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Developing a Practical and Sustainable Faculty Development Program With a Focus on Teaching Quality Improvement and Patient Safety: An Alliance for Independent Academic Medical Centers National Initiative III Project

Christopher Rodrigue, MD,* Leonardo Seoane, MD, FACP,†‡ Rajiv B. Gala, MD,*‡ Janice Piazza, MSN, MBA,§ Ronald G. Amedee MD‡¶

**Department of Obstetrics and Gynecology,*
†Department of Pulmonary/Critical Care,
§Academic Division,
¶Department of Otolaryngology, Head and Neck Surgery, Ochsner Clinic Foundation, and
‡The University of Queensland School of Medicine, Ochsner Clinical School, New Orleans, LA

ABSTRACT

Background: Teaching the next generation of physicians requires more than traditional teaching models. The Accreditation Council for Graduate Medical Education's Next Accreditation System places considerable emphasis on developing a learning environment that fosters resident education in quality improvement and patient safety. The goal of this project was to develop a comprehensive and sustainable faculty development program with a focus on teaching quality improvement and patient safety.

Methods: A multidisciplinary team representing all stakeholders in graduate medical education developed a validated survey to assess faculty and house officer baseline perceptions of their experience with faculty development opportunities, quality improvement tools and training, and resident participation in quality improvement and patient safety programs at our institution. We then developed a curriculum to address these 3 areas.

Results: Our pilot survey revealed a need for a comprehensive program to teach faculty and residents the art of teaching. Two other areas of need are (1) regular resident participation in quality improvement and patient safety efforts and (2) effective tools for developing skills and habits to analyze practices using quality improvement methods.

Resident and faculty pairs in 17 Ochsner training programs developed and began quality improvement projects while completing the first learning module. Resident and faculty teams also have been working on the patient safety modules and incorporating aspects of patient safety into their individual work environments.

Conclusion: Our team's goal is to develop a sustainable and manageable faculty development program that includes modules addressing quality improvement and patient safety in accordance with Accreditation Council for Graduate Medical Education accreditation requirements.

Address correspondence to
Leonardo Seoane, MD, FACP
Section of Palliative Care
Department of Pulmonary/Critical Care
Ochsner Clinic Foundation
1514 Jefferson Hwy.
New Orleans, LA 70121
Tel: (504) 842-3925
Fax: (504) 837-0191
Email: lseoane@ochsner.org

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INTRODUCTION

The task of educating the next generation of physicians requires more than general medical and specialty-specific content. The Next Accreditation System (NAS) from the Accreditation Council for Graduate Medical Education (ACGME) emphasizes the responsibility of the teaching institution to develop an environment that focuses on quality improvement and patient safety.[1] The NAS clearly identifies the need for residents to be educated about how to provide quality, evidence-based care.

Clinical medical educators face many challenges in teaching the next generation of physicians. The time constraints of modern medical practice combined with a focus on efficiency add a layer of complexity to the task of training residents and medical students. These constraints are not new; as Hueppchen and colleagues[2] noted, time and productivity have limited the clinical teaching efforts of faculty members as far back as the Flexner report in 1910.

Tool kits and skill sets exist that can complement physicians' skills and experience to help them become better clinical educators and advocates for quality improvement and patient safety within their own institutions. These tools range in scope from 1-minute faculty programs and single-day courses for faculty education to comprehensive faculty development programs lasting 6 months or longer.[3-5] Although a large review of general faculty development programs found problems with methodology, it did reveal effectiveness.[6] The literature supports the development of comprehensive faculty development plans to introduce faculty and residents to quality improvement in medical practice.[7,8]

The Alliance for Independent Academic Medical Centers' (AIAMC) National Initiative III charges teams to build sustainable quality improvement programs by focusing on faculty development that successfully meets the ACGME's new program requirements in the areas of professionalism, personal responsibility, and patient safety through the education of program directors, key faculty, and residents in a train-the-trainer approach.

