. Other pharmacy trainees include 6 postgraduate year 1 (PGY1) pharmacy residents; 2 postgraduate year 2 (PGY2) pharmacy residents in health system pharmacy administration and critical care, respectively; and employed pharmacy interns in each of the 4 acute care hospitals. Given the cadre of trainees, we have developed a layered learning practice model (LLPM) to ensure all learners are practicing or contributing at the top of their training.<sup>2-4</sup>

Initially, each individual hospital in our health system took responsibility for scheduling and managing their student rotations independently. In 2009, the system pharmacy leadership decided to consolidate and standardize our approach to the management of pharmacy students through the creation of a staff-led SPET. This group consisted of clinical staff pharmacists from each of the hospitals, who were at that time responsible for managing the pharmacy student schedules and activities, and 2 pharmacy clinical coordinators. With time, the roles and responsibilities of the SPET members were expanded to include centralized student orientation and training, system scheduling, coordination of projects, and ongoing preceptor development activities. Representation on the SPET increased as our rotation offerings were expanded beyond the traditional inpatient setting to include our outpatient community pharmacies, outpatient oncology clinics and ambulatory care areas.

**How we did it.** SPET meetings are 2 hours long and are held monthly, with conference call and in-person meetings on alternate months. Two frontline clinical staff pharmacists cochair the group and meet 1 week prior to the full SPET meeting to set the agenda. Other members include 2 clinical coordinators and 6 frontline clinical staff pharmacists from each of our 4 acute care sites and 1 each from community pharmacy, ambulatory care, and

oncology settings. The SPET pharmacists are volunteers who are selected by managers through an interview process. Standard agenda items include coordination of orientation and training sessions, student scheduling, assignment of research projects, recruitment of students, billing of schools for precepting services, student satisfaction surveys, preceptor development, and discussion of any student behavioral issues. SPET members are then responsible for any follow-up work, which may include preparation of minutes or other documents, creating student schedules, managing student projects, and updating the teaching program's website. Management support and allocation of time for SPET members to do this work is essential. Several of these activities deserve special mention.

*Website development.* In 2018, SPET developed a website for our teaching programs ([www.saintlukeskc.org/saint-lukes-pharmacy-rotation-students](http://www.saintlukeskc.org/saint-lukes-pharmacy-rotation-students)). Similar to the website for our pharmacy residency programs, this website enables interested students to learn about the rotations we offer throughout our health system. The website also enables prospective students to research our preceptors, our program for block scheduling (ie, for completion of 2 or more rotations within SLHS), longitudinal APPE rotations (ie, for completion of 5 or more rotations within SLHS), the orientation itinerary, and relevant training materials. Students who are scheduled for rotations with us are able to forward all prerotation paperwork through the website, which has made our onboarding process more efficient.

*Preceptor development.* We encourage preceptor development through bimonthly informational and motivational emails known as "preceptor pearls" as well as required preceptor development activities. The system leadership charged the SPET with the task of encouraging our preceptors to participate in ongoing preceptor development; consequently, our pharmacists are now required to submit proof of completion of at least 1 preceptor development activity to their manager annually. Suggested activities meeting this goal are

attending a preceptor boot camp or preceptor development program, completing preceptor-specific continuing education, serving as a primary preceptor for a student or resident project, hosting a book club on communication skills, or submitting a preceptor pearl.

*Student survey.* A satisfaction survey is sent to students at the end of every rotation.

The results are collated and shared with the SPET and then used to improve the holistic student experience, including the orientation and training process. Feedback from both students and schools has been uniformly positive, with 96.4% of respondents reporting that rotations within SLHS met their educational needs during the 2019-2020 academic year. “Kudos” are then sent to recognize those preceptors mentioned by name in the survey; kudos are an important part of a preceptor’s record and used by his or her manager during the merit review process.

**Why we did it.** Increased demand for rotation sites corresponded with the expansion in numbers of US schools of pharmacy. However, with the recent closure of some schools of pharmacy and/or decreasing class sizes, students have more options for rotation sites than ever before. We have increased our recruiting efforts with local schools as well as with schools with which we do not have affiliation agreements. In addition to hosting students from local schools of pharmacy, we have expanded to affiliate with more than 8 other public and private schools of pharmacy. Rotations lengths vary from 4 to 6 weeks according to school of pharmacy requirements. SLH hosts 6 to 8 APPE students per month, while our acute care hospitals host 1 or 2 each. Since 2015, we have increased our APPE offerings by more than 60 rotation months and IPPE participation by more than 30 students. In the 2019-2020 academic year, SLHS hosted 37 IPPE students and 118 months of APPE rotations. SLHS continues to evolve to address the competition for rotation sites in addition to

improving and standardizing our students' experiences and contributions to the care of our patients. The SPET efficiently coordinates the demands of hosting trainees from multiple schools of pharmacy with varying rotation lengths, start dates, and evaluation platforms.

