

The Clinical Learning Environment Review as a Model for Impactful Self-directed Quality Control Initiatives in Clinical Practice

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PRACTICE POINTS

- The Clinical Learning Environment Review mobilizes residency and fellowship training programs in the movement to improve the quality of patient care.
- Quality assessment/quality improvement (QA/QI) projects enhance communication between residents and faculty and promote systems that improve patient safety.
- Emphasis on resident-initiated QA/QI impacts quality of care in clinical practice long after graduation.

The Clinical Learning Environment Review (CLER) program was designed to assess the learning environment in residencies and fellowships accredited by the Accreditation Council for Graduate Medical Education (ACGME). The program's focus is preventing harm to patients. This effort was purposely separated from the residency survey process so that training programs would be open to identifying and preventing errors without fear of jeopardizing their accreditation status. In our dermatology residency program, we established a

resident-centered project for quality assessment/quality improvement (QA/QI). We identified areas of potential patient harm, designed methods to quantifiably assess the problems, and developed focused and cost-effective initiatives to improve patient safety. A new initiative was presented at each monthly faculty meeting. This project jump-started QA/QI efforts in our department and has improved patient safety. Our QA/QI project also has enhanced resident/faculty communication and provided trainees with experience in designing QA/QI efforts. It could serve as a model for postresidency efforts to prevent patient harm.

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As part of its Next Accreditation System, the Accreditation Council for Graduate Medical Education (ACGME) has introduced the Clinical Learning Environment Review (CLER) program, designed to assess the learning environment of institutions that have ACGME residency and fellowship programs.¹ The CLER program emphasizes the responsibility of these hospitals, multispecialty groups, and other organizations to focus on quality

and safety in the health care environment of resident learning and patient care. The expectation is that emphasis on quality of care in a residency training program will influence these physicians' approach to quality of care after graduation.^{2,3} The Department of Dermatology at the University of Mississippi Medical Center (UMMC)(Jackson, Mississippi) saw CLER as an opportunity to demonstrate leadership in the patient safety movement.

CLER Program at UMMC

As a model CLER program at our institution, our project at the outset concentrated resident efforts on the focus areas specified by the ACGME (Table 1). We also were aware that our ACGME committee would need to answer questions during CLER site visits (Table 2). Because the data generated would not be used for accreditation decisions, there was no concern that exposing errors would jeopardize our postgraduate training certification.

The first 15 minutes of monthly faculty meetings were devoted to the presentation of a resident project, called a QA/QI (quality assurance/quality improvement) moment, that addressed ACGME focus areas 1, 2, 3, or 6 (Table 1). (Transitions in care [focus area 4] and work hours and fatigue [focus area 5] generally are less important issues in a predominantly outpatient specialty such as dermatology.) The residents were encouraged to identify areas where patient harm could occur due to poorly designed systems and to report situations in which patients actually were harmed.

Each project had to be approved by the department chairperson based on the following 4 requirements: First, the initiative must have the potential to notably impact patient safety and reduce harm. Second, residents with faculty support had to design methods to assess the identified problem. Third, participants had to design (to the best of their abilities) cost-effective and achievable interventions in a manner that would not produce unintended consequences. Fourth, residents were asked to devise a system to close the loop, ensuring that the effort put into the process was not wasted.

Findings From the CLER Program

The CLER program generates data on program and institutional attributes that have a salutatory effect on quality and safety, specifically involving 6 focus areas highlighted in Table 1. Putting residents at the center of efforts to improve the quality of care in our department proved critical to improving patient safety.

Involving residents in a series of QA/QI initiatives was logical because they rotate with faculty

Table 1.

CLER Program Focus Areas

1. Integration of residents and fellows into patient safety initiatives, and demonstration of initiatives' impact
2. Integration of residents and fellows into quality improvement initiatives, and demonstration of initiatives' impact
3. Supervision of initiatives by residents
4. Transitions in care
5. Duty hours policy, fatigue management, and mitigation
6. Professionalism, including honest and accurate reporting of information, scientific integrity, and issues of mistreatment

Abbreviation: CLER, Clinical Learning Environment Review.

Table 2.

Questions for CLER Site Visits

1. What is the institutional infrastructure to address the 6 focus areas?
2. How integrated are the institution's ACGME leadership and faculty within the current clinical learning environment structure to address the 6 focus areas?
3. How engaged are the residents and fellows in using the institution's current clinical learning environment infrastructure?
4. How does the institution determine the success of its efforts to integrate ACGME into the quality infrastructure?
5. What areas has the institution identified as opportunities for improvement?

Abbreviations: CLER, Clinical Learning Environment Review; ACGME, Accreditation Council for Graduate Medical Education.

members. They also are in a position to view inconsistencies and to work to establish consistent patterns of patient care. In addition, our busy faculty members are charged with a variety of other clinical, educational, and administrative duties

Table 3.

