Supplemental Guide: Emergency Medical Services (EMS)

ACGME

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Milestones Supplemental Guide

This document provides additional guidance and examples for the Emergency Medical Services 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 a Clinical Competency Committee (CCC) might expect to be observed/assessed at each level. Also included are suggested assessment models and tools for each subcompetency, references, and other useful information.

Review this guide with the CCC and faculty members. As the program develops a shared mental model of the Milestones, consider creating an individualized guide (Supplemental Guide Template available) with institution/program-specific examples, assessment tools used by the program, and curricular components.

Additional tools and references, including the Milestones Guidebook, Clinical Competency Committee Guidebook, and Milestones Guidebook for Residents and Fellows, are available on the Resources page of the Milestones section of the ACGME website.

Patient Care 1: Procedures Performed in the Pre-Hospital Environment **Overall Intent:** To perform life-saving procedures in the pre-hospital environment	
Milestones	**Examples**
Level 1 *Knows indications, contraindications, risks, and benefits, anatomic landmarks, equipment, procedural technique, and potential complications of common pre-hospital procedures*	● Demonstrates locating anatomic landmarks for pleural decompression
Recognizes that the pre-hospital environment affects procedures	● Identifies potential difficulties in performing cardiopulmonary resuscitation (CPR) in a home
Level 2 *Performs the indicated common procedure on patients with moderate urgency who have identifiable landmarks and a low-moderate risk for complications*	● Applies traction splint for suspected femur fracture
Discusses the effects of the pre-hospital environment on performing procedures	● Identifies risks of performing defibrillation on a wet pool deck
Level 3 *Performs the indicated procedure, takes steps to avoid potential complications, and recognizes the outcome and/or complications resulting from the procedure*	● Applies a tourniquet for hemorrhage control on multiple patients during an active shooter response (real or simulated)
Evaluates the environment and situation in the decision to perform a procedure	● Triages procedures in a multiple-patient incident
Level 4 *Performs indicated procedures on patients, including those with challenging features (e.g., poorly identifiable landmarks, at extremes of age, or with co-morbid conditions)*	● Manages endotracheal intubation for a difficult airway
Modifies the procedure depending on the environment and situation	● Inserts supraglottic airway in confined space
Level 5 *Incorporates evidence-based medicine to improve procedures and develop novel techniques used in different environments*	● Assesses the literature to develop an evidence-based protocol for use of point-of-care ultrasound to guide field management
Assessment Models or Tools	● Direct observation

	● Multisource feedback ● Simulation
Curriculum Mapping	●
Notes or Resources	● Cone D, Brice JH, Delbridge TR, Myers JB (eds). *Emergency Medical Services: Clinical Practice and Systems Oversight*. Hoboken, NJ: Wiley; 2015. ISBN:978-1118865309.

Patient Care 2: Pre-Hospital Recognition and Stabilization of Time/Life-Critical Conditions **Overall Intent:** To identify and stabilize patients with time-sensitive or life-threatening illness or injury in the pre-hospital setting and ensure transfer to the appropriate facility	
Milestones	**Examples**
Level 1 *Recognizes when a patient is unstable and requires immediate intervention*	● Recognizes abnormal vital signs in adult and pediatric patients
Performs a primary assessment on a critical patient	● Identifies immediately life-threatening conditions
Describes local laws and regulations governing advanced directives for medical care	● Recognizes that the presence of advanced directives may alter usual care
Level 2 *Prioritizes stabilization actions in the resuscitation of a critical patient*	● Addresses ABCs in correct order ● Attends to immediate life threats before addressing other injuries in a trauma patient
Reassesses a patient after implementing an intervention	● Rechecks blood pressure after fluid bolus ● Rechecks lung sounds after neb treatment
Evaluates the validity of an advanced directive for medical care as it applies to resuscitation	● Discusses advanced directives with next of kin/family on scene
Level 3 *Independently adapts management strategies of critical conditions to the situation and environment*	● Recognizes when to initiate transport and complete procedures en route to hospital
Chooses appropriate transport modality and destination facility for critical conditions	● Directs transport of a ST-segment myocardial infarction (STEMI) patient to a facility with a catheterization lab capable of performing emergent percutaneous coronary intervention (PCI)
Makes the decision to withhold or end resuscitation	● Participates in discussion of cardiac arrest resuscitation futility with family/next of kin on scene
Level 4 *Participates in policy and protocol development for the management of critical patients*	● Develops regional trauma protocols
Performs quality improvement efforts to improve the care to patients with critical conditions	● Evaluates time to first defibrillation among cardiac arrest patients within EMS system

