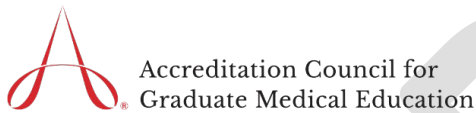# The Clinician Educator Supplemental Guide

A Joint Initiative of

The Accreditation Council for Graduate Medical Education

The Accreditation Council for Continuing Medical Education

The Association of American Medical Colleges

The American Association of Colleges of Osteopathic Medicine

Accreditation Council for Graduate Medical Education

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AMERICAN ASSOCIATION OF COLLEGES OF OSTEOPATHIC MEDICINE

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Milestones Supplemental Guide

This document provides additional guidance and examples for the Clinician Educator Milestones. This is not designed to indicate any specific requirements for each level, but to provide insight into the thinking of the Milestone Work Group.

Included in this document is the intent of each Milestone and examples of what might be observed/assessed at each level. Each example is labeled with letter in parentheses to indicate which part of the continuum the example addresses; U = undergraduate medical education, G = graduate medical education, and C = continued professional development. Also included are suggested assessment models and tools for each subcompetency, references, and other useful information.

This Guide can be used to aid in self-assessment or by a trusted colleague offering a peer-assessment. Additional tools and references are available on the Resources page of the Milestones section of the ACGME website.

These Milestones are organized under four competencies:

Administration

Demonstrate administrative skills relevant to their professional role, program management, and the learning environment that leads to best health outcomes for the society

Educational Theory/Practice

Ensure the optimal development of competent learners through the application of the science of teaching and learning to practice.

Well-Being

Apply principles of wellbeing to develop and model a learning environment that supports behaviors which promote personal and learner psychological, emotional, and physical health

Diversity, Equity, and Inclusion

Acknowledge and address the complex intrapersonal, interpersonal, and systemic influences of diversity, power, and inequity (power, privilege) to promote equity and inclusion in all settings so that all educators and learners can thrive and be successful.

Administration 1: Administration Skills	
Overall Intent: To function efficiently and effectively within an organization	

Milestones	Examples
Level 1 *Describes administrative aspects of program management* *Describes components of legal, regulatory, and accreditation functions*	● (U/G/C): Describes the recruitment life cycle and relevant timelines in medical education ● (U/G): Identifies the data collected in GME Track, the National GME Census database (Resident Survey, Program Survey, Fellowship and Residency Electronic Interactive Database (FREIDA)) ● (U/G/C): Understands the roles of licensing authorities for medical practice and who to contact to initiate the process of learner licensure ● (U/G/C): Appreciates the distinction between learner and full licensure
Level 2 *Identifies best administrative practices for effective program management* *Identifies relevant resources for legal, regulatory, and accreditation functions*	● (U/G/C): Identifies effective strategies that result in successful recruitment, including virtual approaches and social media ● (U/G/C): Recognizes best practices for recruitment strategies in diversity, equity, and inclusion (DEI) that meet community needs ● (U/G/C): Compares different tools to meet program needs (e.g., interview scheduling, rotation scheduling, call requirements) ● (U/G/C): Creates spreadsheets and can share data visually
Level 3 *Employs best administrative practices for effective program management* *Employs effective approaches to perform legal, regulatory, and accreditation functions*	● (U/G/C): Employs effective strategies that result in successful recruitment ● (U/G/C): Chooses the most effective options/approaches ● (G/C): Identifies program human resources/FTE needs ● (U/G/C): Responds to and elevates issues in program administration (e.g., too much critical care time, absence of key experiences) ● (U/G/C): Shares data in different styles based on the audience receiving the data
Level 4 *Consistently demonstrates best practices across administrative domains* *Consistently integrates legal, regulatory, and accreditation functions into practice*	● (U/G): Finding funding for additional training lines; manages off-cycle learners ● (U/G/C): Works with and assists other program administrators in other specialties ● (U/G): Ensures surveys are completed and in-service assessments are tracked and shared appropriately ● (U/G): Ensures learners know program recordkeeping and information sharing with external stakeholders
Level 5 *Leads and guides others for best administrative practices for effective program management*	● (U/G/C): Runs mentorship program; manuscripts ● (U/G/C): Recognized as an authority on novel strategies for successful recruitment

Leads and guides others in legal, regulatory, and accreditation functions	● (U/G/C): Navigates efforts to instruct other program directors how to prepare a new program application or for successful site visit
Assessment Models or Tools	● Direct observation ● Educational portfolio ● Identification of program responsiveness to stakeholders ● Multisource feedback ● Review of learner, program surveys submitted
Notes or Resources	● AAMC GME Leadership Development Certificate Program https://www.aamc.org/professional-development/leadership-development/gme-leadership-development-certificate-program ● ACGME. Program Directors' Guide to the Common Program Requirements. https://www.acgme.org/Portals/0/PFAssets/ProgramResources/PDGuideResidency.pdf ● Gonzaga AMR, Appiah-Pippim J, Onumah CM, Yialamas MA. A framework for inclusive graduate medical education recruitment strategies: meeting the ACGME standard for a diverse and inclusive workforce. *Acad Med*. 2020 May;95(5):710-716. doi: 10.1097/ACM.0000000000003073. PMID: 31702694.

Administration 2: Leadership Skills	
Overall Intent: To develop individual and collegial leadership abilities to achieve program outcomes	

