

Critical Care Medicine Milestones

The Accreditation Council for Graduate Medical Education



Second Revision: December 2020 First Revision: October 2014

Critical Care Medicine Milestones

The Milestones are designed only for use in evaluation of fellows in the context of their participation in ACGMEaccredited residency or fellowship programs. The Milestones provide a framework for the assessment of the development of the fellow in key dimensions of the elements of physician competence in a specialty or subspecialty. They neither represent the entirety of the dimensions of the six domains of physician competency, nor are they designed to be relevant in any other context.

Critical Care Medicine Milestones Work Group

Doreen Addrizzo-Harris, MD Rendell Ashton, MD John Buckley, MD, MPH Kevin Chan, MD Fei Chen, PhD Timothy Dempsey, MD, MPH Laura Edgar, CAE, EdD J. Christopher Farmer, MD Henry Fessler, MD Janae Heath, MD Karen Korzick, MD, MA Kannan Ramar, MD Lekshmi Santhosh, MD Nitin Seam, MD Antoinette Spevetz, MD Nancy Stewart, DO

The ACGME would like to thank the following organizations for their continued support in the development of the Milestones:

American Board of Internal Medicine

American College of Chest Physicians

Association of Pulmonary and Critical Care Medicine Program Directors

Review Committee for Internal Medicine

Society for Critical Care Medicine

Understanding Milestone Levels and Reporting

This document presents the Milestones, which programs use in a semi-annual review of fellow performance, and then report to the ACGME. Milestones are knowledge, skills, attitudes, and other attributes for each of the ACGME Competencies organized in a developmental framework. The narrative descriptions are targets for resident/fellow performance throughout their educational program.

Milestones are arranged into levels. Tracking from Level 1 to Level 5 is synonymous with moving from novice to expert fellow in the specialty or subspecialty. For each reporting period, the Clinical Competency Committee will review the completed evaluations to select the milestone levels that best describe each learner's current performance, abilities, and attributes for each subcompetency.

These levels *do not* correspond with post-graduate year of education. Depending on previous experience, a junior fellow may achieve higher levels early in his/her educational program just as a senior fellow may be at a lower level later in his/her educational program. There is no predetermined timing for a resident to attain any particular level. Fellows may also regress in achievement of their milestones. This may happen for many reasons, such as over scoring in a previous review, a disjointed experience in a particular procedure, or a significant act by the fellow.

Selection of a level implies the fellow substantially demonstrates the milestones in that level, as well as those in lower levels (see the diagram on page vi).

Additional Notes

Level 4 is designed as a graduation *goal* but *does not* represent a graduation *requirement*. Making decisions about readiness for graduation and unsupervised practice is the purview of the program director. Furthermore, Milestones 2.0 include revisions and changes that preclude using Milestones as a sole assessment in high-stakes decisions (i.e., determination of eligibility for certification or credentialing). Level 5 is designed to represent an expert fellow whose achievements in a subcompetency are greater than the expectation. Milestones are primarily designed for formative, developmental purposes to support continuous quality improvement for individual learners, education programs, and the specialty. The ACGME and its partners will continue to evaluate and perform research on the Milestones to assess their impact and value.

Some milestone descriptions include statements about performing independently. These activities must occur in conformity to ACGME supervision guidelines as described in the Program Requirements, as well as to institutional and program policies. For example, a fellow who performs a procedure independently must, at a minimum, be supervised through oversight.

A Supplemental Guide is also available to provide the intent of each subcompetency, examples for each level, assessment methods or tools, and other available resources. The Supplemental Guide, like examples contained within the Milestones, is designed only to assist the program director and Clinical Competency Committee, and is not meant to demonstrate any required element or outcome.

Supplemental Guides and other resources are available on the Milestones page of each specialty section of the ACGME website. On <u>www.acgme.org</u>, choose the applicable specialty under the "Specialties" menu, then select the "Milestones" link in the lower navigation bar. The diagram below presents an example set of milestones for one sub-competency in the same format as the ACGME Report Worksheet. For each reporting period, a fellow's performance on the milestones for each sub-competency will be indicated by selecting the level of milestones that best describes that fellow's performance in relation to those milestones.

