

# Clinical Learning Environment Review (CLER)



## CLER Pathways to Excellence

Expectations for an optimal clinical  
learning environment to achieve safe  
and high quality patient care

Accreditation Council for Graduate Medical Education

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## CLER PATHWAYS TO EXCELLENCE:

### **Expectations for an optimal clinical learning environment to achieve safe and high quality patient care**

In the late 1990s, the Institute of Medicine conducted a multi-year project to examine the quality of health care in the US.<sup>1</sup> The result of that effort was a series of reports that highlighted serious patient safety concerns, variability in the quality of care, and continuing health care disparities. More than 10 years after the release of those reports, there has been little evidence to suggest any dramatic improvement in the nation's health care.

The physician workforce is one of the key levers to improving health care. A survey of hospital leaders conducted by the American Hospital Association (AHA) found that newly trained physicians were deficient in the areas of communication, use of systems-based practices, and interprofessional teamwork, and highlighted the need to educate US physicians, residents, and fellows to address quality improvement.<sup>2</sup>

There are over 117,000 resident and fellow physicians in US teaching hospitals and medical centers. These individuals work on the front line of care. In this role they need to be prepared to recognize patient safety events and intervene when appropriate, champion performance improvement efforts, and work effectively in inter-professional teams on systems-based issues such as transitions in patient care. This next generation of physicians needs the skills to be able to lead changes in our nation's health care organizations, both large and small.

The Accreditation Council for Graduate Medical Education (ACGME) recognizes the public's need for a physician workforce capable of meeting the requirements of a rapidly evolving health care environment. Efforts to address those needs began in the late 1990s when the ACGME, collaborating with the American Board of Medical Specialties, established six core competencies and designed and implemented a framework for attaining the skills needed for the modern practice of medicine. This framework drives both the educational curriculum and evaluation of outcomes for residents and fellows. As a subsequent step in the evolution of graduate medical education, the ACGME implemented the Next Accreditation System (NAS). The NAS emphasizes outcomes of resident and fellow learning, assessed through a set of performance measures, including Milestones, which indicate the individual's progress toward independent practice. Examples of these measures include: clinical experience as evidenced by Case Logs, Milestones, scholarly activity, and pass rates for specialty certification.

### ***The CLER Program***

The Clinical Learning Environment Review (CLER) program is a component of the NAS.<sup>3</sup> As such, it is designed to provide US teaching hospitals, medical centers, health systems, and other clinical settings affiliated with ACGME-accredited institutions with periodic feedback that addresses the following six areas: patient safety; health care quality; care transitions; supervision; duty hours and fatigue management and mitigation; and professionalism.<sup>4</sup> The feedback provided by the CLER program is designed to encourage clinical sites to improve engagement of resident and fellow physicians in learning to provide safe, high quality patient care.

## CLER PATHWAYS TO EXCELLENCE continued

To accomplish this, the ACGME conducts CLER site visits to the hospitals, medical centers, and other clinical settings of accredited institutions that sponsor residency and fellowship programs.<sup>5</sup> During these visits, the CLER field representatives meet with the executive leadership of the organizations (e.g., Chief Executive Officer, Chief Medical Officer, Chief Nursing Officer), the organization's leaders in patient safety, health care quality and informatics, leaders of graduate medical education (GME), and groups of residents and fellows, faculty members, and program directors. Additionally, the CLER team visits various patient floors, units, and service areas to gather input from the broader range of clinical staff members as to how the organization functions as a learning environment.

At the conclusion of each visit, the CLER team meets with the organization's executive leadership to share their observations of resident and fellow engagement in the six focus areas. It is through this feedback that the ACGME seeks to both improve physician education and improve the quality of patient care within these organizations.

While the CLER site visit program is part of the NAS, it is separate and distinct from nearly all accreditation activities. There are two essential elements that connect CLER with the rest of the accreditation process: 1) each sponsoring institution is required to periodically undergo a CLER visit (currently targeted to occur every 18-24 months); and 2) the Chief Executive Officer and the leader of GME (specifically the Designated Institution Official [DIO]) for the clinical site must attend both the opening and closing sessions of the CLER visit.

The CLER visit is built on a model of continuous quality improvement. Its purpose is to evaluate, encourage, and promote improvements to the clinical learning environment. The CLER program provides the sites with three types of formative feedback: 1) an oral report at the end of the site visit; 2) a written narrative report summarizing the site visitor's observations; and, in the future, 3) a report that will provide national aggregated and de-identified data displayed along a continuum of progress toward achieving optimal resident and fellow engagement in the six focus areas.

The individual CLER site visit reports will be kept confidential. Aggregated, de-identified CLER program data will be shared publically and used to inform future US residency and fellowship accreditation policies, procedures, and requirements.

To further the aim of the CLER program, the ACGME has developed the *CLER Pathways to Excellence* as a tool to promote discussions and actions that will optimize the clinical learning environment. The CLER pathways are designed as expectations rather than requirements. It is anticipated that by setting these expectations, clinical sites that provide education will strive to meet or exceed them in their efforts to provide the best care to patients, and produce the highest quality physician workforce.