METHODS

For this AIAMC National Initiative III project, a multidisciplinary team representing all levels of stakeholders in graduate medical education at our institution formed to create a program that met the AIAMC charge. Members included the ACGME Designated Institutional Official (Amedee), Vice President of Education (Piazza), Associate Program Director of Internal Medicine and Deputy Head of Ochsner Clinical School for Curriculum (Seoane), Program Director of Obstetrics and Gynecology (Gala), and Obstetrics and Gynecology resident (Rodrigue).

The first step was to develop survey tools to assess faculty's and house officers' baseline perceptions of the effectiveness of current teaching, faculty development, accessibility of quality improvement tools, and engagement in quality improvement/patient safety initiatives (Table 1). To ensure that we used the most validated survey questions available, we used questions from the 2010-2011 ACGME surveys of faculty and residents. Our questions were identical to those distributed and validated nationally by the ACGME. We also asked questions related to levels of familiarity with teaching, coaching, and mentoring. These questions came from an AIAMC distribution to all National Initiative III participants. The questions used a standard Likert scale, and our group first reviewed them to ensure clear interpretation. We distributed the surveys during a lunch session designed to introduce faculty and staff to the project aims.

With the ACGME program requirements and the survey results in mind, we then developed a structured faculty development program that incorporated online modules, teamwork, and the principles of adult learning to achieve the following goals:

- Improve understanding of patient safety and quality improvement.
- Ensure compliance with ACGME program rules.
- Develop physician leaders in quality improvement and patient safety.
- Align medical education with institutional priorities.
- Improve student/house officer evaluations of faculty.
- Provide a tool kit for clinical educators to enhance their practice.

We developed a comprehensive faculty development program that consists of 5 learning modules—Quality Improvement, Patient Safety, Introduction to Clinical Teaching, Teaching With Patients, and Learning Activities—to be completed over 6 months (Table 2). The Quality Improvement module has a 2-month completion timeline, while all other modules take 1 month. We built in a generous completion timeline for the course series to give busy clinical educators and house staff some flexibility when they worked on the course requirements.

The Quality Improvement and Patient Safety modules are from the Institute for Healthcare Improvement Open School for Health Professions. The Clinical Teaching, Teaching With Patients, and Learning Activities modules were developed for the Ochsner Clinic School through a partnership with The University of Queensland's Office of Learning and Teaching.

Each module consists of 3 phases. In phase 1, participants complete online learning modules, in phase 2 they incorporate what they have learned into daily practice, and in phase 3 they join small group debriefings to report and reflect on what they have learned.

Teamwork is an essential part of modern healthcare, and this generation of residents is more comfortable with collaboration than its predecessors.[9] Our program promotes teamwork by pairing each participating faculty member with a fellow or resident in training. This dyad completes all modules together. Furthermore, debriefing sessions for the Quality Improvement and Patient Safety modules include

Table 1. Faculty/Resident Survey[a]

1. How often do you participate in group educational activities such as morning report, grand rounds, journal clubs, case conferences, or other similarly structured presentations?
a. Daily
b. Weekly
c. Monthly
d. Every few months
e. Once or twice per year
f. Never

2. Thinking about the faculty and staff in your program overall, how interested are they in your residency education?
a. Extremely interested
b. Very interested
c. Somewhat interested
d. Slightly interested
e. Not at all interested

3. Thinking about the faculty and staff in your program overall, how effective are they in creating an environment of scholarship and inquiry?
a. Extremely effective
b. Very effective
c. Somewhat effective
d. Slightly effective
e. Not at all effective

4. How often have you received guidance on "How to become an effective teacher/educator"?
a. Daily
b. Weekly
c. Monthly
d. Every few months
e. Once or twice per year
f. Never

5. How sufficient is the instruction you received from the faculty or institution/academic division to adequately supervise residents?
a. Extremely
b. Very
c. Somewhat/sometimes
d. A little/rarely
e. Not at all/never

6. Thinking about your program overall, how effective are they at providing tools to help develop skills and habits to systematically analyze practice using quality improvement methods and implement changes with the goal of practice improvement?
a. Extremely effective
b. Very effective
c. Somewhat effective
d. Slightly effective
e. Not at all effective