Systems-Based Practice	2: Coordination and Trans	ition of Care		
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of care coordination	Coordinates care of patients in routine clinical situations effectively using the members of the interprofessional teams	Coordinates care of patients in complex clinical situations effectively using the members of the interprofessional teams	Coordinates care of patients in complex clinical situations among different disciplines and specialties	Analyzes the process of care coordination and leads in the design and implementation of improvements
Identifies key elements for safe and effective transitions of care and handoffs	Performs safe and effective transitions of care/handoffs in routine clinical situations	Performs safe and effective transitions of care/handoffs in complex clinical situations	Advocates for safe and effective transitions of care/handoffs within and across health care delivery systems	Improves quality of transitions of care within and across health care delivery systems to optimize patient outcomes
Comments:			Not Yet C	ompleted Level 1
Selecting a respo middle of a level i milestones in that levels have been demonstrated.	mplies that level and in lower	between levels in		s

©2020 Accreditation Council for Graduate Medical Education (ACGME)

Patient Care 1: History a	nd Physical Examination			
Level 1	Level 2	Level 3	Level 4	Level 5
Obtains specialty- specific, detailed, and accurate history from patients with common disorders, with substantial guidance	Obtains specialty-specific, detailed, and accurate history from patients with common disorders	Obtains specialty-specific, detailed, and accurate history from multiple sources for patients with complex disorders	Independently and efficiently obtains a specialty-specific, detailed, and accurate history from multiple sources for patients with complex disorders	Independently obtains a specialty-specific, detailed, and accurate history from multiple sources for patients with rare disorders
Performs a specialty- specific, detailed, and accurate physical exam on patients with common disorders, with substantial guidance	Performs a specialty- specific, detailed, and accurate physical exam on patients with common disorders	Elicits specialty-specific signs while performing a detailed and accurate physical exam on patients with complex disorders	Independently and efficiently elicits specialty-specific signs while performing a detailed and accurate physical exam on patients with complex disorders	Independently elicits specialty-specific signs while performing a detailed and accurate physical exam on patients with complex or rare disorders in clinically difficult circumstances
Comments:			Not Yet C Not Yet As	ompleted Level 1

Patient Care 2: Disease	Management in Critical Car	e		
Level 1	Level 2	Level 3	Level 4	Level 5
Manages unstable patients requiring a higher intensity of care, with substantial guidance	Manages unstable patients with single system disease	Manages unstable patients with multisystem disease	Independently manages unstable patients with multisystem disease and coordinates interdisciplinary care plans	
Identifies the long-term consequences of critical illness, with substantial guidance	Anticipates the long-term consequences of critical illness	Anticipates and acts to minimize the long-term consequences of critical illness	Anticipates and acts independently to minimize the long-term consequences of critical illness	Independently facilitates post-intensive care unit care
Provides critical care consultation, with substantial guidance	Provides critical care consultation for patients with single system disease	Provides critical care consultation for patients with multisystem disease	Independently triages and prioritizes comprehensive critical care consultation for multiple patients	Independently reconciles conflicting consultative recommendations to optimize patient care
Comments:			Not Yet C Not Yet A	ompleted Level 1

Patient Care 3: Pre-Proce	edure Assessment			
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies indications for procedures and their risks, benefits, and alternatives	Assesses indications, risks, benefits and weighs alternatives in low- to moderate-risk situations	Assesses indications, risks, benefits and weighs alternatives in high-risk situations	Independently assesses indications, risks, benefits and weighs alternatives in high-risk situations and acts to mitigate modifiable risk factors	Recognized by peers as an expert in procedural assessment
Comments:			Not Yet C Not Yet As	ompleted Level 1

Patient Care 4: Procedu	res (Invasive and Non-Invas	sive)		
Level 1	Level 2	Level 3	Level 4	Level 5
Performs simple procedures, with assistance	Performs complex procedures, with assistance	Performs complex procedures, with minimal assistance	Independently performs all procedures in the current practice environment	Recognized by peers as a procedural expert
Interprets limited procedural results, with assistance	Interprets comprehensive procedural results, with assistance	Independently interprets comprehensive procedural results	Independently interprets comprehensive procedural results and applies them to the patient's clinical context	
Recognizes common	Recognizes uncommon	Recognizes and manages	Independently	
complications	complications	complications, with oversight	recognizes and manages complications	
Comments:			Not Vot C	ompleted Level 1
			Not Yet A	· <u> </u>

Patient Care

The fellow is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in the training program. The fellow is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, effective, patient-centered, timely, efficient, and equitable care.