## CLER PATHWAYS TO EXCELLENCE continued

### *Developing the CLER Pathways to Excellence*

The *CLER Pathways to Excellence* was developed by the ACGME's CLER Evaluation Committee, a group that provides oversight and guidance on all aspects of CLER program development. The CLER Evaluation Committee members represent a broad range of perspectives. Members were selected based on their national and international expertise in areas of patient safety, health care quality, fatigue mitigation, hospital administration, GME, and patient advocacy. The development of the *CLER Pathways to Excellence* was informed by the expertise of the committee members, selected published literature, input from the CLER field staff based on over a hundred site visits, as well as input from several focus groups of DIOs and chief medical officers from GME teaching institutions across the country.

In keeping with the CLER program's foundation of continuous quality improvement, the *CLER Pathways to Excellence* will evolve over time based on what is learned from the data generated by the CLER site visits, as well as from continued input from GME leadership, the executive leadership of ACGME-accredited teaching hospitals and other clinical sites, and the community.

### *Using the CLER Pathways' Framework*

The following description outlines the basic framework for the *CLER Pathways to Excellence*. Central to the document are a series of pathways for each of the six focus areas. These paths are believed to be essential to creating an optimal clinical learning environment. In turn, each pathway has a series of key properties that can be assessed from low to high along a continuum of resident, fellow, and faculty member engagement within the learning environment.



For example, the focus area of “Patient Safety” has seven defined pathways. The first of these pathways is:

***PS Pathway 1: Reporting of adverse events, close calls (near misses)***

*Reporting is an important mechanism to identify patient safety vulnerabilities. A robust reporting system is essential for the success of any patient safety program.*

Five properties are attached to this pathway. The first of these properties is:

*Residents, fellows, faculty members, and other clinical staff members (nurses, pharmacists, etc.) know how to report patient safety events at the clinical site.*

In total, there are six focus areas, 34 pathways, and 89 properties. As noted below, not all of the pathways and properties will be assessed on every CLER visit.

Since the CLER assessments are based not only on what is taught, but what is actually practiced at the bedside, progress within any of the pathways can only be achieved through the joint efforts of the GME leadership and executive and clinical leadership at the clinical site. The feedback from the CLER program will assist institutions in prioritizing and acting on opportunities to improve the clinical learning environment for resident and fellow physicians.

## CLER PATHWAYS TO EXCELLENCE continued

The *CLER Pathways to Excellence* highlights the importance of three distinct groups of professionals in the education of our future physician workforce: faculty members, nurses, and executive leadership. Since faculty members serve an important mentoring role, many of the pathways highlight ways in which faculty members can model optimal behavior in addressing the CLER focus areas. Many of the pathways also stress the importance of inter-professional teams--in particular nurse-physician collaborations--in addressing the six focus areas. Finally, the majority of the pathways and their properties cannot be achieved without a close partnership between the GME leadership and the highest level of executive leadership at the clinical site. The clinical environment must exemplify in everyday practice the various properties that constitute the six focus areas.

Ultimately, the *CLER Pathways to Excellence* provides a framework for clinical sites to use in their continuing efforts to prepare physicians to deliver consistently safe, high quality patient care.

### ***Using the CLER Pathways as an Assessment Tool***

It is recognized that there are more elements, both in scope and number of pathways and properties, than can be assessed in any single CLER visit. Therefore, while most pathways and properties will be assessed on the site visits, some will not. It is hoped that all of the items will provide valuable guidance, regardless of whether they are formally assessed.

Over time, the ACGME will explore ways to use aggregated information from the CLER program to advance medical education and patient care in the clinical sites in which physician education occurs.

The CLER Evaluation Committee will periodically review the cumulative data from the CLER site visits, along with emerging research in the six focus areas, and use the information to reassess the pathways, revise them as needed, and make recommendations, as appropriate, regarding potential changes to GME accreditation standards.

### *Achieving Success*

The CLER Evaluation Committee, and ultimately the ACGME Board of Directors, will continually monitor the progress of the CLER program. Success associated with the *CLER Pathways to Excellence* will be assessed by tracking aggregated data over time, and mapping the forward progress along each pathway toward the goal of achieving optimal engagement.

The ACGME anticipates that this new framework for evaluating the clinical learning environment will lead to enhanced interest, experimentation, and innovation in this important aspect of GME. The *CLER Pathways to Excellence* is intended to accelerate national conversations among educators, health care leadership, policy makers, and patient advocates as to the importance of continually assessing and improving the environments in which the US physician workforce is educated, as well as the role of graduate medical education in promoting safe, high quality patient care.

<sup>1</sup><http://iom.edu/Activities/Quality/QualityHealthCareAmerica.aspx>

<sup>2</sup> Combes JR, Arespachochaga E. American Hospital Association Physician Leadership Forum. Lifelong Learning: Physician Competency Development. Chicago, IL: American Hospital Association; June 2012. <http://www.ahaphysicianforum.org/files/pdf/physician-competency-development.pdf>. Accessed February 9, 2013

<sup>3</sup> Nasca TJ, Philibert I, Brigham T, Flynn TC. The next GME accreditation system—rationale and benefits. *N Engl J Med*. 2012;366(11):1051–1056.

<sup>4</sup> Weiss KB, Bagian JP, Nasca TJ. The Clinical Learning Environment: The Foundation of Graduate Medical Education. *JAMA*. 2013;309:1687-1688.

