Getting SET for Student Success: Foundations for a Student Education Team

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ABSTRACT

Background: Family medicine clinical education poses logistic issues that we sought to address with the Student Education Team model.

Methods: The model combined team-based, patient-centered care with student experiences in a sustainable precepting model. Four learners successfully underwent precepting simultaneously. Schedulers booked patients in the team schedule, and the patients knew they would see a student and a faculty team member.

Results: The Student Education Team model increased the learner to preceptor ratio compared to traditional precepting models. Use of the team increased the number of learners completing rotations. The team schedule nearly eliminated patients refusing student involvement and enhanced throughput because patients saw the most readily available staff.

Discussion: The team offered clinicians and learners a model for incorporating learning into clinicians' schedules.

BACKGROUND

Current clinical education models pose many logistic issues, including preceptor-learner pairing, patient scheduling and acceptance of learners, and preceptor recruitment and retention. The current apprenticeship-preceptor model presents difficulties in finding clinicians willing to assume the role of precepting; in limiting the clinician-preceptors' access to patients; and in contending with limited physical space, time constraints, limited administrative support, and lack of compensation for teaching.[1,2] With an increasing need for clinical rotations for medical, nurse practitioner (NP), and physician assistant (PA) students, the demand for these educational opportunities is increasing faster than the apprenticeship model alone can sustain.[3] To address these challenges in a more efficient, sustainable, and cost-effective manner, a Student Education Team (SET) model was created within a community-based family medicine practice. In this report, we share key tenets of the SET model and preliminary data demonstrating that it is a sustainable approach to team-based family medicine education, and we recommend that other community-based practices consider this model.

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METHODS

The SET model includes a team of physicians, NPs, and PAs who teach up to 4 medical, NP, and PA student learners at a time (Figure). Within the model, an innovative schedule template was created. Patients are scheduled in waves of 2 patients per appointment slot to the SET team rather than to specific clinicians. The model was implemented at a physician-led major group practice by adapting multiple tools and resources[4,5] to address practical challenges in educating medical learners in team-based, patient-centered care.

To provide opportunities for students to learn and practice team-based care, foundational principles of the SET include hands-on clinical experience, interdisciplinary learning, and consistent teaching methods. In this model, students receive profes-

sional socialization in their chosen field through preceptors matching the student's future role while collaborating with family medicine clinicians in complementary roles. The SET clinic is located within a larger family medicine clinical department. Students, preceptors, and support staff are located together in the work area to enhance teamwork and facilitate learning opportunities. Students on the team provide front-line patient care, participate in quality initiatives, and attend meetings. All clinicians on the SET share teaching responsibilities for students, enhancing the ability to recruit preceptors.

Administrative support is leveraged to manage schedules and create shared electronic health record (EHR) templates for students and preceptors, such as the use of wave scheduling.[5] This scheduling template allows students to see patients before staffing with a preceptor, allows time for mentoring, and maintains clinical productivity for clinicians.

To ensure a patient-centered transition to the SET model, the practice sent letters to all patients in the SET clinicians' panels describing the practice change. On an ongoing basis, the scheduling teams used scripts to set expectations and explained that patients would see both a student and a supervising faculty member.

Two available clinicians were designated as student preceptors for the day, and other clinicians from the team maintained their own clinic schedules. The SET preceptors split their time equally between student supervision and their own practices. Students spent equivalent time with each preceptor, regardless of the students' training disciplines.

Figure. The Student Education Team (SET) Model

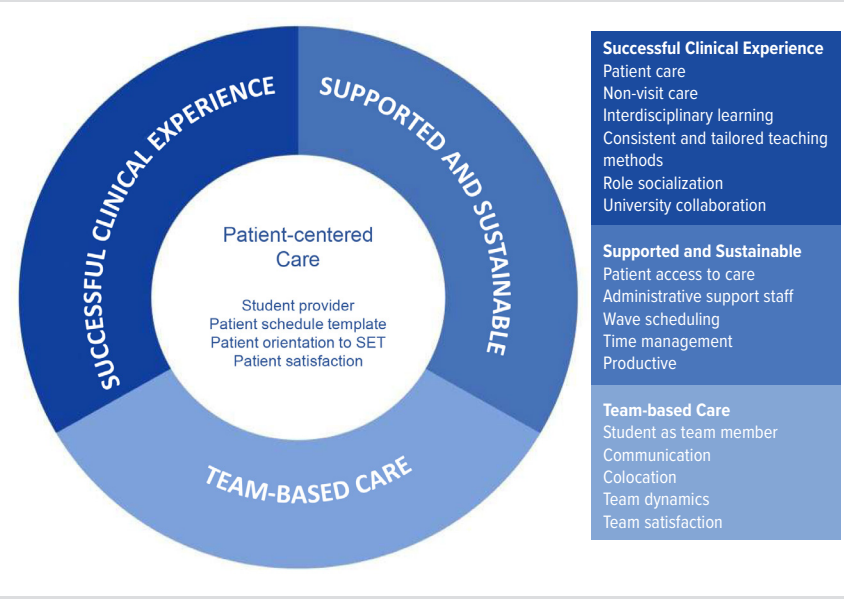

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Table. Student Capacity in the Student Education Team (SET) Model