_____ Yes _____ No _____ Conditional on Improvement

©2020 Accreditation Council for Graduate Medical Education (ACGME)

Medical Knowledge 1: Cl	inical Reasoning			
Level 1	Level 2	Level 3	Level 4	Level 5
Synthesizes a specialty- specific, analytic, and prioritized differential diagnosis for common presentations, with substantial guidance	Synthesizes a specialty- specific, analytic, and prioritized differential diagnosis for common presentations	Synthesizes a specialty- specific, analytic, and prioritized differential diagnosis for complex presentations	Synthesizes information to reach high-probability and/or high-risk diagnoses and anticipates potential complications in patient care	Recognized by peers as an expert diagnostician
Identifies types of clinical reasoning errors within patient care, with substantial guidance	Identifies types of clinical reasoning errors within patient care	Applies clinical reasoning principles to retrospectively identify cognitive errors	Continually re-appraises one's clinical reasoning to prospectively minimize cognitive errors and manage uncertainty	Coaches others to recognize and avoid cognitive errors
Comments:			Not Yet Co Not Yet As	ompleted Level 1

Medical Knowledge 2: Se	cientific Knowledge of Dise	ease and Therapeutics		
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates scientific knowledge of common diseases	Applies scientific knowledge of common diseases	Applies scientific knowledge of complex diseases	Independently applies scientific knowledge of complex diseases	Expertly teaches scientific knowledge of complex diseases
Demonstrates knowledge of pharmacology and therapeutics for common diseases	Applies knowledge of pharmacology and therapeutics for common diseases	Applies knowledge of pharmacology and therapeutics for complex diseases	Independently applies knowledge of pharmacology and therapeutics for complex diseases	Applies cutting-edge knowledge of pharmacology and therapeutics
Comments:			Not Yet Co Not Yet As	ompleted Level 1

Medical Knowledge

The fellow is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in the training program. The fellow is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, effective, patient-centered, timely, efficient, and equitable care.

_____Yes ____No ____Conditional on Improvement

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of common patient safety events	Identifies system factors that lead to patient safety events	Participates in analysis of patient safety events (simulated or actual)	Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual)	Actively engages teams and processes to modify systems to prevent patient safety events
Demonstrates knowledge of how to report patient safety events	Reports patient safety events through institutional reporting systems (simulated or actual)	Participates in disclosure of patient safety events to patients and families (simulated or actual)	Discloses patient safety events to patients and families (simulated or actual)	Role models or mentors others in the disclosure of patient safety events
Demonstrates knowledge of basic quality improvement methodologies and metrics	Describes local quality improvement initiatives (e.g., community vaccination rate, infection rate, smoking cessation)	Participates in local quality improvement initiatives	Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project	Creates, implements, and assesses quality improvement initiatives at the institutional or community level

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of care coordination	Coordinates care of patients in routine clinical situations effectively using the members of the interprofessional teams	Coordinates care of patients in complex clinical situations effectively using the members of the interprofessional teams	Coordinates care of patients in complex clinical situations among different disciplines and specialties	Analyzes the process of care coordination and leads in the design and implementation of improvements
Identifies key elements for safe and effective transitions of care and hand-offs	Performs safe and effective transitions of care/hand-offs in routine clinical situations	Performs safe and effective transitions of care/hand-offs in complex clinical situations	Advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems	Improves quality of transitions of care within and across health care delivery systems to optimize patient outcome
Comments:				

Version 2

Systems-Based Practice	3: Population Health			
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of population and community health needs and disparities	Identifies specific population and community health needs and inequities for the local population	Uses local resources effectively to meet the needs of a patient population in the community	Advocates for changing and adapting practice to provide for the needs of specific populations	Leads innovations and advocates for populations and communities with health care inequities
Comments:			Not Yet Co	ompleted Level 1

Systems-Based Practice	4: Physician Role in Health	h Care Systems			
Level 1	Level 2	Level 3	Level 4	Level 5	
Describes basic health care delivery systems (e.g., practice and payment models, accountable care organizations)	Describes how components of a complex health care delivery system are interrelated, and how this impacts patient care (e.g., out-of-network hospitalizations)	Discusses how individual practice affects the broader system (e.g., length of stay, cost of care, readmission rates, clinical efficiency)	Advocates for patient care needs (e.g., community resources, patient assistance resources) with consideration of the limitations of each patient's payment model	Advocates for or leads systems change that enhances high-value, efficient, and effective patient care	
Comments:	Comments: Not Yet Completed Level 1				

Systems-Based Practice

The fellow is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in the training program. The fellow is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, effective, patient-centered, timely, efficient, and equitable care.