<sup>5</sup> Weiss KB, Wagner R, Nasca TJ. Development, testing, and implementation of the ACGME Clinical Learning Environment Review (CLER) program. *J Grad Med Educ*. 2012;4:396-398

## *PS Pathway 1: Reporting of adverse events, close calls (near misses)*

Reporting is an important mechanism to identify patient safety vulnerabilities. A robust reporting system is essential for the success of any patient safety program.

### **Properties include:**

- Residents, fellows, faculty members, and other clinical staff members (nurses, pharmacists, etc.) know how to report patient safety events at the clinical site.  
*The focus will be on the proportion of individuals who know how to report.*
- Residents, fellows, faculty members, and other clinical staff members know their roles and responsibilities in reporting patient safety events at the clinical site.  
*The focus will be on the proportion of individuals who know their roles and responsibilities in reporting.*
- Faculty members report patient safety events via the clinical site's preferred system.  
*The focus will be on the proportion of faculty members who report safety events.*
- Residents/fellows report patient safety events via the clinical site's preferred system.  
*The focus will be on the proportion of residents/fellows who report safety events toward the goal of disseminating best practices and lessons learned across nearly all residency programs.*
- Patient safety events reported by faculty members and residents/fellows are aggregated into the clinical site's central repository for event reporting.  
*The focus will be on whether safety events, reported via any mechanism (e.g., online, telephone calls, reports to the department chain of command, morbidity and mortality reviews, claims committee), are captured in the site's central repository.*

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## ***PS Pathway 2: Education on patient safety***

Formal educational activities that create a shared mental model with regard to patient safety-related goals, tools, and techniques are necessary for health care professionals to consistently work in a well-coordinated manner to achieve patient safety goals.

### **Properties include:**

- Residents/fellows receive patient safety education that includes information specific to the clinical site.  
*The focus will be on educational content directly related to the site's processes for ensuring the safety of its patient population, and on progress from basic training received early in the education process to basic training supplemented with periodic, interprofessional/team training educational experiences.*
- Faculty members are proficient in the application of principles and practices of patient safety.  
*The focus will be on the proportion of faculty members who report to be proficient in the application of principles and practices of patient safety at the clinical site.*
- Residents/fellows are engaged in patient safety educational activities where the clinical site's systems-based challenges are presented, and techniques for designing and implementing system changes are discussed.  
*The focus will be on the proportion of residents/fellows who are engaged in patient safety educational activities that include the above elements in their content—toward the ultimate goal of learning that is shared across programs.*
- Residents/fellows and faculty members receive education on the clinical site's proactive risk assessments (e.g., failure mode and effects analysis).  
*The focus will be on the proportion of individuals who receive education on this specific element.*
- The clinical site's patient safety education program is developed collaboratively by patient safety officers, residents/fellows, faculty members, nurses, and other staff members to reflect the clinical site's patient safety reporting processes, risk mitigation systems, experience, and goals.  
*The focus will be on the inclusion of GME leadership, residents/fellows, and faculty members in the process of developing the clinical site's patient safety education program and its dissemination throughout the organization, including to residents/fellows and faculty members.*

## *PS Pathway 3: Culture of safety*

A culture of safety requires a preoccupation with identification of vulnerabilities and a willingness to transparently deal with them. To this end, the safety system is perceived as fair and effective in bringing about needed improvements. The organization has formal mechanisms to assess attitudes toward safety and improvement in order to identify areas requiring intervention.

### **Properties include:**

- Residents/fellows and faculty members perceive that the clinical site provides a supportive culture for reporting patient safety events.  
*The focus will be on the extent to which individuals perceive a culture that is supportive of reporting.*
- The clinical site has mechanisms to provide emotional support to residents/fellows involved in patient safety events.  
*The focus will be on the availability of support, and the proportion of residents/fellows who use (or perceive they could use) the mechanisms to access support.*
- The clinical site conducts culture of safety surveys with residents/fellows, and faculty and staff members.  
*The focus will be on the progression from initial conduct of surveys through the analysis of results and implementation of actions to improve the culture.*

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### ***PS Pathway 4: Resident/fellow experience in patient safety investigations and follow-up***

Feedback and experiential learning are essential to developing true competence in the ability to identify causes and institute sustainable systems-based changes to ameliorate patient safety vulnerabilities.

#### **Properties include:**

- Residents/fellows participate as team members in real or simulated interprofessional clinical site-sponsored patient safety investigations (such as root cause analyses or other activities that include analysis, as well as formulation and implementation of actions).  
*The focus will be on the proportion and degree of resident/fellow involvement in site-sponsored investigations.*
- Residents/fellows can describe the disposition and actions resulting from the reporting of an event at the clinical site.  
*The focus will be on identification of processes for providing residents/fellows with feedback on safety reports, and the proportion of individuals who are able to describe the outcomes resulting from reporting an event.*
- The clinical site provides feedback to residents/fellows on safety event reports and investigations.  
*The focus will be on dissemination of lessons learned within programs and across the clinical site.*

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### ***PS Pathway 5: Clinical site monitoring of resident/fellow engagement in patient safety***

Residents/fellows are a vital component to the continual improvement of clinical care to patients; their participation in patient safety activities is essential.