Ideas Implemented From CLER Project^a

Topic	Concept	Corrective Initiative/ Implementation	Closing the Loop to Ensure Change
Antifungal drug interactions	Antifungal drugs have complex interactions with many other drugs that can lead to higher or lower levels of either agent or both; remembering all such interactions is difficult	We placed a laminated checklist of known antifungal drug-drug interactions in the top drawer of every clinic-room desk in all 3 clinics ⁴	Every 3 months for a year, we sent email reminders to our physicians to use the checklist
MTX test dose	MTX toxicity can occur, especially in those who are sensitive to the drug; to detect MTX sensitivity before prescribing, guidelines suggest giving a test dose with baseline laboratory results and repeating laboratory tests 1 week later	For all faculty and residents, we put an MTX test-dose reminder into their “favorites” of our EHR for easy access ⁵⁻⁷	Every 3 months for a year, we sent email reminders to our physicians
EHR warnings	Physicians begin to ignore EHR warnings when false alarms account for >50% of total warnings ⁸⁻¹² ; our study showed 92% false warnings	To eliminate “warning fatigue,” the UMMC EHR committee agreed to eliminate the top 20 false warnings identified by our study	A repeat study is planned to determine if the percentage of false warnings has decreased
Suggestion boxes	One study showed that nurses and residents are sometimes intimidated to make suggestions regarding patient safety ¹³	We placed patient safety suggestion boxes at all nurses’ stations to encourage input while protecting anonymity	Anonymous suggestions were reviewed at monthly faculty meetings
Mohs referrals	Mohs surgeons often see referred patients whose prior biopsy location cannot be determined; it is time consuming and cumbersome for referring physicians to enter images into the EHR	We installed a commercially available app on faculty, resident, and nurse smartphones at no charge to allow seamless HIPAA-compliant transfer of photographs without saving the image on the smartphone	A UMMC Mohs surgeon is tracking internal Mohs referrals to assess the net effect on images attached to referral notes

Table 3. (continued)

Topic	Concept	Corrective Initiative/ Implementation	Closing the Loop to Ensure Change
Hand hygiene	A resident-initiated study showed that only 62% of faculty washed hands/ used alcohol-based rub when entering patients' rooms; a culture accepting this behavior had become part of our "hidden curriculum" ¹⁴	Hospital data were presented to faculty and nurses (adequate outpatient data were not available) who agreed to improve hand hygiene; a nonverbal cue (knock on the table) was used to notify team members seen entering a room without cleaning hands ¹⁴	A study is planned to determine if hand hygiene on entering patients' rooms has improved
Verbal time-out when labeling specimen bottles	A common error detected in our pathology laboratory was a mismatch between a specimen's anatomic location as labeled on the specimen bottle and as indicated on the EHR requisition	A nonverbal time-out (knock on the table) was used if a procedure was started before locating the site and comparing the requisition and bottle locations; the time-out was included in the operative report ^{15,16}	A notification and investigation will occur each time a specimen bottle label does not match the requisition label

Abbreviations: CLER, Clinical Learning Environment Review; MTX, methotrexate; EHR, electronic health record; UMMC, University of Mississippi Medical Center; HIPAA, Health Insurance Portability and Accountability Act; QA, quality assessment; QI, quality improvement.

^aTopics reviewed during the QA/QI moment at the UMMC during the initial 6 months of the CLER project.

complicated by requirements in the design of a new residency training program. Faculty and residents working together were able to find problem areas in our department and devise solutions to improve those problems.

The CLER program involved a series of steps. Residents were charged with identifying errors (QA) and then devising a system to prevent similar errors from being repeated (QI)(Table 3). Efforts focused on preventing needless harm in our department. Initiatives developed by residents, who are closest to patients, have advantages over safety programs developed by the hospital's administration. Residents became passionate about error prevention when they determined that their efforts could make a difference to patients.

Forward Thinking for Dermatology Practices

Perhaps there are lessons here that could apply to safety promotion in the practicing dermatologist's office. The American Board of Dermatology, within

the framework established by the American Board of Medical Specialties, requires physicians seeking recertification to participate in preapproved practice assessment QI exercises twice every 10 years.¹⁷ Six programs sponsored by the American Academy of Dermatology have now been approved in the areas of melanoma, biopsy follow-up measure, psoriasis, chronic urticaria, venous insufficiency, and laser- and light-based therapy for rejuvenation.¹⁸ An additional program has been approved for dermatopathologists through the American Society of Dermatopathology.¹⁹ None of these programs match the topics chosen by our residents in consultation with faculty to meet safety gaps identified in clinics at UMMC. Perhaps the next generation of performance improvement continuing medical education programs could include a pilot program for part 4 of Maintenance of Certification credit that is nonpunitive, patient focused, and allows dermatologists to design specific error-prevention solutions tailored to their individual practice in the same way residency programs are taking up this task.

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