_____ Yes _____ No _____ Conditional on Improvement

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates how to access and apply available evidence to care for patients	Elicits patient preferences and values to guide evidence-based care for patients	Locates and applies the best available evidence, integrated with patient preference to care for patients	Critically appraises and applies evidence even in the face of uncertainty and conflicting evidence to guide care, tailored to the individual patient	Coaches others to critically appraise and apply evidence; and/or participates in the development of guidelines
Demonstrates knowledge of basic trial design and statistical concepts and communicates details of published scientific work	Reads scientific literature, identifies gaps, and generates hypotheses for planned scholarly activity	Participates in a scholarly project	Presents scholarly activity at local or regional meetings, and/or submits an abstract of their scholarly work to a regional meeting	Effectively presents scholarly work at national and international meetings or has a peer reviewed publication accepted or grant funded

Level 1	Level 2	Level 3	Level 4	Level 5
Accepts responsibility for personal and professional development by establishing goals	Demonstrates openness to performance feedback in order to inform goals	Seeks performance feedback episodically, with adaptability, and humility	Intentionally seeks performance feedback consistently with adaptability, and humility	Consistently role models the seeking of performance data with adaptability and humility
Identifies the factors which contribute to gap(s) between expectations and actual performance	Analyzes and reflects on the factors which contribute to gap(s) between expectations and actual performance	Analyzes, reflects on, and institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance	Identifies and uses alternative methods to narrow the gap(s) between expectations and actual performance	Coaches others on reflective practice
Actively seeks opportunities to improve knowledge and abilities	Designs and implements a learning plan, with prompting	Independently creates and implements a learning plan	Uses performance feedback to measure the effectiveness of the learning plan and when necessary, improves it	Facilitates the design and implementation of learning plans for others

Practice-Based Learning and Improvement

The fellow is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in the training program. The fellow is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, effective, patient-centered, timely, efficient, and equitable care.

_____ Yes _____ No _____ Conditional on Improvement

©2020 Accreditation Council for Graduate Medical Education (ACGME)

Level 1	Level 2	Level 3	Level 4	Level 5
Identifies and describes potential triggers for professionalism lapses in self	Demonstrates insight into professional behavior in routine situations and takes responsibility for own professionalism lapses	Demonstrates professional behavior in complex or stressful situations	Recognizes situations that may trigger professionalism lapses and acts to prevent them	Recognized by peers as a resource for professionalism concerns
Recognizes professionalism lapses in others	Knows institutional processes for reporting professionalism lapses, including strategies for addressing common barriers	Follows institutional processes for reporting professionalism lapses, including strategies for addressing common barriers	Intervenes to prevent and address professionalism lapses in peers	Coaches peers when their behavior fails to meet professional expectations
Demonstrates knowledge of the ethical principles underlying informed consent, surrogate decision making, advance directives, confidentiality, error disclosure, stewardship of limited resources, and related topics	Analyzes straightforward situations using ethical principles and applies them to practice	Analyzes complex situations using ethical principles, and applies them to practice, while recognizing the need to seek help in managing these situations	Recognizes and utilizes appropriate resources for managing and resolving ethical dilemmas as needed (e.g., ethics consultations, literature review, risk management/legal consultation)	Identifies and seeks to address system-level factors that induce or exacerbate ethical problems or impede their resolution

Professionalism 2: Accountability					
Level 1	Level 2	Level 3	Level 4	Level 5	
Completes tasks and responsibilities in response to requests or reminders	Completes tasks and responsibilities in a timely manner, without reminders	Completes tasks and responsibilities without reminders, identifies potential barriers to completion, and acts to mitigate those barriers in routine situations	Completes tasks and responsibilities without reminders, identifies potential barriers to completion, and acts to mitigates those barriers in complex or stressful situations	Assists others in developing strategies for completing tasks and responsibilities	
Comments: Not Yet Completed Level 1					

Professionalism 3: Well-Being and Resiliency					
Level 1	Level 2	Level 3	Level 4	Level 5	
Identifies elements of well-being and describes risk factors for burnout and signs and symptoms of burnout and depression in self or peers	With assistance, recognizes status of well- being and risk factors for maladaptation in self or peers	Independently recognizes status of well-being in self or peers and reports concerns to appropriate personnel	Develops and implements a plan to improve well-being of self or peers, including utilization of institutional or external resources	Recommends and facilitates system changes to promote well- being in a practice or institution	
Comments: Not Yet Completed Level 1					

This subcompetency is not intended to evaluate a fellow's well-being, but to ensure each fellow has the fundamental knowledge of factors that impact well-being, the mechanisms by which those factors impact well-being, and available resources and tools to improve well-being.