#### **Properties include:**

- The clinical site monitors resident/fellow reporting of safety events  
*The focus will be on the progression from basic tracking of resident/fellow reporting to keeping the clinical site's governing body apprised of resident/fellow involvement in patient safety events, investigations, and resulting outcomes.*
- Data from the monitoring process are used to develop and implement actions that improve patient care.  
*The focus will be on the clinical site's usage of resident/fellow safety reports in developing and implementing improvements in patient safety.*

### ***PS Pathway 6: Clinical site monitoring of faculty member engagement in patient safety***

Faculty members are a vital component to the continual improvement of clinical care to patients; their participation in patient safety activities is essential.

**Properties include:**

- The clinical site monitors faculty member reporting of safety events.  
*The focus will be on the progression from basic tracking of faculty member reporting to keeping the clinical site's governing body and GMEC apprised of faculty member involvement in patient safety events, investigations, and resulting outcomes.*
- Data from the monitoring process are used to develop and implement actions that improve patient care.  
*The focus will be on the clinical site's usage of faculty safety reports in developing and implementing improvements in patient safety.*

### ***PS Pathway 7: Resident/fellow education and experience in disclosure of events***

Patient-centered care requires patients to be apprised of clinical situations which affect them. This is an important skill for physicians in residency/fellowship to develop and apply

**Properties include:**

- Residents/fellows receive hands-on training on how patient safety events are disclosed to patients and families at the clinical site.  
*The focus will be on the proportion of residents/fellows receiving disclosure training, including participation in simulation activities, and whether the clinical site shares examples of best practices throughout the organization.*
- Residents/fellows are involved in disclosure of patient safety events to patients and families at the clinical site.  
*The focus will be on the proportion of residents/fellows involved in disclosure of patient safety events.*



## HQ Pathway 1: Education on quality improvement

Formal educational activities that create a shared mental model with regard to health care quality-related goals, tools, and techniques are necessary in order for health care professionals to consistently work in a well-coordinated manner to achieve health care quality improvement goals.

### Properties include:

- Residents/fellows receive progressive education and training on quality improvement that involves experiential learning.  
*The focus will be on the extent to which residents/fellows receive experiential training in quality improvement that includes consideration of underuse, overuse, and misuse in diagnosis or treatment of patients.*
- Residents/fellows and faculty members are engaged in quality improvement educational activities where the clinical site's systems-based challenges are presented, and techniques for designing and implementing systems changes are discussed.  
*The focus will be on the proportion of individuals who are engaged in quality improvement educational activities that include the above elements in their content.*
- Residents/fellows and faculty members are familiar with the clinical site's priorities for quality improvement.  
*The focus will be on the proportion of individuals familiar with the site's priorities, and the proportion of individuals aware of the site's progress and outcomes.*
- The clinical site's quality improvement education program is developed collaboratively by quality officers, residents/fellows, faculty members, nurses, and other staff members to reflect the clinical site's quality program's experience and goals.  
*The focus will be on the inclusion of GME leadership, residents/fellows, and faculty members in the process of developing the clinical site's quality education program and its dissemination throughout the organization, including to residents/fellows and faculty members.*
- Faculty members report that they are proficient in clinical quality improvement.  
*The focus will be on the proportion of faculty members that report proficiency in clinical quality improvement.*
- Residents/fellows are engaged in periodic quality improvement educational activities in which systems-based challenges are highlighted and approaches to designing and implementing system changes are discussed.  
*The focus will be on the proportion of residents/fellows engaged in quality improvement educational activities around systems-based improvements.*

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### ***HQ Pathway 2: Resident/fellow engagement in quality improvement activities***

Experiential learning is essential to developing the ability to identify and institute sustainable systems-based changes to improve patient care.

**Properties include:**

- Residents/fellows are actively involved in the quality improvement activities at the clinical site.  
*The focus will be on the proportion of residents/fellows that are: actively involved in a quality improvement project at the site; involved in interprofessional teams, focused on measures of resource use, aligned and integrated with the clinical site's priorities; and involved in site-wide initiatives with active oversight by the clinical site's quality improvement leadership.*

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### ***HQ Pathway 3: Residents/fellows receive data on quality metrics***

Access to data is essential to prioritizing activities for care improvement and evaluating success of improvement efforts.

**Properties include:**

- Residents/fellows receive, from the clinical site, specialty-specific data on quality metrics and benchmarks related to their patient populations.  
*The focus will be on the proportion of residents/fellows receiving patient data, and on the level of data specificity (e.g., aggregated clinical site data versus data specific to a resident's/fellow's patient population).*

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## ***HQ Pathway 4: Resident/fellow engagement in planning for quality improvement***

In order to understand quality from a systems-based perspective, it is necessary to be familiar with the entire cycle of quality improvement (QI) from planning through execution and reassessment.