Table 1. Continued

7. How often do residents participate in departmental or institutional quality improvement and/or patient safety programs?
a. Monthly
b. Every other month
c. Quarterly
d. Semiannually
e. Annually
f. Never
g. I don't know

8. Please indicate your level of familiarity with teaching/coaching/mentoring:

	Not applicable	Not at all familiar	Somewhat familiar/ can do	Very familiar/ can teach
Applying the best professional knowledge				
Using best practices to transfer knowledge				
Identifying best practices and comparing these to your practice/skills				

[a]The only difference in the 2 surveys is in the wording of question 5. In the resident survey, the question is phrased "How sufficient is the instruction you receive from faculty and staff in your program?"

members of the institution's Performance Improvement department to promote interdisciplinary cooperation.

The study design received an exemption from the Ochsner Clinic Foundation Institutional Review Board because it is an educational quality improvement project.

RESULTS

A total of 100 surveys were distributed—50 to faculty and 50 to house staff—with 42 faculty and 38 residents or fellows completing the surveys (response rates of 84% and 76%, respectively). The pilot survey revealed that both faculty and residents perceived a deficiency in regular instruction on how to become effective teachers and educators: 80% of faculty and 64% of residents reported receiving instruction on how to become an effective teacher/educator only every few months or less often (Figure 1). Nineteen percent of residents reported never receiving such instruction.

Table 2. Modules in the Ochsner AIAMC National Initiative III Faculty Development Program

Quality Improvement Module (8 weeks)
- Phase 1: Complete online (IHI) modules; select a QI project (1 week)
- Phase 2: Complete at least 1 PDSA cycle (6 weeks)
- Phase 3: Prepare report and present at small group debriefing session (1 week)

Patient Safety Module (4 weeks)
- Phase 1: Complete IHI online module on patient safety (1 week)
- Phase 2: Incorporate at least one aspect into your clinical practice (3 weeks)
- Phase 3: Participate in the debriefing session (1 day)

Introduction to Clinical Teaching Module (4 weeks)
- Phase 1: Complete the UQ/OCS-developed online modules (1 week)
  - Principles of adult learning
  - Teaching styles and role of clinical teacher
  - Preparation
  - Developing the learning environment
  - Identifying clinical teaching and learning activities
  - Provide a suitable orientation
  - Consider your schedule
- Phase 2: Incorporate at least 1 component into your practice (3 weeks)
- Phase 3: Participate in the debriefing session

Teaching With Patients Module (4 weeks)
- Phase 1: Complete UQ/OCS-developed online module (1 week)
  - Practical strategies for inpatient and outpatient bedside teaching
- Phase 2: Incorporate at least 1 component into your practice (3 weeks)
- Phase 3: Participate in the debriefing session

Learning Activities Module (4 weeks)
- Phase 1: Complete UQ/OCS-developed online modules (1 week)
  - Self-directed learning activities
    - Reflection and peer learning
    - Small group teaching
    - Important characteristics of small group learning
    - Tools to be an effective facilitator for small group learning
    - Evaluation
    - Students' learning program
    - Teacher effectiveness
- Phase 2: Incorporate at least 1 component into your practice (3 weeks)
- Phase 3: Participate in the debriefing session

AIAMC, Alliance for Independent Academic Medical Centers; IHI, Institute for Healthcare Improvement; PDSA, plan-do-study-act; QI, quality improvement; UQ/OCS, University of Queensland/Ochsner Clinical School.

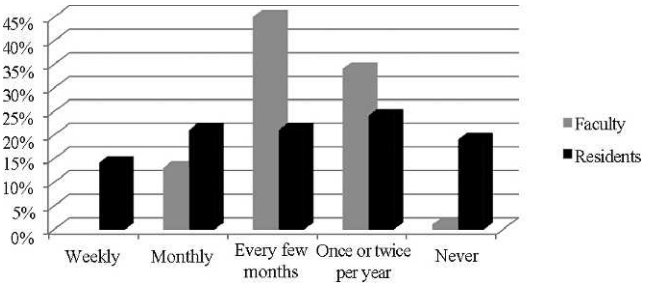

Figure 1. Frequency of teaching or guidance on becoming an effective teacher/educator.