Our vision is to deploy pharmacy students as pharmacist extenders to expand patient care. In doing so, we have made students indispensable to our practice sites.<sup>3</sup> The experience students have within an organization, whether positive or negative, may have a profound impact on the organization's reputation in the pharmacy community; this in turn may impact an organization's ability to recruit new talent when seeking candidates for residency and staff positions. A significant reason for forming the SPET was to ensure all pharmacy students in our health system were offered consistent, positive experiences. Our system's approach to block scheduling has allowed us to offer a wider variety of rotations while simultaneously decreasing the number of times we need to offer orientation and training. In addition, proper orientation and training allow students the opportunity to "hit the ground running" in their patient care activities. Less time spent in training means more opportunities for patient care, broadening of one's knowledge base and clinical skills, participation in compelling and complex research projects, and building rapport with patients and with pharmacists and other healthcare providers. This process results in a more meaningful student experience.<sup>5</sup>

One SPET foundational principle is our belief that students should be sent for training to any location at which pharmacists are routinely schedule to work. A successful teaching program should be a reflection of an organization's practice model. Students should, to the extent that their training and competence allow, be engaged in the same patient care activities as pharmacists and residents.<sup>3</sup> This tenet has served as the guiding principle for the LLPM.<sup>4</sup> Implementing this model has required standardization of rotation

descriptions and activities, and roles and responsibilities must be clearly defined for each layer of learner.<sup>1</sup> Defining and holding students, residents, and attending pharmacists responsible for their patient care assignments is critical to achieve buy-in from all involved. Students prefer active engagement in patient care activities rather than passive observation of pharmacists or didactic lectures tangentially related to the practice site. In an integrated practice model such as ours, students may encounter challenges related to their interaction with multiple preceptors in the course of a single rotation.<sup>6</sup> Pharmacists working with students on rotation at practice sites have an obligation to provide students direction and support.<sup>7</sup> Details regarding exceptional student performance or opportunities for improvement are shared with the students and then forwarded to their primary preceptor. Some students may view having multiple preceptors as a negative. It is incumbent upon the organization's integrated model to emphasize the advantages and opportunities related to different practice styles.<sup>2</sup> To aid communication between preceptors, we developed a "Practice Site Responsibilities" document that outlines preceptor responsibilities. Our "Student Passport" document details learning opportunities within SLHS, including topics such as application of collaborative drug therapy management agreements, medications requiring patient education, and pharmacy consults. When a student participates in one of these activities, a pharmacist, resident, or paid intern initials the passport document, which can be shared with subsequent preceptors.

Another important function of the SPET is to coordinate projects. Providing students the opportunity to work on meaningful and important projects liberates pharmacist time, improves care quality and medication safety, and decreases costs. Coordination of these projects is easier said than done. The SPET collects and organizes student projects and recruits project mentors. Because of our block scheduling, we can assign and complete

more complex ventures. Projects during the block may be done by individual students or by a team of students working under the supervision of the same preceptor. Staff members and pharmacy managers submit project ideas to a research database, where those ideas are vetted on the basis of feasibility, complexity, and fiscal impact. Identifying projects, moving through institutional review board review (or exemption), developing data sources, analyzing data and preparing manuscripts all require considerable time and energy. The SPET dedicates time at each meeting to shepherd these projects through these processes. The result is that students get to do important work for our health system that can be used to enhance their residency credentials.

**Closing notes.** The formation of a staff-led SPET has allowed SLHS to increase the number of student rotations, offer and facilitate completion of high-quality student projects, enhance preceptor development, fully embrace the LLPM, and support resident recruiting opportunities. SLHS pharmacists have been precepting pharmacy students for over 30 years, and we continually strive to improve and build upon our program. We spend focused time creating and editing the student schedule to accommodate as many students as possible annually. Our block scheduling allows students more time for quality research projects and helps our department advance strategic initiatives. And, last but most importantly, our student program allows us to improve the quality and quantity of patient care our team can provide.



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