Participates in the development of policies and protocols related to end-of-life care	● Participates in the development of a protocol for communicating with a patients' family's regarding futility of care
Level 5 *Independently develops or leads the development of policies and protocols for the care of critical conditions* *Independently develops or leads the development of policies and protocols related to end of life*	● Recognizes the need for new policy or protocol related to care of left ventricular assist device patients ● Develops a policy to support EMS clinician care of patients' comfort needs in place, to reduce transport of patients with goals of comfort-focused care
Assessment Models or Tools	● Direct observation ● Multisource feedback ● Patient care record audit ● Simulation
Curriculum Mapping	●
Notes or Resources	● Cone D, Brice JH, Delbridge TR, Myers JB (eds). *Emergency Medical Services: Clinical Practice and Systems Oversight*. Hoboken, NJ: Wiley; 2015. ISBN:978-1118865309.

Patient Care 3: Recognition and Treatment of Pre-Hospital Conditions **Overall Intent:** To manage patients with both routine and complex conditions in the pre-hospital setting	
Milestones	**Examples**
Level 1 *Under supervision, manages patients with common and simple presentations* *Recognizes that the pre-hospital environment affects patient care*	● With assistance of the medical director and/or online medical control, administers aspirin with suspected cardiac chest pain ● Defers chemical cardioversion in a stable patient based on local protocol though this may differ from what would be performed in-hospital
Level 2 *Independently manages patients with common and simple presentations* *Discusses the effects of the pre-hospital environment on patient care*	● Independently treats a patient with congestive heart failure with sublingual nitrates and continuous positive airway pressure (CPAP) ● Describes the necessary steps to optimize intubation success in the field
Level 3 *Under supervision, manages patients with uncommon and complicated presentations* *Modifies patient care depending on the environment and situation*	● Under supervision, manages a complex patient that requires immediate adaptation of treatment protocols ● With guidance, appropriately prioritizes treatment when multiple interventions are required ● Begins assessment and management of an entrapped patient before extrication, including fluid administration, pain management, and mitigation of environmental hypothermia
Level 4 *Independently manages patients with uncommon and complicated presentations in challenging conditions* *Incorporates evidence-based medicine to improve patient care provided in different environments*	● Independently manages a complex patient in a contaminated environment ● Appropriately prioritizes treatment when multiple interventions are required ● Uses literature to support management decisions that require adaptation of routine care
Level 5 *Teaches others how to manage patients with uncommon and complicated presentations in challenging conditions* *Independently develops or leads the development of policies and protocols related to pre-hospital patient care*	● Educates EMS clinicians on care of patients with exposure to hazardous materials ● Develops a policy on care of the entrapped patient
Assessment Models or Tools	● Direct observation ● Multisource feedback ● Patient care record/chart audit

	● Simulation
Curriculum Mapping	●
Notes or Resources	● Cone D, Brice JH, Delbridge TR, Myers JB (eds). *Emergency Medical Services: Clinical Practice and Systems Oversight*. Hoboken, NJ: Wiley; 2015. ISBN:978-1118865309. ● National Association of States EMS Officials (NASEMSO). Model EMS Clinical Guidelines. https://nasemso.org/projects/model-ems-clinical-guidelines/. 2021. ● National Association of EMS Physicians (NAEMSP). Position Statements. https://naemsp.org/resources/position-statements/. 2021.

Patient Care 4: General Special Operations in Emergency Medical Services (EMS); Mass Casualty and Disaster Management **Overall Intent:** To manage mass casualty events using triage, treatment, and transport concepts; to use the concepts of preparation, response, mitigation, and recovery for disaster events	
Milestones	**Examples**
Level 1 *Describes the principles of care in mass casualty or disaster situations* *Demonstrates awareness of National Incident Management System (NIMS) and Incident Command System (ICS)*	● Discusses concept of providing care for greatest number with limited resources ● Completes ICS 100, 200, 700, 800 online courses
Level 2 *With supervision, participates in a mass casualty or disaster management event/exercise* *Describes principles and terminology of mass casualty and disaster response, including triage, NIMS, and ICS*	● Participates in a tabletop mass casualty incident exercise or simulated event ● Participates in a disaster life support course ● Triages real or simulated patients using systems such as “Sort, Assess, Life-saving interventions, Treatment/Transportation” (SALT), Simple Triage And Rapid Treatment (START), or Jump START
Level 3 *Independently provides care at a mass casualty or disaster event/exercise* *Participates in the development of an Incident Action Plan and/or After Action Review*	● Provides patient care at a traffic collision with multiple patients ● Participates in the development of an incident action plan for a marathon
Level 4 *Develops and implements protocols for a mass casualty or disaster event* *Leads the team to develop an Incident Action Plan and/or After Action Review*	● Develops a crush injury protocol ● Develops an ambulance staging protocol ● Independently develops incident action plan for a marathon
Level 5 *Performs as a medical director for a mass casualty or disaster response team* *Conducts scholarly activity in mass casualty or disaster management*	● Oversees the medical care teams at a building collapse ● Publishes a paper related to disaster medicine
Assessment Models or Tools	● Direct observation ● Multisource feedback ● Simulation
Curriculum Mapping	●