### **Properties include:**

- Residents/fellows participate in departmental and clinical site-wide QI committees.  
*The focus will be on resident/fellow participation on the clinical site's QI committees, from department-level committees to committees of the governing body.*
- The clinical site monitors resident/fellow efforts in QI.  
*The focus will be on basic tracking of resident/fellow involvement in QI, keeping the clinical site's governing body and GMEC apprised of resident/fellow involvement, and developing site-specific strategies to maximize resident participation.*

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## ***HQ Pathway 5: Resident/fellow and faculty member education on reducing health care disparities***

Formal educational activities that create a shared mental model with regard to health care quality-related goals, tools, and techniques are necessary for health care professionals to consistently work in a well-coordinated manner to achieve a true patient-centered approach that considers the variety of circumstances and needs of individual patients

### **Properties include:**

- Residents/fellows and faculty members receive education on identifying and reducing health care disparities relevant to the patient population served by the clinical site.  
*The focus will be on the extent to which individuals receive education on the clinical site's priorities and goals for addressing health care disparities in its patient population.*
- Residents/fellows and faculty members receive training in cultural competency relevant to the patient population served by the clinical site.  
*The focus will be on the extent to which individuals receive training in cultural competency relevant to the patient population served by the clinical site.*
- Residents/fellows and faculty members know the clinical site's priorities for addressing health care disparities.  
*The focus will be on the proportion of individuals able to describe the site-specific priorities for addressing health care disparities, and the proportion that are aware of the clinical site's progress in meeting its goals to address the priorities.*

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***HQ Pathway 6: Resident/fellow engagement in clinical site initiatives to address health care disparities***

Experiential learning is essential to developing the ability to identify and institute sustainable systems-based changes to address health care disparities.

**Properties include:**

- Residents/fellows are engaged in QI activities addressing health care disparities for the vulnerable populations served by the clinical site.  
*The focus will be on the proportion of programs that involve residents/fellows in QI projects to reduce health care disparities, as well as on assessing whether there is some resident/fellow engagement in clinical site initiatives to address health care disparities, and resident/fellow engagement with the clinical site in defining priorities and strategies to address health care disparities specific to the site's patient population.*

# CARE TRANSITIONS

## *CT Pathway 1: Education on care transitions*

Formal educational activities that create a shared mental model with regard to care transitions are necessary in order for residents/fellows to work in a consistently well-coordinated manner.

### **Properties include:**

- Residents/fellows and faculty members know the clinical site's transitions of care policies and procedures.  
*The focus will be on the degree to which individuals are aware of the clinical site's policies on transitions of care.*
- Residents/fellows participate in simulated or real-time interprofessional training on communication to optimize transitions of care at the clinical site.  
*The focus will be on the proportion of and frequency in which residents/fellows participate in training as described above.*
- Faculty members participate in simulated or real-time interprofessional training on transitions of care at the clinical site.  
*The focus will be on the proportion of and frequency in which faculty members participate in training as described above.*

## *CT Pathway 2: Resident/fellow engagement in change of duty hand-offs*

Standardized, effective, efficient hand-offs are a prerequisite for safe patient care.

### **Properties include:**

- Residents/fellows use a common clinical site-based process for change of duty hand-offs.  
*The focus will be on department use of standardized processes and template tools, and on use of common (clinical site-wide) standardized processes and template tools consistent with setting and type of patient care.*
- Resident/fellow change of duty hand-offs involve, as appropriate, interprofessional staff members (e.g., nurses) at the clinical site.  
*The focus will be on the proportion of service areas in which there is interprofessional participation in change of duty hand-offs.*
- Resident/fellow change-of-duty hand-offs involve, as appropriate, patients and families at the clinical site.  
*The focus will be on the proportion of departments/programs in which there is patient/family participation in change-of-duty hand-offs.*

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### ***CT Pathway 3: Resident/fellow and faculty member engagement in patient transfers between services and locations***

Standardized, effective, efficient hand-offs are a prerequisite for safe patient care.

#### **Properties include:**

- Residents/fellows use a standardized direct verbal communication process for patient transfers between services and locations at the clinical site.  
*The focus will be on the proportion of patient transfers that are based on standardized processes, and the proportion of departments with residency/fellowship programs that use a common (clinical site-wide) template for patient transfers between services and locations.*
- Resident/fellow transfers of patients between services and locations at the clinical site involve, as appropriate, interprofessional staff members (e.g., nurses).  
*The focus will be on the proportion of departments with residency/fellowship programs involving interprofessional participation in patient transfers between services and locations.*
- Residents/fellows participate with clinical site leadership in the development of strategies for improving transitions of care.  
*The focus will be on the involvement of residents/fellows in strategic development to improve transitions of care within the clinical site.*

## ***CT Pathway 4: Faculty member engagement in assessing resident-/fellow-related patient transitions of care***

Evaluation through direct observation of residents/fellows by faculty members is required to ensure residents'/fellows' abilities to perform standardized, effective, efficient hand-offs.

### **Properties include:**

- Through program-based standardized processes and direct observation, residents/fellows are assessed for their ability to move from direct to indirect faculty member supervision in the conduct of patient transfers at change-of-duty, and in patient transfers between services and locations at the clinical site.

*The focus will be on the proportion of programs using standardized faculty member assessment (through simulation or clinical care) to determine resident/fellow readiness to move from direct to indirect supervision during patient transitions in care. This pathway progresses according to the proportion of programs in which faculty members use direct observation to assess residents'/fellows' abilities to conduct change of duty hand-offs and patient transfers between services and locations.*

- Faculty members periodically monitor resident/fellow transfers of patient care at change-of-duty, and resident/fellow transfers of patients between services and locations for quality control at the clinical site.