Respondents also perceived deficiencies in the availability of quality improvement tools and resident participation in quality improvement and patient safety programs. Forty percent of faculty and 49% of residents reported that their programs provide only somewhat effective tools for developing skills and habits to analyze their practices using quality improvement methods (Figure 2). Thirty-two percent of faculty reported monthly resident participation in departmental or institutional quality improvement or patient safety programs, but an equal number reported not knowing the extent of resident involvement (Figure 3). Similarly, 30% of residents reported not knowing the extent of resident involvement in such programs.

The first cycle of participants began the education program in March 2012. Program directors or a designee from 17 major medical training programs and a resident from each program (for a total of 34 participants) are participating in the first round of the program that concludes in December 2012.

Participants in the program have initiated a number of quality improvement projects (Table 3) that address significant issues in the participants' respective fields and in the general medical community. A number of projects focus on creating more efficient processes to increase patient satisfaction and safety. For example, the gastroenterology participants designed a program to ensure provider compliance with national safety standards. The obstetrics and gynecology participants detailed a specific plan-do-

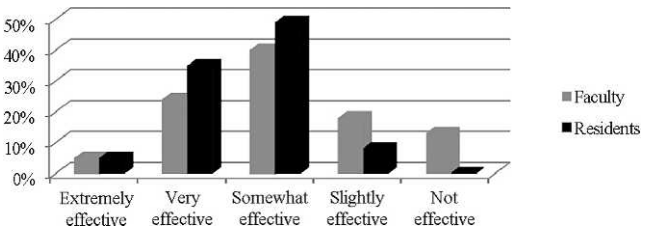

Figure 2. Effectiveness of residency/fellowship in providing tools to develop skills and habits to systematically analyze practice using quality improvement methods and implement changes with the goal of practice improvement.

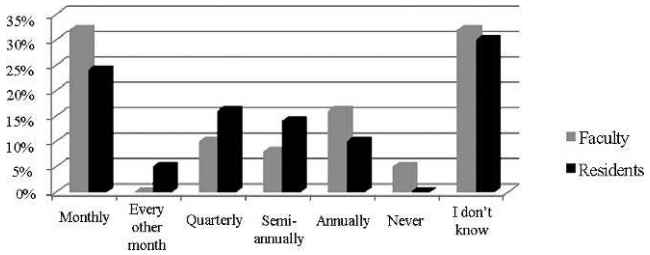

Figure 3. Reported frequency of resident participation in departmental or institutional quality improvement and/or patient safety programs.

study-act cycle in a time period that allowed reporting of results and continued improvement.

Following the participants' completion of the 5 learning modules, we will survey them, as well as the full medical center faculty and resident population, to determine if the course has improved program participants' knowledge about teaching and residents' participation in quality improvement and patient safety efforts.

DISCUSSION

As our pilot survey indicates, a need exists at our institution for training faculty and residents in the art of teaching. In our project, the 3 internally developed teaching and learning modules directly address this area of need by offering a manageable faculty development program.

Quality improvement and patient safety are still areas of need for the majority of our faculty and house staff, as 32% of faculty and 29% percent of residents report resident participation in institutional quality improvement and patient safety on a less than quarterly basis. We believe that knowledge of and experience in quality improvement projects will be increasingly important as evident by the emphasis NAS has placed on quality improvement.[1] Our ultimate goal is for each participant in our educational