Notes or Resources	● Cone D, Brice JH, Delbridge TR, Myers JB (eds). *Emergency Medical Services: Clinical Practice and Systems Oversight*. Hoboken, NJ: Wiley; 2015. ISBN:978-1118865309. ● Federal Emergency Management Agency (FEMA). National Incident Management System (NIMS). https://training.fema.gov/nims/. 2021. ● National Disaster Life Support Foundation (NDLSF). https://www.ndlsf.org/. 2021.

Medical Knowledge 1: Medical Oversight **Overall Intent:** To engage in the oversight of an EMS agency or system	
Milestones	**Examples**
Level 1 *Identifies the need for medical oversight of EMS agencies and systems* *Describes the policies for EMS oversight in their EMS agency or system*	● Describes the role of online medical control in termination of resuscitation ● Lists the conditions requiring contact of online medical control
Level 2 *Defines the core components of medical oversight of EMS agencies and systems* *Contributes to meetings/planning sessions where policies for EMS agency or system oversight are discussed*	● Describes the role of offline and online medical control ● Participates in EMS system meetings ● Reviews changes to treatment protocols
Level 3 *Performs medical oversight of an EMS agency, with supervision* *Assists in policy development for oversight of EMS agencies or systems*	● Operates as an online medical control physician with supervision ● Proposes changes to treatment protocols
Level 4 *Independently performs oversight of an EMS agency* *Develops policy for oversight of EMS agencies or systems*	● Independently operates as an online medical control physician ● Acts as a medical director for an EMS agency ● Creates a new treatment protocol or policy or makes substantial revisions to a prior treatment protocol or policy
Level 5 *Performs oversight of a complex or multi-agency EMS system*	● Provides medical direction for an EMS system that includes multiple agencies and receiving facilities ● Leads an advisory board or task force to make recommendations on medical oversight of EMS systems
Assessment Models or Tools	● Audit of online medical control record ● Direct observation ● Multisource feedback
Curriculum Mapping	●
Notes or Resources	● Clawson JJ, Dernocoeur KB, Murray C. *Principles of Emergency Medical Dispatch*. 6th ed. Salt Lake City, UT: International Academy of EMD; 2014.

	● Cone D, Brice JH, Delbridge TR, Myers JB (eds). *Emergency Medical Services: Clinical Practice and Systems Oversight*. Hoboken, NJ: Wiley; 2015. ISBN:978-1118865309.

Medical Knowledge 2: Special Teams **Overall Intent:** To understand the roles of special teams in the pre-hospital setting, participate in training of special teams, and learn the roles and responsibilities of a medical director for special teams	
Milestones	**Examples**
Level 1 *Identifies and describes the basic roles of Special Teams*	● Defines responsibilities of EMS and law enforcement for a tactical EMS team
Level 2 *Defines the core components and specialty training required of Special Teams*	● Creates training on confined space and crush syndrome for an urban search and rescue team ● Explains the training required for a tactical team carrying tourniquets and hemostatic agents
Level 3 *Effectively participates as a medical team member in a Special Team during actual or simulated operations*	● Responds with an ambulance strike team for a complex rescue incident ● Participates in a tactical team simulated training exercise
Level 4 *Develops and implements protocols for Special Teams*	● Creates EMS protocol for highly infectious disease response including personal protective equipment (PPE) and transportation equipment
Level 5 *Performs as a medical director for a Special Team*	● Is a member of the Urban Search and Rescue (USAR) team ● Manages on-scene medical direction for marathon event
Assessment Models or Tools	● Direct observation ● Multisource feedback ● Simulation
Curriculum Mapping	●
Notes or Resources	● An EMS special team is a designated group of EMS practitioners, operating with physician medical oversight, with specialized training, protocols, tactics, equipment, or other capabilities to provide direct medical care and/or operational support (that may include occupational health services) to a specialized public safety unit or to an EMS operation (e.g., special event, disaster response). related teams include but are not limited to Tactical Emergency Medical Support (TEMS), Hazardous Materials (HazMat), Urban Search and Rescue (USAR), Special Event Teams, Ambulance Strike Teams/Task Forces, EMS Task Force, Wilderness EMS Teams