*The focus will be on the proportion of programs that have a quality control process for monitoring residents/fellows during change-of-duty hand-offs and patient transfers between services and locations.*



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### ***CT Pathway 5: Resident/fellow and faculty member engagement in communication between primary and consulting teams***

Residents/fellows and faculty members demonstrate direct verbal communication practices and identify when and how these should be preferentially employed.

#### **Properties include:**

- Residents/fellows and faculty members use direct communication in the development of patient care plans among primary and consulting teams.  
*The focus will be on the proportion of individuals who use direct communication in the development of patient care plans among primary and consulting teams.*

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### ***CT Pathway 6: Clinical site monitoring of care transitions***

Periodic monitoring of care transitions is essential to identifying vulnerabilities and designing and implementing actions to enhance patient care.

#### **Properties include:**

- The clinical site's leadership monitors transitions of patient care managed by residents/fellows.  
*The focus will be on the degree to which the clinical site's leadership analyzes, acts on, and puts in place efforts to mitigate risk in response to patient safety reports related to transitions of care managed by residents/fellows.*
- The clinical site's leadership involves program directors in the development and implementation of strategies to improve transitions of care.  
*The focus will be on the proportion of program directors participating with the clinical site's leadership in the development of strategies to improve patient transitions of care.*

# SUPERVISION

## *S Pathway 1: Education on supervision*

Formal educational activities that create a shared mental model with regard to supervision are necessary for residents/fellows to work consistently in a safe manner.

### **Properties include:**

- The clinical site educates residents/fellows and faculty members on their expectations for supervision and progressive autonomy throughout the residency/fellowship experience at the clinical site  
*The focus will be on the clinical site providing basic education on its expectations for resident/fellow supervision, including use of simulation/team training, and involvement of staff members other than physicians in these educational activities.*
- The clinical site provides education to residents/fellows and faculty members on how to provide effective supervision.  
*The focus will be on the proportion of individuals taught to provide effective supervision at the clinical site.*

## *S Pathway 2: Resident/fellow perception of the adequacy of supervision*

It is important to elicit resident/fellow perceptions as one indicator of the adequacy of supervision.

### **Properties include:**

- Residents/fellows perceive that they are receiving adequate supervision at the clinical site.  
*The focus will be on the proportion of residents/fellows who perceive adequate supervision.*
- Residents/fellows perceive that the clinical site provides a supportive culture for requesting assistance.  
*The focus will be on the proportion of residents/fellows who perceive a supportive culture for requesting assistance.*

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### ***S Pathway 3: Faculty member perception of the adequacy of resident/fellow supervision***

It is important to elicit faculty members' perceptions as one indicator of the adequacy of supervision.

#### **Properties include:**

- Faculty members and program directors perceive that residents/fellows receive adequate supervision at the clinical site.  
*The focus will be on the proportion of faculty members who perceive that residents/fellows receive adequate supervision.*
- Faculty members perceive that the clinical site provides residents/fellows with a supportive culture for requesting assistance.  
*The focus will be on the proportion of faculty members who perceive that residents/fellows have a supportive culture for requesting assistance.*

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### ***S Pathway 4: Roles of clinical staff members other than physicians in resident/fellow supervision***

Awareness of and actions to ensure appropriate resident/fellow supervision are essential to patient safety..

#### **Properties include:**

- Clinical staff members other than physicians are knowledgeable about the clinical site's expectations for supervision and progressive autonomy throughout the residency/fellowship experience.  
*The focus will be on awareness by clinical staff members other than physicians of general policies related to resident/fellow supervision, and these individuals' awareness and use of written policies and resident-/fellow-specific electronic databases for determining level of supervision required.*
- Clinical staff members other than physicians perceive that the clinical site/department provides residents/fellows with a supportive culture for requesting assistance from supervising physicians.  
*The focus will be on the proportion of clinical staff members other than physicians who perceive that residents/fellows have a supportive culture for requesting assistance.*
- Clinical staff members other than physicians play an active role in ensuring that the supervision policies and procedures are followed at the clinical site.  
*The focus will be on the proportion of clinical staff members other than physicians who describe that they will take or have taken an action regarding resident supervision to ensure safe patient care.*

## *S Pathway 5: Patients and families, and GME supervision*

For patients and families to participate appropriately in their care-related decisions, they need to be aware of the roles and responsibilities of and have access to the physicians providing their care.

### **Properties include:**

- Patients and families are able to identify the names and roles of attending physicians and residents/fellows caring for them at the clinical site.  
*The focus will be on the progression from assessing whether patients and families receive written information on the names of residents/fellows and attending physicians providing their care, to assessing the proportion of patients and families able to identify the names of these physicians.*
- Patients and families perceive that they have adequate contact with the attending physician in charge of their care at the clinical site.  
*The focus will be on the proportion of patients/families that perceive that they have adequate contact with the attending physician in charge of their care.*
- Patients and families perceive that they have adequate contact with the resident/fellow team caring for them at the clinical site.  
*The focus will be on the proportion of patients and families that perceive that they have adequate contact with the resident/fellow team.*

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## ***S Pathway 6: Clinical site monitoring of resident/fellow supervision and workload***

Periodic monitoring of resident/fellow supervision and workload is essential to identifying vulnerabilities and designing and implementing actions to enhance patient safety.