Milestones	Examples
Level 1 *Identifies essential styles, skills, and attributes for leadership*	● (U/G/C): Understands different leadership styles and how they can effectively collaborate with other styles ● (U/G/C): Identifies specific leadership resources to understand the various leadership styles
Level 2 *Identifies own leadership style and develops leadership skills with guidance*	● (U/G/C): Develops effective leadership attributes, with a guide or mentor ● (U/G/C): Takes a leadership assessment survey, reflects on results, and applies to own leadership skills
Level 3 *Independently assesses situations and determines which leadership skills are needed to achieve intended outcomes in routine situations*	● (U/G/C): Performs a needs assessment to identify the optimal leadership style to apply in a one-on-one teaching encounter for learner development ● (U/G/C): Identifies gaps and brings an expert in to teach leadership styles
Level 4 *Leads others to achieve intended outcomes in complex and dynamic situations*	● (U/G/C): Applies different leadership styles on an interdisciplinary team (residents, medical students, nurse practitioners, physician assistants) on an inpatient medical service ● (U/G/C): Creates a multidisciplinary work group in response to a citation from a regulatory visit
Level 5 *Leads diverse individuals and teams to achieve program or system level outcomes*	● (U/G/C): Demonstrates mastery of team leadership ● (U/G/C): Works effectively with faculty members in other disciplines and interprofessional team members to manage residents during a pandemic, applying leadership skills to assist in multiple areas including revenue, schedules, and negotiations relevant to the health system
Assessment Models or Tools	● Direct observation ● Educational portfolio ● Leadership or personality assessment tools (e.g., DiSC Model (Dominance, Influence, Steadiness, and Conscientiousness), Meyer-Briggs Indicator) ● Multisource feedback ● Program evaluation – successful accreditation (e.g., Kellog's Logic Model, Moore or Kirkpatrick's Model, pass rates, continued accreditation, team member retention) ● Review of a written curriculum or decision-making tool (Kern's Model for Curriculum Development, SBAR ("situation, background, assessment, recommendation"), SMART ("specific, measurable, achievable, realistic, and timely"), and other structured communication tools)

Notes or Resources	● AAMC LEAD program: https://www.aamc.org/professional-development/leadership-development/lead

Administration 3: Learning Environment	
Overall Intent: To foster an ideal, diverse, and inclusive environment that optimizes learning	

Milestones	Examples
Level 1 *Describes ideal learning environments and contributory behaviors* *Describes different roles and aspects of a diverse and inclusive interprofessional learning environment*	● (U/G/C): Defines components of an optimal learning environment and its importance for education ● (U/G/C): Recognizes the role of interprofessional teams to the learning environment ● (U/G/C): Describes the benefit of multisource feedback as well as its role in fostering the learning environment
Level 2 *Identifies strategies for developing ideal, equitable and inclusive learning environments* *Identifies the value of a diverse and inclusive interprofessional team-based approach in the learning environment*	● (U/G/C): Appreciates the fluidity of a learning environment and responds productively ● (U/G/C): Moves between different types of learning environments when necessary ● (U/G/C): Encourages open communication with a new team as a strategy to optimize the clinical learning environment ● (U/G/C): Introduces interprofessional team members
Level 3 *Employs best practices in fostering ideal, equitable and inclusive learning environments* *Engages in diverse and inclusive interprofessional learning environments*	● (U/G/C): Supports the learning environment even in the face of change ● (U/G/C): Uses team introductions, setting expectations, and developing a safe relationship to promote an ideal learning environment on a new clinical service ● (U/G/C): Integrates interprofessionals into rounds to showcase the value of different expertise
Level 4 *Works collaboratively and leads others to foster ideal, equitable and inclusive learning environments* *Navigates the complexities of a diverse and inclusive interprofessional learning environments*	● (U/C/G): Identifies when changes need to be made to the learning environment ● (U/C/G): Creates an effective learning environment that incorporates medical residents, medical students, and advanced-practice providers
Level 5 *Leads system-level strategic efforts to improve learning environments*	● (U/C/G): Reviews annual evaluation to identify system-level problems with a learning environment and adjusts the experience to ensure optimal education ● (U/G/C): Assesses individuals based on their education and developing appropriate onboarding resources

Leads others in development of diverse and inclusive interprofessional learning environments	● (U/G/C): Develops a program for interprofessional training in a single environment ● Delivers a workshop at a national meeting describing how a program changes clinic workflow and teaching to incorporate families and a social worker into the learning environment
Assessment Models or Tools	● Direct observation ● Educational portfolio ● Multisource feedback
Notes or Resources	● Macy Foundation. Addressing harmful bias and eliminating discrimination in health professions learning environments: https://macyfoundation.org/publications/conference-summary-eliminating-bias-discrimination

Administration 4: Change Management	
Overall Intent: To incorporate change management as a skill for ongoing continue quality improvement in medical education	
Milestones	**Examples**
Level 1 *Describes why change management is important in medical education*	● (U/G/C): Using the COVID-19 pandemic as an example for necessary change, describes how academic institutions have had to adapt rapidly their educational programming ● (U/G/C): Recognizes need for change
Level 2 *Supports change management initiatives*	● (U/G/C): Supports and does not impede change initiatives ● (U/G/C): Is an early adopter of a new learning management system
Level 3 *Engages in change management initiatives*	● (U/G/C): Creates a proposal to make night float better ● (C): Participates in a super-user group after implementation of a new electronic health record (EHR) to provide feedback and suggestions for improvement to the implementation team
Level 4 *Implements change and reviews outcomes*	● (U/G/C): Implements various types of changes (technical or transformational) at various levels of the institution (program, department, or institutional level) ● (U/G/C): Uses tools consistently to evaluate ideas and initiate change ● (U/G/C): Implements a well-being program using Kotter's model of change to address learner and clinician burnout
Level 5 *Teaches others how to create and implement change management*	● (C): Coaches faculty in experiential leadership project that include change management frameworks as part of a faculty development program
Assessment Models or Tools	● Dashboards
Notes or Resources	● Kotter JP. *Leading Change.* Harvard Business Review Press; 1R edition (November 6, 2012) ● The Prosci ADKAR Model https://www.prosci.com/methodology/adkar ● Bridges Transition Model https://wmbridges.com/about/what-is-transition/ ● Rogers, Everett M, *Diffusion of Innovations*. New York: Free Press of Glencoe, 1962.