Table 3. Quality Improvement Projects From Ochsner Residency/Fellowship Programs

Program	Aim Statement
Pediatrics	Decrease time to notification of new admits to pediatric unit and transmission of orders
Orthopedics	Decrease OR and PACU hold times through improved early discharge planning in total joint replacement patients
Anesthesia	Decrease the time for epidural as reported by nurses
CV Anesthesia	Decrease anesthesia drug cost by 20% in adult cardiac surgery cases
OB/GYN	Reduce wait times for patients evaluated in OB triage by 25% or more by August 1, 2012
Psychiatry	Standardize screening for abnormal involuntary movements in patients being treated with antipsychotic medications in the adult inpatient psychiatry unit by use of AIMS scale (50% by 4 weeks)
GI	Achieve compliance with national standards for adenoma detection rates utilizing withdrawal photos during screening colonoscopy
ENT	Decrease LOS in patients with free flap procedures through early initiation of discharge planning
General Surgery	Improve outcomes through restructure of call schedules and handoffs
Cardiology/Interventional Cardiology	Decrease fluoroscopy exposure times to align with national benchmark of 5 minutes
Infectious Disease	Improve BMD scores in HIV population through implementation of best practice in calcium/vitamin D and monitoring protocols
Radiology	Improve quality of interpretations in evening and night studies
Ophthalmology/Endocrinology	Increase number of diabetic type I and II patients screened in internal medicine for diabetic retinopathy using the nonmydriatic camera by 20%
Hem/Onc	More effectively incorporate palliative care/end-of-life resources in discharge planning
Pulmonary Critical Care	Improve the quality of and satisfaction with communication in the transfer of care from the MICU to general medicine units

AIMS, Abnormal Involuntary Movement Scale; BMD, bone mineral density; CV, cardiovascular; ENT, ear, nose, and throat; GI, gastroenterology; Hem/Onc, hematology/oncology; HIV, human immunodeficiency virus; LOS, length of stay; MICU, medical intensive care unit; OB/GYN, obstetrics and gynecology; OR, operating room; PACU, postanesthesia care unit.

program to have a working knowledge of quality improvement and patient safety by the completion of our project. Furthermore, after future completion of the final 3 learning modules, we anticipate that faculty will strengthen their clinical teaching and residents will be better prepared to serve as effective teachers for medical students and fellow residents.

In coordination with the Performance Improvement department at Ochsner, we aim to assist programs in sustaining their quality and safety projects. The Academic Division will assist in further data collection and evaluation of ongoing results. Additionally, we are developing a database to track improvement results among all ongoing and past projects undertaken at Ochsner. We hope the initial projects started in the first round of our faculty development program will spur additional projects from other members within the Ochsner system, and we aim to demonstrate increased participation in follow-up surveys of faculty and staff.

CONCLUSIONS

Charged by the AIAMC's mission to develop a sustainable faculty development program, we created a program that focused on quality improvement, patient safety, and clinical teaching. A survey of the faculty and residents of Ochsner Clinic Foundation confirmed the need for such a program within our institution. Faculty and resident pairs have begun our program and have participated in multiple performance improvement projects. We aim to demonstrate generalized participation and awareness of quality improvement and patient safety within our institution in future surveys. We also aim to sustain this program with future faculty/resident pairs and help establish a culture of quality improvement and patient safety within our graduate medical education programs.

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Epitoma

By July 2013, the Accreditation Council for Graduate Medical Education will have implemented the Next Accreditation System (NAS) for 6 of the core specialties, with a key element of the NAS being teaching quality improvement and patient safety. The sponsoring institution will be held accountable for the quality and safety of the environment for learning and patient care. The Alliance of Independent Academic Medical Centers (AIAMC), through its National Initiative, promotes the use of a train-the-trainer approach and the incorporation of graduate medical education to improve the teaching of quality improvement and patient safety. The authors of the current study have developed and implemented a practical curriculum using the expertise of the Institute for Healthcare Improvement online school to meet the NAS requirements and improve the knowledge of quality improvement and patient safety among faculty and house officers. The curriculum is innovative in its emphasis on teamwork between faculty and residents and the use of previously developed expert online modules to allow the teams to work at their own pace and schedule.

—Guest Editor Leonardo Seoane, MD

This article meets the Accreditation Council for Graduate Medical Education and the American Board of Medical Specialties Maintenance of Certification competencies for Patient Care, Medical Knowledge, Systems-Based Practice, and Practice-Based Learning and Improvement.