### **Properties include:**

- The clinical site's leadership monitors resident/fellow supervision and workload with regard to addressing patient safety.  
*The focus will be on the clinical site having mechanisms in place to assess for patient care vulnerabilities due to resident/fellow workload (including resident/fellow concerns about workload and/or supervision), conducting assessments, and formulating and implementing strategies to mitigate the vulnerabilities.*
- The clinical site provides data to physicians and clinical staff members other than physicians specifying the level of supervision required for individual residents/fellows.  
*The focus will be on the presence of and use of a database that specifies the level of supervision required for a resident to perform in specific patient care situations.*

# DUTY HOURS/FATIGUE MANAGEMENT & MITIGATION

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## ***DF Pathway 1: Culture of honesty in reporting of duty hours***

Prevention of fatigue-related harm to patients can only be accomplished in a culture in which candid reporting of duty hour-/fatigue management-related issues occurs.

### **Properties include:**

- Residents/fellows, faculty members, and program directors perceive that there is honest reporting of duty hours at the clinical site.  
*The focus will be on the proportion of individuals who perceive that there is honest reporting of duty hours.*

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## ***DF Pathway 2: Resident/fellow and faculty member education on fatigue and burnout***

Formal fatigue-management educational activities create a shared mental model necessary for residents/fellows to work consistently in a safe manner.

### **Properties include:**

- Residents/fellows and faculty members are aware of general and site-specific strategies for managing fatigue and burnout.  
*The focus will be on the extent to which residents/fellows and faculty members are aware of the clinical site's strategies for managing fatigue and burnout, and the proportion of individuals who receive information on strategies that are specific to the clinical site's service units and high-risk situations.*

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### ***DF Pathway 3: Resident/fellow engagement in fatigue management and mitigation***

It is important to elicit resident perceptions regarding institutional support of and residents'/fellows' use of fatigue mitigation strategies and tools to enhance quality and safety of patient care.

#### **Properties include:**

- Residents/fellows believe that the clinical site has a culture that supports fatigue management and mitigation.  
*The focus will be on the proportion of residents/fellows who perceive a clinical site culture that supports fatigue mitigation.*
- Residents/fellows believe that their program has a culture that supports fatigue management and mitigation.  
*The focus will be on the proportion of residents/fellows who perceive a resident/fellow culture that supports fatigue mitigation.*
- Residents/fellows have used (or have witnessed colleagues use) fatigue management and mitigation strategies that are available at the clinical site.  
*The focus will be on the proportion of programs in which residents/fellows have used or witnessed colleagues use fatigue management and mitigation strategies.*

# DUTY HOURS/FATIGUE MANAGEMENT & MITIGATION

continued

## ***DF Pathway 4: Faculty member engagement in fatigue management and mitigation***

It is important to elicit faculty member perceptions regarding institutional support and use of fatigue mitigation strategies and tools to enhance quality and safety of patient care.

### **Properties include:**

- Faculty members and program directors believe that the clinical site has a culture that supports resident/fellow fatigue management and mitigation.  
*The focus will be on the proportion of faculty members and program directors who perceive that the clinical site's culture supports resident/fellow fatigue mitigation.*
- Faculty members and program directors believe that the clinical site has a culture that supports faculty fatigue management and mitigation.  
*The focus will be on the proportion of faculty members and program directors who perceive that the clinical site's culture supports faculty fatigue mitigation.*
- Faculty members and program directors exercise non-judgmental triggering of fatigue management and mitigation for residents/fellows at the clinical site.  
*The focus will be on the proportion of faculty members and program directors who exercise non-judgmental triggering of resident/fellow fatigue management and mitigation strategies.*
- Program directors conduct active surveillance of triggering of resident/fellow fatigue management and mitigation strategies at the clinical site.  
*The focus will be on the proportion of program directors who conduct active surveillance of triggering of resident/fellow fatigue management and mitigation strategies.*

## ***DF Pathway 5: Clinical site monitoring of fatigue and burnout***

Periodic monitoring of physician fatigue and burnout is essential to identifying vulnerabilities and designing and implementing actions to enhance patient safety.

### **Properties include:**

- The clinical site's administrative leadership monitors for resident/fellow and faculty member fatigue and burnout with regard to addressing patient safety.  
*The focus will be on having mechanisms in place to assess resident/fellow and faculty member fatigue management and wellness (including potential burnout), the periodic conduct of assessments, and formulation and implementation of mitigation strategies to address patient safety.*



# PROFESSIONALISM

## (Selected Topics)

### *PR Pathway 1: Resident/fellow and faculty member education on professionalism*

Formal educational activities are essential to creating a shared mental model of professionalism that contributes to high-quality patient care.

#### **Properties include:**

- Residents/fellows and faculty members receive education about the clinical site's expectations for professionalism, including identifying and responding to specialty-specific risks to patient care.  
*The focus will be on the extent to which individuals receive education on the clinical site's expectations for professionalism (including such topics as encouragement of good behavior and identifying and reporting poor behavior, such as dishonesty or mistreatment of others), and the proportion of the education that is conducted in an interactive, interprofessional environment and includes identification of specialty-specific risks, vulnerabilities, and interventions.*
- Residents/fellows and faculty members receive training on policies and procedures regarding appropriate documentation of clinical care in the clinical site's electronic health record and other electronic forms of communication approved by the clinical site.  
*The focus will be on the extent to which individuals receive training on policies and procedures regarding documentation in the electronic medical record and other forms of communication.*

# PROFESSIONALISM

## (Selected Topics) continued

### *PR Pathway 2: Resident/fellow attitudes, beliefs, and skills related to professionalism*

Resident/fellow attitudes, beliefs, and skills related to professionalism directly impact the quality and safety of patient care.