Educational Theory and Practice 1: Feedback	
Overall Intent: To foster conversations that motivate learners to incorporate feedback for performance improvement.	
Milestones	**Examples**
Level 1 *Describes timing, content, and approaches to conducting feedback conversations*	● (U/G/C): Names the important elements required for effective feedback (communication (method/details/style), specific observations, and culture (behaviors to promote positive feedback))
Describes the importance of soliciting feedback on one's own skills with a growth mindset	● (U/G/C): Identifies resources on how "growth mindset" improves learning
Describes the importance of setting a learning environment that values feedback	● (U/G/C): Identifies that effective feedback requires a permissive and healthy learning climate
Level 2 *Elicits learners' goals and gives predominantly reinforcing feedback on the basis of those goals*	● (U/G/C): Identifies a learner's goal of improved patient education and provides reinforcing feedback
Reviews feedback about one's own skills, manages one's own emotional reactions to feedback, and incorporates relevant items	● (U/G/C): Receives feedback from learners and after initial reluctance makes iterative improvement by partially incorporating the feedback into educational practice
Role models exemplary feedback practices without explicitly setting up the learning environment	● (U/G/C): Does not explicitly state the importance of or rationale underlying feedback but meets with team learners halfway through their rotation and notes specific skills that learners should continue
Level 3 *Identifies items for learner feedback, and gives feedback that initiates behavior change*	● (U/G/C): Works with a learner who doesn't want feedback or lacks insight or doesn't receive it well ● (U/G/C): Conducts a feedback conversation that covers the learner's goals and motivations, and that ends with specific actionable take-home points
Actively solicits general feedback from learners	● (U/G/C): Asks learners at the end of the rotation or course for things they should continue to do, and things to do differently
Explicitly states the importance of feedback in the learning environment	● (U/G): At the beginning of the learning relationship, explicitly names that feedback is one of the most effective ways for all team members, including oneself, to improve, and that both reinforcing and modifying feedback conversations will be frequent, ongoing, and bidirectional

Level 4 *Consistently engages in feedback conversations across differences and in challenging situations that initiates behavior change*	● (U/G/C): Asks learners who show differences of all types, including background, learning differences, and strong differences of opinion, about their perspective, with humility and curiosity; reflects back the content and tone of what was said; and inquires deeply about other relevant perspectives before suggesting any changes ● (U/G/C): Reflects on implicit bias in direct observations that might affect feedback; incorporates concepts of stereotype threat and imposter syndrome into feedback conversations; uses affirmations to mitigate stereotype threat and uses substitution to check implicit bias
Consistently solicits specific feedback from learners that leads to behavior change in oneself	● (U/G): Asks learners for feedback, explicitly names the hierarchy inherent in the learner-teacher relationship, and states, "you have the opportunity to work with lots of different faculty, whereas I don't; I would love to hear something that someone else does that you think I should incorporate" - and then incorporates it non-defensively
Demonstrates expertise in explicitly constructing and maintaining a learning environment in which all learners give and receive feedback with intent to improve performance	● (U/G/C): Consistently role models inquiry mode of feedback, particularly for sensitive or summative feedback; responds to learners with reflection and empathy statements; supportively challenges learners with next steps to get them to the next level of performance
Level 5 *Guides others to conduct effective feedback conversations*	● (U/G/C): Performs direct observation of a mentees' feedback conversations with learners and engages in debriefing and coaching specific to the mentees performance during their feedback conversation.
Guides others to solicit, metabolize, and incorporate feedback	● (U/G/C): Asks mentees for cases, listens nonjudgmentally, reflects and empathizes, and inquires about emotions that arise during feedback conversations, and provides context for how to receive feedback
Assessment Models or Tools	● Direct observation ● Multisource feedback ● Objective structured teaching exercise (OSTE) ● Portfolio or journal review: how do learners rate the educator's feedback? what evidence shows that the educator incorporated feedback?
Notes or Resources	● Definition of Feedback - Information communicated to the learner that is intended to modify the learner's thinking or behavior for the purpose of improved learning. ● Telio et al, The "educational alliance" as a framework for reconceptualizing feedback in medical education. Acad Med 2015 ● Milan et al, A model for educational feedback based on clinical communication skills strategies: beyond the "feedback sandwich." Teach Learn Med 2006;18:42-47.

	● Sergeant et al, R2C2 in action: testing an evidence-based model to facilitate feedback and coaching in residency. JGME 2017; :165-170. ● Watling and Ginsburg, Assessment, feedback and the alchemy of learning. Med Educ 2019;53:76-85. ● Ramani et al, Meaningful feedback through a sociocultural lens. Med Teach 2019 ● Stone and Heen, Thanks for the feedback: the science and art of receiving feedback well. Viking, 2014.

Educational Theory and Practice 2: Scholarship	
Overall Intent: To encourage clinician educators to base their teaching in scholarship (theory and evidence) and contribute to the literature	
Milestones	**Examples**
Level 1 *Describes definition of scholarship and basics of scholarly approach for teaching, fostering intellectual curiosity, and learning preferences* *Identifies forums for dissemination of educational approach, curricula, and/or research*	● (U/G/C): Describes how they keep up with the medical literature and subscribes to electronic tables of contents of journals ● (U/G/C): Identifies Glassick's criteria for scholarship and Boyer's definition of scholarship ● (U/G/C): Names medical education journals, online forums, and courses that enhance personal educational practices
Level 2 *Recognizes multiple theories and strategies for teaching and promoting intellectual curiosity for different learning preferences* *Assists with dissemination of educational approach, curricula, and/or research which contributes to medical educational knowledge*	● (U/G/C): Names the steps of the "learning ladder," identifies where any given learner is on the ladder, and can name ways in which teaching could be tailored for those learners ● (U/G/C): Participates in development of curricular modules for local courses ● (U/G/C): Participates in a medical education research project to learn fundamental qualitative, quantitative, or synthetic skills
Level 3 *Routinely incorporates a variety of approaches derived from literature and other high-quality sources to improve teaching practices and promote intellectual curiosity* *Independently contributes to medical education scholarship or evidence through design of educational approach, curricula, and/or development of research findings*	● (U/G/C): Attends national medical education conferences to hear and incorporate trends in teaching ● (U/G/C): Reads texts and treatises in educational theory to increase effectiveness of teaching ● (U/G/C): Takes the lead in writing a section of a medical education scholarly article or chapter
Level 4 *Role models a scholarly approach to teaching, fostering intellectual curiosity of learners, and incorporation of best practice* *Expands medical education scholarship or evidence through regular dissemination of*	● (U/G/C): When updating teaching scripts, consults recent primary literature to enhance the clarity and impact of their teaching ● (U/G/C): Asks learners to incorporate primary literature in their notes and oral presentations and evaluates the quality of the included data ● (U/G/C): Presents a medical education study at a regional or national medical education conference

educational approach, curricula, and/or research findings	
Level 5 *Demonstrates expertise in the use of a scholarly approach to education* *Demonstrates expertise in the field of scholarship and provides guidance, consultation, and mentoring across medical education*	● (U/G/C): Acts as senior author to mentor advanced learners to develop their independent expertise as a medical education investigator ● (U/G/C): Mentors a more junior faculty member in writing a book chapter using education theory and practice
Assessment Models or Tools	● Academic productivity ● Educator philosophy ● Educational portfolio ● Multisource feedback ● Scholarly presentations
Notes or Resources	● Boyer's expanded definition of scholarship: Boyer, E. (1990). Scholarship Reconsidered: Priorities for the Professoriate. Princeton, NJ: The Carnegie Foundation for the Advancement of Teaching. ● Glassick's criteria for scholarship: https://www.augusta.edu/mcg/academic-affairs/eii/documents/glassick-criteria.pdf ● AAMC MERC Program: https://www.aamc.org/what-we-do/mission-areas/medical-education/meded-research-certificate-program