Professionalism

The fellow is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in the training program. The fellow is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, effective, patient-centered, timely, efficient, and equitable care.

_____ Yes _____ No _____ Conditional on Improvement

Level 1	Level 2	Level 3	Level 4	Level 5
Uses language and nonverbal behavior to demonstrate respect and establish rapport	Establishes a therapeutic relationship using effective communication behaviors in straightforward encounters	Establishes a therapeutic relationship using effective communication behaviors in challenging patient encounters	Establishes therapeutic relationships using shared decision making (e.g., attention to patient/family concerns and context), regardless of complexity	Coaches others in developing therapeutic relationships and mitigating communication barriers
Identifies common barriers to effective communication (e.g., language, disability, personal bias)	Identifies complex barriers to effective communication (e.g. health literacy, cultural), including personal bias	Mitigates communication barriers, including personal bias	Role models the mitigation of communication barriers	

Interpersonal and Communication Skills 2: Interprofessional and Team Communication					
Level 1	Level 2	Level 3	Level 4	Level 5	
Uses language that values all members of the team	Communicates information, including basic feedback with all team members	Facilitates team communication to reconcile conflict and provides difficult feedback	Adapts communication style to fit team needs and maximizes impact of feedback to the team	Role models flexible communication strategies that facilitate excellence in teamwork	
Comments: Not Yet Completed Level 1					

Interpersonal and Communication Skills 3: Communication within Health Care Systems					
Level 1	Level 2	Level 3	Level 4	Level 5	
Accurately records comprehensive information	Documents clinical reasoning through organized notes	Documents clinical reasoning and is concise most of the time	Documents clinical reasoning concisely in an organized form, including next steps in care	Guides departmental or institutional communication policies and procedures	
Communicates using formats specified by institutional policy to safeguard patient personal health information	Selects direct (e.g., telephone, in-person) and indirect (e.g., progress notes, text messages) forms of communication based on context, with assistance	Appropriately selects direct and indirect forms of communication based on context	Role models effective written and verbal communication		
Comments: Not Yet Completed Level 1					

Interpersonal and Communication Skills 4: Complex Communication Around Serious Illness				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies prognostic communication as a key element for shared decision making	Assesses the patient's families/caregivers' prognostic awareness and identifies preferences for receiving prognostic information	Delivers basic prognostic information and attends to emotional responses of patient and families/caregivers	Tailors communication of prognosis according to disease characteristics and trajectory, patient consent, family needs, and medical uncertainty, and manages intense emotional response	Coaches others in the communication of prognostic information
Identifies the need to assess patient/family expectations and understanding of their health status and treatment options	Facilitates communication with patient/family by introducing stakeholders, setting the agenda, clarifying expectations, and verifying an understanding of the clinical situation	Sensitively and compassionately delivers medical information; elicits patient/family values, goals and preferences; and acknowledges uncertainty and conflict, with guidance	Independently uses shared decision making to align patient/family values, goals, and preferences with treatment options to make a personalized care plan in situations with a high degree of uncertainty and conflict	Coaches shared decision making in patient/family communication
Comments:	Comments: Not Yet Completed Level 1			

Interpersonal and Communication Skills

The fellow is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in the training program. The fellow is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, effective, patient-centered, timely, efficient, and equitable care.

____ Yes _____ No _____ Conditional on Improvement

©2020 Accreditation Council for Graduate Medical Education (ACGME)

Overall Clinical Competence

This rating represents the assessment of the fellow's development of overall clinical competence during this year of training:

_Superior: Far exceeds the expected level of development for this year of training

Satisfactory: Always meets and occasionally exceeds the expected level of development for this year of training

_Conditional on Improvement: Meets some developmental milestones but occasionally falls short of the expected level of development for this year of training. An improvement plan is in place to facilitate achievement of competence appropriate to the level of training.

_Unsatisfactory: Consistently falls short of the expected level of development for this year of training.