#### **Properties include:**

- Residents/fellows perceive that the clinical site provides an environment of professionalism (including authority figure and supervisor role-modeling) that supports honesty and integrity and respectful treatment of others.  
*The focus will be on the extent to which residents/fellows believe that the clinical site provides an environment of professionalism (including authority figure and supervisor role-modeling) that supports honesty and integrity and respectful treatment of others.*
- Residents/fellows are aware of and, if needed, would use the clinical site's process(es) for reporting possible mistreatment.  
*The focus will be on the proportion of residents/fellows who are aware of and believe they would use the clinical site's process(es) for reporting possible mistreatment.*
- Faculty members and nurses perceive that residents/fellows are aware of and, if needed, would use the clinical site's process(es) for reporting perceived unprofessional behavior.  
*The focus will be on the proportion of faculty and nursing staff members who perceive that residents/fellows are aware of and would use the clinical site's process(es) for reporting perceived unprofessional behavior.*
- Residents/fellows follow the clinical site's professional guidelines when documenting in the electronic medical record.  
*The focus will be on the extent to which residents/fellows follow the clinical site's professional guidelines when recording documentation in the electronic medical record, basing documentation on their direct observation or appropriately attributed information of others.*

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- Faculty members perceive that residents/fellows follow the clinical site's policies, procedures, and professional guidelines when documenting in the electronic medical record.

*The focus will be on the proportion of faculty and nursing staff members who perceive that residents/fellows follow the clinical site's policies, procedures, and professional guidelines when recording documentation in the electronic medical record.*

- Residents/fellows acknowledge the professional responsibility to report unsafe conditions that have required an immediate deviation from usual practice at the clinical site.

*The focus will be on the proportion of residents/fellows who acknowledge the professional responsibility to report unsafe conditions that require an immediate deviation from usual practices at the clinical site.*



# PROFESSIONALISM

## (Selected Topics) continued

### *PR Pathway 3: Faculty engagement in training on professionalism*

Faculty members' engagement in training on professionalism directly impacts the quality and safety of patient care.

#### **Properties include:**

- Faculty members are aware of and report that they would use the clinical site's process(es) for reporting perceived unprofessional behavior.  
*The focus will be on the extent to which faculty members express that they use or would use the clinical site's processes for reporting behavior that they perceive to be unprofessional.*
- Faculty members follow the clinical site's policies, procedures, and professional guidelines when documenting in the electronic medical record.  
*The focus will be on the extent to which faculty members follow the clinical site's policies procedures and professional guidelines when recording documentation in the electronic medical record, basing documentation on their direct observation or appropriately attributed information of others.*
- Program directors and faculty members believe that education efforts around in-service and board examinations occurs without inappropriate use of of copyrighted material not available to the public.  
*The focus will be on the proportion of individuals who believe that copyrighted materials unavailable in the public domain are not used inappropriately when educating residents around in-training and board examinations.*

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- Faculty members and program directors believe that the majority of residents/fellows document clinical information based on direct observation or appropriately-attributed information of others.

*The focus will be on the proportion of individuals who believe that residents/fellows document clinical information based on direct observation or by appropriately attributing information to the original source.*

- Program directors and faculty members believe that the majority of residents/fellows are aware of and would use the clinical site's process for reporting possible mistreatment, and that the clinical site's process(es) for managing reports on unprofessional behavior are effective.

*The focus will be on the proportion of individuals who believe that residents/fellows are aware of and feel comfortable using the clinical site's reporting process for possible mistreatment, and on the proportion of individuals who feel that the clinical site's process for managing these reports is effective.*



# PROFESSIONALISM

## (Selected Topics) continued

### ***PR Pathway 4: Clinical site monitoring of professionalism***

Periodic monitoring of physician professionalism is essential to identifying vulnerabilities and designing and implementing actions to enhance patient care.

#### **Properties include:**

- The clinical site's leadership periodically assesses the clinical site for the culture of professionalism of the medical staff and residents/fellows.  
*The focus will be on having mechanisms in place for reporting concerns around professionalism, periodic assessment of concerns and identification of potential vulnerabilities, and the provision of feedback and education related to resulting actions.*
- The clinical site monitors documentation practices related to resident/fellow and faculty member use of the electronic medical record and other sources of personal health information.  
*The focus will be on monitoring of documentation policies to reactively and proactively analyze data regarding documentation practices.*

## SELECTED READINGS

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Armstrong, A., Headrick, L., Madigosky, W., Ogrinc, G. (2012). Designing education to improve care. *The Joint Commission Journal on Quality and Patient Safety*, 38 (1), 5-14.

Arora, V. & Johnson, J. (2006). A model for building a standardized hand-off protocol. *The Joint Commission Journal on Quality and Patient Safety*, 32 (11), 646-655.

Bagian, J.P. (2005). Patient safety: What is really at issue? *Frontiers in Health Services Management*, 22 (1), 3-16.



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