Education Theory and Practice 3: Professionalism	
Overall Intent: To uphold implicit and explicit expectations of the profession and society	

Milestones	Examples
Level 1 *Demonstrates punctuality, completes evaluations in a timely manner, and presents "fit for duty"*	● (U/G/C): Is punctual and prepared for work as described in institutional policies
Understands the importance of consideration of the rights, feelings, traditions, and wishes of learners, patients and team members	● (U/G/C): In team meetings, notes how goals and perspectives of various stakeholders in a particular patient care case, including interprofessional team members, may overlap and differ
Level 2 *Is timely in the performance of duties and takes responsibility for follow-up on details*	● (U/G/C): Clearly states how patient care responsibilities can occasionally overwhelm learners, empathizes with these struggles, and role models self-care
Demonstrates respect for learners, patients and team members through behavior and communication	● (U/G/C): In team meetings, explicitly states how goals of various stakeholders in a particular patient care case, including interprofessional team members, overlap and differ, and actively works to seek solutions
Level 3 *Takes responsibility for errors/professional lapses and initiates corrective action when indicated*	● (U/G/C): Role models looking up answers to questions the educator doesn't know the answer to (rather than always asking learners to look up the answer)
Effectively manages personal beliefs and biases in their role as an educator	● (U/G/C): Notes differences in perceptions about learners and reflects about potential implicit biases that may influence those judgments
Level 4 *Recognizes personal risks to professional behavior and those of colleagues and learners and effectively manages those risks to produce the best outcome for the individual*	● (U/G/C): Participates in review of learner lapses in professionalism and coaches the learner to demonstrate exemplary professional behaviors
Consistently recognizes potential obstacles to unbiased and respectful communication, leadership, and educational practice, and applies strategies to mitigate against them to produce outcomes that are always in the learner's best interest	● (U/G/C): Notices microaggressions from a patient to a learner, intervenes empathically in the moment, and debriefs the learner afterwards

Level 5 *Works at system level to lead higher level changes that support professionalism* *Develops organizational and institutional processes and strategies to facilitate respectful and unbiased communication and problem-solving*	● (U/G/C): Constructs faculty development sessions to mitigate the effect of microaggressions from patients to learners ● (U/G/C): Leads a professional standards board that reviews learner lapses in professionalism and supports those learners toward exemplary behavior
Assessment Models or Tools	● Direct observation ● Education portfolio ● Multisource feedback ● OSTE
Notes or Resources	● Wheeler et al, Twelve tips for responding to microaggressions and overt discrimination: when the patient offends the learner. Medical Teacher, 2019, 41:1112-1117 ● Gill et al, Responding to moderate breaches in professionalism: An intervention for medical students. Med Teach. 2015 Feb; 37(2): 136–139. ● Brennan et al, Remediating professionalism lapses in medical students and doctors: a systematic review. Med Educ 2020;54:196-204.

Educational Theory and Practice 4: Learner Assessment	
Overall Intent: To apply and develop principles of formative and summative assessment to improve performance	

Milestones	Examples
Level 1 *Discusses the goals and principles of both formative and summative assessment*	● (U/G/C): Explains the difference between summative and formative assessment to a learner ● (U/G/C): Describes when a formative versus summative evaluation should be used
Level 2 *Implements appropriate methods and tools for assessment in a specific setting*	● (U/G/C): Differentiates when to use a global assessment versus more focused assessment of performance ● (U/G/C): Employs pre/post-test to assess knowledge/skill/competence after an educational activity ● (U/G/C): Uses daily feedback forms to provide formative assessment ● (U/G/C): Provides daily verbal feedback to learners to help learners prepare for similar cases during a subspecialty rotation
Level 3 *Educates others on selection of appropriate assessment methods and tools*	● (U/G/C): Assists faculty members in selecting optimal assessment, (e.g., intent to change, knowledge tests, practice improvement measurement) ● (U/G/C): Advises colleagues against using the Milestone Reporting Worksheet as an assessment tool
Level 4 *Designs and implements evidence-based assessment methods and tools*	● (U/G/C): Creates post-activity assessment tools such as intent to change and/or practice improvement measurement ● (U/G/C): Develops daily feedback forms to use in a clinical setting ● (U/G): Develops and guides the use of a summative rotation assessment form that collates all feedback from the rotation in a manner that lets the learner know how they performed during the entire educational experience ● (G): Designs and creates evaluations or assessments with the intent of informing Milestone evaluations
Level 5 *Designs and implements a system of assessment*	● (U/G/C): Creates system-wide assessment tools to measure impact of educational activity(ies) ● (U/G/C): Maps assessments goals and objectives to ensure all objectives are being measured ● (G): Maps assessments to milestones to ensure data is being collected to report milestone progression every six months ● (U/G/C): Engages all stakeholders in a multisource feedback process to get a holistic view of a learner's progress
Assessment Models or Tools	● Direct observation ● Education portfolio ● Continuing professional development/maintenance of certification activities in practice

	● Multisource feedback ● OSTE
Notes or Resources	● Learn at ACGME https://dl.acgme.org/ ● Twelve Tips for Programmatic Assessment DOI: 10.3109/0142159X.2014.973388

Educational Theory and Practice 5: Program Evaluation	
Overall Intent: To design and implement evaluation for accreditation, improvement, scholarship, and planning	

