OBSERVATIONS

Quality Improvement and Patient Safety Milestones for the Continuum of Physician Development

Having "proficient" teaching faculty has been identified as a cornerstone of resident education in quality improvement and patient safety (QI/PS),[1–3] yet a practical definition of "QI/PS proficiency" is lacking.

A working group of experts on faculty development and QI/PS at the San Antonio Uniformed Services Health Education Consortium (SAUSHEC) completed "Quality Improvement and Patient Safety Milestones for the Continuum of Physician Development" to address these deficiencies. We designed our instrument with 2 primary objectives:

1. **To answer the question, "What does *proficient* in QI/PS look like?"** Clinical Learning Environment Review (CLER) site visitors are likely to ask the teaching faculty, "Are you proficient in the application and principles of QI/PS?" How can the faculty answer that question with any degree of accuracy until there is a plain definition of what it means to be "proficient"?
2. **To identify QI/PS competencies and Milestones for the spectrum of physician development** from beginning medical student to senior faculty scholar. We need competencies and readily understood Milestones that define QI/PS aptitude for each stage to establish a roadmap to becoming proficient.

To create the QI/PS Milestones we selected Accreditation Council for Graduate Medical Education (ACGME) competencies[4] that translated into observable "QI/PS Competencies." This establishes the domains in which teaching faculty's "QI/PS proficiency" (or trainees' developmental progress) should be measured. The ACGME competencies and their corresponding QI/PS Competencies integral to a thorough assessment of QI/PS aptitude are shown in the BOX.

For each QI/PS Competency, we determined the knowledge, skills, and behaviors that best describe each stage of physician development, from "Novice" (ie, beginning medical student) to "Master/Scholar" (ie, senior faculty scholar), using the Dreyfus & Dreyfus framework.[5] Our goal was to create observable and easily understood QI/PS Milestones, and to illuminate the pathway to proficiency. The resulting instrument is provided as online supplemental material.

Advantages of our instrument include that it (1) clearly defines QI/PS proficiency, providing direction to institutional faculty development efforts and helping teaching faculty assess themselves accurately, and (2) offers observable and achievable QI/PS targets for each stage of physician development, facilitating early awareness and cultivation of these competencies.

There are numerous applications for this instrument with faculty and trainees. At SAUSHEC, we use it to conduct QI/PS self-assessments for multiple physician groups and specialties throughout the institution. We created an anonymous survey (provided as online supplemental material) by removing the developmental stage labels (ie, Novice) from the

BOX **ACGME Competencies and Their Corresponding QI/PS Competencies**

Obtain biomedical, clinical, social-behavioral, and epidemiological knowledge *(Medical Knowledge)*
- **Pursue continuing education in QI/PS**

Incorporate formative evaluative feedback into daily practice *(Practice-Based Learning & Improvement [PBLI])*
- **Utilize performance data to improve patient care**

Systemically analyze practice and implement changes to improve practice *(PBLI)*
- **Participate effectively in QI/PS projects**

Appraise and use scientific evidence *(PBLI)*
- **Evaluate evidence-based medicine and apply it to patient care**

Identify strengths, deficiencies, and limits in one's knowledge and expertise *(PBLI)*
- **Participate effectively in morbidity and mortality conferences**

Communicate effectively with physicians & other professionals/agencies *(Interpersonal and Communication Skills)*
- **Ensure safe and effective transitions in patient care**

Incorporate cost awareness and risk/benefit analysis *(Systems-Based Practice [SBP])*
- **Perform cost-saving and risk/benefit analyses as part of patient care plans**

Work in interprofessional teams to enhance quality and safety *(SBP)*
- **Lead or support QI/PS committees and/or teams**

Participate in identifying system errors *(SBP)*
- **Identify system errors to improve patient care**

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QI/PS Milestone instrument and rearranging the order of Milestones within each QI/PS Competency. We did this to encourage survey takers to carefully read each Milestone and assess themselves accurately within each QI/PS Competency, rather than hastily select all of the Milestones in a particular column (ie, "Competent"). Our unique instrument has numerous applications for QI/PS self-assessment and developmental stage-specific curriculum design. Three such projects are currently underway at SAUSHEC. "Chief Resident for QI/PS" in our internal medicine program recently administered this survey to 90+ residents as a pretest prior to exposing residents to a QI/PS curriculum, and will compare results to a postsurvey at the end of the academic year. Aims include validating the curriculum and identifying areas where it needs improvement.

The SAUSHEC Faculty Development Committee Chair uses the survey in her annual course for faculty new to the institution. New faculty will be resurveyed at the end of the academic year to assess improvements in their QI/PS skills. The results will be used to guide and/or refine our faculty QI/PS curriculum efforts.

Several SAUSHEC residency programs are surveying residents before and after implementation of their program-specific QI/PS curricula. The resulting data will be used to identify "best practices" that can be applied across the institution and help other programs develop and/or improve their QI/PS curricula.

We are confident that it will help other institutions identify appropriate developmental opportunities within QI/PS for their teaching faculty, residents, and/or medical students.

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