Students' Academic Discipline	No. of Days Per Week	Avg No. of Weeks	SET Annual Capacity
Medical	5	4-6	8-12
Nurse Pracitioner	2-3	16	14
Physician Assistant	5	4-6	8-12

RESULTS

Team Structure

The SET model began with 4 clinicians (1 family physician, 1 NP, and 2 PAs; a combined 2.9 full-time equivalents [FTE]); 4 rooming staff (3.2 FTEs); and 1 registered nurse in a triage role. Departmental leaders selected team members who had experience in both clinical practice and precepting or new employees who were interested in teaching. The 4 clinicians were chosen because they were the only clinicians in the department who were precepting at least 1 NP, PA, or medical student per year.

Teaching Capacity

Medical and PA learners working in the SET spent 4 to 6 consecutive weeks in a rotation. NP students typically spent the equivalent of 2 to 3 days per week each semester in direct clinical education in the SET while they continued their didactic curriculum and worked as registered nurses. Each day, the SET could accommodate up to 4 learners, and it hosted 33 learners per year since its inception in 2018 (Table). Before the SET was implemented, the 4 clinicians precepted 4 to 6 students per year (1-2 learners per clinician per year).

SET Workflow

Students on the SET followed a shared daily schedule for patient care, including huddles to review the patient schedule and goals for the day, didactic and interactive teaching time, and time for supervised nonvisit care (reviewing and communicating diagnostic test results, managing medication refill requests, and replying to patient questions). During each visit, the student saw the patient in the examination room, reviewed relevant findings and the care plan with an available preceptor, and closed the visit in the examination room with the patient and preceptor.

Although all clinicians on the team mentored all students, each student was assigned a primary preceptor whose training discipline matched the student's. The primary preceptor guided the learner's overall clinical experience and met regularly with the student to discuss goals, address challenges, and provide men-

toring. Primary preceptors completed student evaluations that reflected feedback from the entire team. Feedback was obtained through informal discussions between preceptors on the team.

Learners placed in the SET were placed on the basis of current affiliation agreements with the NP, PA, and medical programs. Because learners were from multiple educational programs and were in different stages in their didactic and clinical education, preceptors huddled with the learners to review the patient schedule and make recommendations for whom the students should see according to their experience. Preceptors also used direct observation of the students to provide them with additional feedback.

The SET clinical space included 8 examination rooms, 1 nurse-team station with dedicated workstations for students, and 2 private offices for the use of any team member. Administrative staff scheduled student rotations with the SET, managed preceptor schedules, and managed EHR templates. Preceptors provided direct supervision and were responsible for each clinic visit, in accordance with Medicare, US Drug Enforcement Administration, and state licensure regulations.

General Outcomes

Metrics for success and sustainability of the SET model in a community-based practice included improved access to care, patient satisfaction with student involvement in patient care, and maintenance of adequate clinical productivity metrics. Obtaining metrics for the team has been a challenge owing to the small sample size and variability related to external factors, including temporary suspension of precepting due to the COVID-19 pandemic. The SET was an asset to the department because the shared student schedule template increased same-day access to care, while maintaining levels of clinical productivity for the preceptors. Five appointment slots daily are designated "same-day appointments" to enhance access.

Because patients are aware of student involvement at the time of scheduling their appointment, there has been essentially no refusal of participation at the time of the appointment, which is a barrier to traditional apprenticeship models. In 2021, patient fill rates for the SET schedule averaged 95%, the new/unique patient rate for the schedule was 10%, and the no-show rate was less than 10% for the SET.

The SET also has increased the number of learners at the family medicine site from 3 to 5 per year to more than 30 learners per year. The number of physician preceptors at the site also increased from 1 in 2018 to 5 in 2022. With the exception of involvement in positions that further the individual's career, no team members (clinicians or support staff) have stopped precepting or working with the team since the model was adopted. Additionally, the success of the SET resulted in variations of the model being implemented in the obstetrics and gynecology and pediatrics departments.

DISCUSSION

The SET model was created to address barriers to educating and mentoring medical learners. The model accomplished this goal through development of an innovative scheduling template and the use of hands-on team-based learning while it involved various mentors with different credentials. Although the SET has shown initial positive effects in patient access and continued clinician productivity, future research is needed to assess patient satisfaction, student outcomes, and preceptor outcomes.

An advantage of the SET model for patient care is that the team-based approach to scheduling management allows patients to shift between schedules to improve patient flow and student access to learning experiences while maintaining continuity with the team. The SET clinicians who are not scheduled to precept may assist when needed and bring interesting learning opportunities to the team from their own clinic schedule.

Additional research is underway to assess how the SET affects common barriers to precepting and to identify factors that contribute to the ongoing success of the team. We recommend that other community-based practices consider this model.

Funding/Support: None declared.

Financial Disclosures: None declared.

Ethical Approval: Not applicable.

Previous Presentations: STFM Conference on Medical Student Education, Portland, Oregon; January 30-February 2, 2020.

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