Milestones	Examples
Level 1 *Describes the importance and elements of comprehensive program evaluation*	● (C): Engages on continuing medical education (CME)/ continuing professional development committee with oversight of continuing professional development program evaluation ● (G): Names the elements required by the ACGME for programmatic assessment ● (U/G/C): Describes the importance of evaluating the learning environment in programmatic evaluation ● (U/G/C): Describes the association between programmatic quality and future practice patterns
Describes how to create an action plan	● (U/G/C): Articulates the components of SMART goals ● (U/G/C): Describes the PDSA (plan, do, study, act) cycle
Level 2 *Contributes to program evaluation*	● (U/G/C): Provides data about the learning environment to inform programmatic review ● (U/G/C): Participates in a program evaluation committee ● (C): Participates in continuing professional development unit process improvement plan(s)
Carries out an action plan to address areas identified as needing improvement	● (U/G/C): Generates an action plan for the program which could involve coaching/teaching/giving more feedback
Level 3 *Conducts comprehensive program evaluation for curricular areas of responsibility*	● (U/G/C): Solicits evaluation data from a variety of stakeholders within and outside of the department or unit ● (U/G): Uses Clinical Competency Committee (CCC) data to inform program/curricular evaluation ● (U/G/C): Develops evaluation tools to collect data from a variety of sources (learning outcomes, satisfaction, graduate outcomes etc.) ● (U/G/C): Collects qualitative and qualitative data to inform programmatic review
Creates an action plan to address areas identified as needing improvement	● (U/G/C): Ensures action plans are specific, measurable, attainable, relevant, and time bound
Level 4 *Uses theory or frameworks to guide program evaluation*	● (U/G/C): Uses accreditation criteria and data for program evaluation ● (U/G/C): Employs utilization-focused evaluation theory to identify and engage stakeholders at every step of the evaluation process
Uses innovative approaches to address programmatic areas of improvement	● (U/G/C): Uses the Donabedian model to assess the quality of medical care to identify program gaps

	● (U/G/C): Identifies a new program or strategy from conference proceedings or the literature to address an area for improvement
Level 5 *Develops and implements multi-site evaluations or meta-evaluations* *Disseminates interventions intended to support program improvement*	● (U/G/C): Coordinates program evaluation efforts at multiple sites ● (U/G/C): Develops a system to engage educators at sites outside of the sponsoring institution in program evaluation ● (U/G/C): Develops tools to collect feedback from learners about community sites to inform program evaluation and improvement ● (U/G/C): Presents outcomes of innovative program improvement efforts at a local, regional, or national conference
Assessment Models or Tools	● ACCME criteria ● Donabedian (2005) Model for Evaluating the Quality of Medical Care ● Kellog's Logic Model ● Moore or Kirkpatrick's Model ● University of California San Francisco's six programmatic principles
Notes or Resources	● ACGME assessment course ● AAMC Te4Q faculty development program: https://www.aamc.org/what-we-do/mission-areas/medical-education/teaching-for-quality-certificate-program ● ACGME common program requirements ● Learn at ACGME ● https://pubmed.ncbi.nlm.nih.gov/32910003/ Evaluating public and pop health education

Educational Theory and Practice 6: Remediation	
Overall Intent: To offer compassionate course correction for learners, all of whom struggle at some point in the educational program	
Milestones	**Examples**
Level 1 *Identifies a learner who is struggling*	● (U/G/C): Understands the value of remediation, can identify performance improvement plans, ● (U/G/C): Records specific observations of learners who struggle and notifies teaching supervisors - does not "kick the can down the road" ● (U/G/C): Uses clinician performance data to identify gaps
Level 2 *Identifies factors that contribute to poor performance, develops individualized learning plans in conjunction with the learner, and identifies helpful resources*	● (U/G/C): Has a conversation with the struggling learner and asks clarifying questions about underlying contributing factors; empathizes with the learner; collaborates on a learning plan that encompasses the learner's struggles; and suggests reading materials, reflective exercises, and practice sessions to improve skills ● (U/G/C): Develops individualized learning plans with referral to local and national resources; identifies specialty-specific resources for improvement
Level 3 *Implements learning plans and follow up strategies and successfully guides a learner who is struggling towards a short-term goal, separate from formal remediation*	● (U/G/C): Follows up a learning plan with conversations that impel reflection, direct observation with specific feedback to change maladaptive behaviors, and referral to mental health services to mitigate burnout ● (U/G/C): Documents follow-up and helps the learner identify additional resources to support their growth ● (U/G/C): Implements individualized learner plan with routine coaching ● (U/G/C): Recognizes when a learner may be unable to advance and consults with others
Level 4 *Develops and implements a formal remediation plan*	● (U/G/C): Has conversations with learners whose struggles extend into multiple competencies and that belie broader issues that encompass learning style, mental health, and lack of sleep; determines a viable path that may include removing the learner from current clinical rotations, coaches the learner through reflections and standardized patient interactions, notes areas of success and areas for further improvement, and continues iterative practice and reflection ● (U/G/C): Determines when it is appropriate when to recommend advancing or not advancing a learner to the next level of the educational program ● (C/G): Understands formal remediation and relation to CME and GME ● (C): Uses continuing professional development and GME resources as part of remedial plan
Level 5 *Guides others in remediation recognition and management (in all four remediation domains: identification, clarification, intervention, assessment)*	● (U/G/C): Oversees a cadre of remediation coaches who support learning who struggle throughout a program and mentors the communication and coaching skills necessary for them to succeed

	● (U/G/C): Identifies potential legal, human resource, and medical board considerations within the remediation process ● (U/G/C): Designs training in remediation within or across the continuum
Assessment Models or Tools	● Direct observation ● Multisource feedback ● OSTEs ● Portfolio or journal review: how do remediating learners rate the educator's remediation coaching and administration? How does the educator balance advocacy for the student with adherence to necessary guidelines?
Notes or Resources	● Twelve Tips for Developing and Maintaining a Remediation Program in Medical Education, A Kalet, et al. Medical Teacher. 2016. Vol 38, No 8, 787-792 ● Remediation of the Struggling Medical Learner, Jeannette Guerrasio ● Chou CL, Kalet A, Joao Costa M, Cleland J, Winston K. Guidelines: the do's, don'ts, and don't knows of remediation in medical education. Perspectives on Medical Education, 2019, 8:322-338 ● Kalet and Chou, Remediation in Medical Education: A Course Correction, Springer 2014 ● Brennan et al, Remediating professionalism lapses in medical students and doctors: a systematic review. Med Educ 2020;54:196-204. ● Mandatory Multimodality Remediation Program for surgical GME: https://reader.elsevier.com/reader/sd/pii/S0002961020302336?token=8A9D21F3407485AF7F18CF80BFF5D60001C7871150783113DBC35FED72BF345F2DED7F1DFA91DCB954EC0E8E0E0E4462&originRegion=us-east-1&originCreation=20210530175931 ● Internal Medicine GME remediation with a model and comprehensive tools that even look back to UME performance and issues: https://meridian.allenpress.com/jgme/article/9/6/763/35529/Comprehensive-Assessment-of-Struggling-Learners ● Bennion, L.D., Durning, S.J., LaRochelle, J. *et al.* Untying the Gordian knot: remediation problems in medical schools that need remediation. *BMC Med Educ* 18, 120 (2018). https://doi.org/10.1186/s12909-018-1219-x ● Baars GJA, Stijnen T, Splinter TAW. A Model to Predict Student Failure in the First Year of the Undergraduate Medical Curriculum, Health Professions Education, Volume 3, Issue 1, 2017, Pages 5-14, ISSN 2452-3011, https://doi.org/10.1016/j.hpe.2017.01.001. ● Prunuske, A., Skildum, A. Just-in-Time Remediation of Medical Students During the Preclinical Years. *Med.Sci.Educ.* 24**,** 103–109 (2014). https://doi.org/10.1007/s40670-014-0010-9

	● Yonder S, Pandey J. Remediation of pre-clerkship clinical skill performance using a hybrid coaching model. *Medical Education Online*. 2021 26:1, 1842660, DOI: 10.1080/10872981.2020.1842660

Educational Theory and Practice 7: Teaching	
Overall Intent: To provide effective teaching and facilitation of learning across the continuum of medical education in various settings	

Milestones	Examples
Level 1 *Identifies various techniques for teaching* *Discusses lessons implicitly learned (e.g., hidden curriculum)*	● (U/G/C): Identifies small group methods, large group techniques, and didactic methods, ● (U/G/C): Identifies synchronous and asynchronous methods ● (U/G/C): Recognizes there are lessons not explicitly in the curriculum; knows the definition of hidden curriculum
Level 2 *Delivers instruction in unidirectional manner resulting in passive learning* *Identifies that own behavior (role modeling) is part of the hidden curriculum*	● (U/G/C): Provides prepared lectures without first understanding learner needs ● (U/G/C): Recognizes that using consistent language with a patient and within the team huddle is modeling the hidden curriculum of professional education ● (U/G/C): Avoids contradictory behaviors to what they taught
Level 3 *Teaches in a way to invite active learning and encourages critical appraisal* *Intentionally role models desired behaviors to aid the learner in familiar settings*	● (U/G/C): Provides bi-directional teaching for learning ● (U/G/C): Explores the limits of the learner's knowledge and works with the learner to expand it ● (U/G/C): Maintains professional communications in conversations with the patient and with the team ● (U/G/C): Demonstrates respect for all members by soliciting opinions of the team ● (U/G/C): Role models appropriate professionalism and communication behaviors ● (U/G/C): Role models what is taught, while respecting the formal education curriculum
Level 4 *Uses techniques for facilitated learning of varied levels of learners across settings* *Consistently role models desired behaviors to aid the learner across settings and conditions*	● (U/G/C): Educates a group with varied levels of knowledge and needs ● (U/G/C): Teaches a group or groups with varying levels of knowledge and needs in diverse settings effectively ● (U/G/C): Facilitates small-group learning to elicit critical thinking ● (U/G/C): Role models even with significant stressors, such as being on-call ● (U/G/C): Role models behaviors when there are increased, unexpected, competing responsibilities and tasks
Level 5 *Develops effective educators*	● (U/G/C): Conducts a peer teaching evaluation program ● (U/G/C): Runs objective structured teaching exercises (OSTE) as part of a faculty development program
Assessment Models or Tools	● Direct observation ● Educator portfolio

	● Faculty-observed structured teaching ● Learner feedback ● Learner outcomes ● Multisource feedback ● Performance assessment and review ● Self-assessment
Notes or Resources	● Define hidden curriculum ● Program Director Organizations ● Define facilitated learning: A learning approach where students are encouraged to take ownership and control of their learning process and the role of the teacher changes from supplier of knowledge to facilitating the process of learning. This is done by providing learning resources and actively challenging students through systematic problem-based learning and other active learning methods. ● Teaching in Medicine series https://store.acponline.org/ebiz/products-services/product-details/productid/22402 ● Teaching in Medicine series https://store.acponline.org/ebiz/products-services/product-details/productid/22402 ● https://www.amazon.com/Health-Professional-Educator-Principles-Teaching-dp-1284230813/dp/1284230813/ref=dp_ob_image_bk ● AAMC Faculty development Te4Q program https://www.aamc.org/what-we-do/mission-areas/medical-education/teaching-for-quality-certificate-program

Educational Theory and Practice 8: Science of Learning	
Overall Intent: To demonstrate how clinician educators use the knowledge base of adult learning and development, health professions education and its associated disciplines for their roles as educators	
Milestones	**Examples**
Level 1 *Describes science of learning theories that promote comprehension, engagement, retention, recall and reflection in learners*	● (U/G/C): Discusses neuroscience of cognition ● (U/G/C): Describes the zone of proximal development ● (U/G/C): Explains single and double loop learning
Level 2 *Incorporates techniques described in the science of learning to medical education*	● (U): As a UME course director, incorporates periodic knowledge checks to enhance recall of facts based on the spacing effect ● (G): As a fellowship research director, designs and implements a career development workshop ● (U/G/C): Aids in identifying development and career goals, and incorporates both self and group reflection as part of the design
Level 3 *Continuously incorporates new knowledge and skills regarding the science of learning to improve medical education practice*	● (G): Encourages a senior endoscopy director in charge of endoscopy training for a gastroenterology fellowship attends a national workshop on endoscopy about the Dreyfus model of development and cognitive load theory; the director change the teaching program to include simulation, sequencing of endoscopic cases based on complexity, and a faculty development to decrease extrinsic cognitive load ● (C): Encourages a CME course lecturer to incorporate a more active learning strategy; the lecturer converts part of the slide materials to include audience-response polling and adds two schema to help with organizing a differential diagnosis for back pain
Level 4 *Deliberately and regularly utilizes techniques of theory of learning and varies application depending on situation*	● (U/G/C): Converts a large-group didactic lecture to a flipped classroom approach to maximize opportunities for active learning ● (C): After a presentation on how to minimize patient readmission rates for heart failure, supports an individual practitioner's clinical data on readmission rates for heart failure to support workplace learning
Level 5 *Contributes to new knowledge in the theory or science of learning*	● (U/G/C): Participates in a study to explore the application of critical reflection theory and transformative learning on identity and career development for underrepresented in medicine (URiM) pre-medical and medical students ● (U/G/C): Conducts a mix methods study applying sociocultural learning theories to explore interprofessional team dynamics during a robotic surgery
Assessment Models or Tools	● Describing theoretical or conceptual framework in talks or papers where educational projects are described ● Incorporating educational theory or learning science into peer review requests of educational papers or products (such as in a MedEdPortal submission review) ● Review of educational portfolio entry which connects design to theory

| Notes or Resources | Wilson, A. L., & Hayes, E. (Eds.). (2009). Handbook of adult and continuing education. John Wiley & Sons. Ng SL et al. The divergence and convergence of critical reflection and critical reflexivity: implications for health professions education. *Acad Med* 2019;94:1122-1128. Ng SL et al. "There shouldn't be anything wrong with not knowing": epistemologies in simulation. Med Educ 2019;53:1049-1059. Baker LR et al. Re-envisioning paradigms of education: towards awareness, alignment, and pluralism. *Adv Health Sci Educ* 2021; pub ahead of print. Best Evidence Medical and Health Professional Education. https://www.bemecollaboration.org/BEME+Guides/ ACCME. Education design resources. https://accme.org/resources/educational-design-resources Bransford JD, Brown AL, Cocking RR (Eds) (2000). How People Learn - Brain, Mind, Experience, and school, National Academy Press |

Educational Theory and Practice 9: Learner Professional Development	
Overall Intent: To facilitate professional development of learners across the career continuum	

Milestones	Examples
Level 1 *Describes continuous professional development of learners*	● (U): Describes the professional development changes that occur from pre-clinic to clinical to graduating medical student ● (G): Describes the growth and change in professional identity from general medicine resident to specialty fellow ● (C): Describes the growth of a geriatrician who becomes a clinical expert and educator of fall prevention
Describes differences between coaching, sponsoring, advising, and mentoring	● (U/G/C): Includes specific definitions of mentoring, advising, sponsoring, and coaching when describing interactions with a learner
Level 2 *Identifies approaches or strategies to promote continuous professional development of learner*	● (U): Connects a Year 2 medical student to resources to learn more about a career in surgery ● (G/C): Provides article access to faculty members and programs to aid in career exploration and skill development for someone interested in a clinician-educator career ● (U/G/C): Links a mentor-seeking learner to a women-in-science mentoring program
Identifies approaches or strategies for different learners to provide coaching, sponsoring, advising, and/or mentoring	● (U/G/C): Encourages a learner to include strategies on professional identity formation in the learner's individual learning plan ● (U/G/C): Enhances standard teaching/educational activities with longitudinal provision of support of learner professional development
Level 3 *Employs a variety of approaches or strategies to promote continuous professional development of learners in a selected setting*	● (U/G/C): Uses the GROW model (Goal, Reality, Options, Will) for coaching learners in a small group, clinic, or program ● (G): Individualizes support of professional development to learners based on their intended post-graduation interests (fellowship versus community practice versus academic practice)
Employs a variety of approaches or strategies for coaching, sponsoring, advising, and/or mentoring	● (C): Sponsors a more junior faculty member for a leadership position ● (U/G/C): Engages mentors and follows up with the learner on progress ● (U/G/C): Individualizes support of professional development to learners across the career continuum ● (U/G/C): Uses appreciative inquiry questions as part of the semi-annual check-in
Level 4 *Implements best practices to promote continuous professional development of learners in a variety of settings*	● (U/G/C): Recognizes that learners who are underrepresented in medicine may need different types of mentorship and sponsorship compared to their peers, and provides it

Implements best practices for coaching, sponsoring, advising, and mentoring	● (U/G/C): Designs a program using the GROW coaching model that includes faculty development and measurement of impact
Level 5 *Demonstrates expertise (e.g., teaches, researches) in the continuous professional development of learners*	● (U/G/C): Teaches, researches, or writes the review article for a specific subject ● (U/G/C): Speaks at national conferences about professional development ● (U/G/C): Implements a system to improve learner access to guidance to improve professional development'
Demonstrates expertise (e.g., teaches, researches) for coaching, sponsoring, advising, and mentoring	● (U/G/C): Is recognized as a leader/educator of other advisors, mentors, coaches, and sponsors ● (U/G/C): Those coached and mentored are promoted through the academic ranks
Assessment Models or Tools	● Yukawa M, Gansky SA, O'Sullivan P, Teherani A, Feldman MD. A new Mentor Evaluation Tool: Evidence of validity. PLoS One. 2020 Jun 16;15(6):e0234345. doi: 10.1371/journal.pone.0234345. PMID: 32544185; PMCID: PMC7297334.
Notes or Resources	● Lovell B. What do we know about coaching in medical education? A literature review. Med Educ. 2018 Apr;52(4):376-390. doi: 10.1111/medu.13482. Epub 2017 Dec 11. PMID: 29226349. ● Vo, M., Dallaghan, G. B., Borges, N., Gill, A. C., Good, B., Gollehon, N., ... & Balmer, D. (2021). Planning for Happenstance: Helping Students Optimize Unexpected Career Developments. *MedEdPORTAL*, *17*, 11087. ● Fernandez, Cristina R., et al. "Introducing trainees to academic medicine career roles and responsibilities." *MedEdPORTAL* 13 (2017). ● Whitmore, John. *Coaching: come risvegliare il potenziale umano nella vita professionale e personale*. Unicomunicazione. it, 2018. ● Coaching in Medical Education: A faculty handbook: https://www.ama-assn.org/system/files/2019-09/coaching-medical-education-faculty-handbook.pdf ● AMA has another coaching across the continuum book coming out shortly ● Add Beyond Advising and Mentoring: Competencies for Coaching in Medical Education from med teacher author: Margaret Wolff et al. should be out soon ● Schein, Edgar H., and Peter A. Schein. *Humble inquiry: The gentle art of asking instead of telling*. Berrett-Koehler Publishers, 2021. ● That is Holden - https://pubmed.ncbi.nlm.nih.gov/23104548/

Well-Being: Well-Being of Self, Learner, and Colleagues	
Overall Intent: To acknowledge and provide support and resources in the arduous process of becoming and being health care professionals	

Milestones	Examples
Level 1 *Describes the relationship between well-being, burnout, learning, and patient safety* *Describes signs of physical, emotional and/or professional distress*	● (U/G/C): Understands the relationship between well-being, burnout, and learning ● (U/G/C): Understands professional identity and the reward for growing and becoming clinically stronger (with connection to purpose) ● (U/G/C): Understands that the learning environment is also a well-being environment ● (U/G/C): Defines psychological safety and how that is related to patient safety
Level 2 *Shares approaches to support well-being* *Recognizes a learner in apparent distress*	● (U/G/C): In a peer discussion, shares own approaches to managing clinical and teaching demands, using department or institutional resources ● (U/G/C): Incorporates ample breaks for networking, nourishment, and recharging during a three-day board review course ● (U/G/C): Identifies the signs of those considering suicide ● (U/G/C): Identifies signs/signals of burnout in a colleague or peer
Level 3 *Employs approaches in various situations to support and foster well-being and reduce burnout* *Intervenes and identifies resources for a specific situation*	● (U/G/C): Intervenes in a crisis ● (U/G/C): Gets the learner to the right person for help ● (U/G/C): Identifies the individual and guides them to specific resources for somebody ● (U/G/C): Identifies a faculty member, chief resident, or chair who can list school and hospital resources for well-being and to address burnout ● (U/G/C): Questions a colleague who may be in need of help managing well-being (Q/P/R)
Level 4 *Employs system-based approaches towards fostering well-being and reducing burnout and consistently provides support and resources to foster well-being and reduce burnout* *Guides someone in distress and provides on-going support*	● (G): Uses internal and ACGME survey data on well-being to advocate for well-being and stress reduction resources when meeting with the dean and hospital president ● (U/G/C): Recognizes a distressed learner, intervenes to facilitate health care referrals, employee assistance programs (EAPs), and follows up to ensure that the learning environment can continue to support the learner
Level 5 *Uses experiences with learners to guide assessing, reimagining, and creating new*	● (U/G/C): Engages in scholarship or research on well-being

interventions and structures to support well-being such that burnout occurs less frequently *Guides others in recognizing learners in distress and educates in available resources*	● (U/G/C): Goes to institutional leadership to ask for environmental or physical changes to enhance the well-being of learners (i.e., higher-level advocacy)
Assessment Models or Tools	● Well-being Index
Notes or Resources	● NAM Action Collaborative on Clinician Wellbeing Knowledge Hub https://nam.edu/initiatives/clinician-resilience-and-well-being/ ● Well-Being in Academic Medicine AAMC https://www.aamc.org/news-insights/wellbeing/faculty ● NAM Action Collaborative on Clinician Wellbeing Conceptual Framework: https://nam.edu/journey-construct-encompassing-conceptual-model-factors-affecting-clinician-well-resilience/ ● Linton M, Dieppe P, Medina-Lara A Review of 99 self-report measures for assessing well-being in adults: exploring dimensions of well-being and developments over time BMJ Open 2016;6:e010641. doi: 10.1136/bmjopen-2015-010641 ● Shanfelt T, Goh J, Sinsky C. The business case for investigating in physician well-being. *JAMA Intern Med*. 2017;177(12):1826-1832. doi:10.1001/jamainternmed.2017.4340

Diversity, Equity, and Inclusion (DEI)	
Overall Intent: To acknowledge and address the numerous factors in diversity, equity, and inclusion that affect learners, the learning environment, and patient care	
Milestones	**Examples**
Level 1 *Defines diversity, equity, inclusion and systemic racism and its impact on the learning environment*	● (U/G/C): Commits to self-reflection and growth in DEI ● (U/G/C): Completes unconscious bias training and other professional development to raise self-awareness, knowledge, and skills in DEI
Level 2 *Identifies inequities and applies strategies to mitigate racism and develop a diverse, inclusive and equitable learning environment*	● (U/G/C): Serves as an ally when witnessing a microaggression ● (U/G/C): Creates a welcoming and inclusive environment and actively engages all learners ● (U/G/C): Convinces others systemic racism exists and is a problem ● (U/G/C): Develops bystander/upstander skill set
Level 3 *Applies best practices in diversity, equity inclusion and antiracism in his/her learning environment*	● (U/G/C): Advocates for allyship and DEI values in all venues including large groups, committees, and department meetings
Level 4 *Role models best practices in diversity, equity inclusion and anti-racism in his/her learning environment*	● (U/G/C): Institutes a DEI program within an educational curriculum ● (U/G/C): Leads others–informally or formally–to advance DEI initiatives ● (U/G/C): Uses the Community Health Needs Assessment to tailor educational experiences ● (U/G/C): Collects race, language, and other neighborhood-level data to identify local disparities in care and incorporate it into teaching and learning practices
Level 5 *Designs and disseminates learning experiences that engage and support persons from diverse backgrounds, orientations, abilities, experiences and perspectives* *(Not limited to the learners within their program)*	● (U/G/C): Develops or replicates DEI initiatives in multiple venues ● (U/G/C): Measures the impact of DEI programs ● (U/G/C): Recognized as an expert in DEI best practices or programs
Assessment Models or Tools	● Diversity, Inclusion, Culture, and Equity (DICE): https://store.aamc.org/diversity-inclusion-culture-and-equity-dice.html ● Foundational Principles of Inclusion Excellence (FPIE): https://store.aamc.org/foundational-principles-of-inclusion-excellence-fpie-toolkit.html
Notes or Resources	● AAMC Cross Continuum Competencies in DEI (forthcoming summer 2021): https://www.aamc.org/what-we-do/mission-areas/medical-education/cbme/competency