Systems-Based Practice 1: Patient Safety **Overall Intent:** To engage in the analysis and management of patient safety events, including relevant communication with patients, families, and health care professionals	
Milestones	**Examples**
Level 1 *Demonstrates knowledge of common patient safety events and knows how to report*	● Lists patient misidentification or medication errors as common patient safety events
Level 2 *Identifies system factors that lead to patient safety events*	● Identifies that sharps disposal containers in the ambulance may lead to decreased needle sticks
Level 3 *Participates in analysis of patient safety events (simulated or actual)*	● Prepares morbidity and mortality presentations
Level 4 *Conducts root cause analysis of patient safety events and offers error prevention strategies (simulated or actual)*	● Collaborates with a team to conduct a root cause analysis of a medication administration error and effectively communicates with patients/families about the event
Level 5 *Actively engages team and modifies system processes to prevent patient safety events*	● Assumes a leadership role at the departmental or agency level for patient safety
Assessment Models or Tools	● Direct observation ● E-module multiple choice tests ● Medical record (chart) audit, including patient care records ● Multisource feedback ● Portfolio ● Reflection ● Simulation
Curriculum Mapping	●
Notes or Resources	● AHRQ. Diagnostic Safety and Quality. https://www.ahrq.gov/topics/diagnostic-safety-and-quality.html. 2021. ● AHRQ. Patient Safety Network: Safety Culture in EMS. https://psnet.ahrq.gov/perspective/safety-culture-ems. 2021. ● Institute of Healthcare Improvement. Open School. http://www.ihi.org/education/IHIOpenSchool/Pages/default.aspx. 2021. ● The Joint Commission. Patient Safety Resources. https://www.jointcommission.org/resources/patient-safety-topics/patient-safety/. 2021 ● Langley GJ, Moen RD, Nolan Km, et al. *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance*. 2nd ed. San Francisco, CA: Jossey-Bass; 2009.

Systems-Based Practice 2: Quality Improvement **Overall Intent:** To conduct a quality improvement project	
Milestones	**Examples**
Level 1 *Demonstrates knowledge of basic quality improvement methodologies and metrics*	● Describes quality assurance analysis tool
Level 2 *Describes local EMS agency/system quality improvement initiatives*	● Summarizes protocols to reduce medication administration errors ● Discusses protocols to reduce the spread of infectious diseases
Level 3 *Participates in local EMS agency/system quality improvement initiatives*	● Participates in project identifying root cause analysis ● Participates in a quality improvement initiative such as cardiac arrest outcomes, major trauma performance, or high-risk refusal protocol compliance
Level 4 *Demonstrates the skills required for identifying, developing, implementing, and analyzing an EMS quality improvement project*	● Participates in the completion of a quality improvement project to improve airway skills, including assessing the problem, articulating a broad goal, and monitoring progress and challenges
Level 5 *Creates, implements, and assesses EMS quality improvement initiatives at the agency or local/regional/state system levels*	● Engages with community leaders to address and decrease opioid overdose
Assessment Models or Tools	● Direct observation ● E-module multiple choice tests ● Medical record (chart) audit, including patient care record ● Multisource feedback ● Portfolio ● Reflection ● Simulation
Curriculum Mapping	●
Notes or Resources	● EMS. Compass. https://www.ems.gov/projects/ems-compass.html. 2021. ● Institute of Healthcare Improvement. Open School. http://www.ihi.org/education/IHIOpenSchool/Pages/default.aspx. 2021. ● Langley GJ, Moen RD, Nolan Km, et al. *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance*. 2nd ed. San Francisco, CA: Jossey-Bass; 2009. ● Resuscitation Academy. https://www.resuscitationacademy.org/. 2021.

Systems-Based Practice 3: System Navigation for Patient-Centered Care **Overall Intent:** To effectively navigate the health care system, including the interdisciplinary team and other care providers and adapt care to a specific patient population to ensure high-quality patient outcomes	
Milestones	**Examples**
Level 1 *Demonstrates knowledge of care coordination* *Identifies key elements for safe and effective transitions of care and hand-offs* *Demonstrates knowledge of population and community health needs*	● Discusses the multidisciplinary nature of EMS ● Lists the essential components of a standardized hand-off tool and care transition ● Identifies the different reasons why patients use EMS
Level 2 *In routine clinical situations, coordinates patient care integrating the roles of interprofessional teams* *In routine clinical situations, enables safe and effective transitions of care/hand-offs* *Identifies specific population and community health needs for their local population*	● Coordinates care with the mobile outreach team and chronic care providers to help decrease EMS use ● Routinely uses a standardized hand-off tool for a stable patient ● Works with social workers and case manages for patients with limited transportation options to arrange for referral to medical transport, community paramedicine, and telemedicine
Level 3 *In complex clinical situations, coordinates patient care by integrating the roles of the interprofessional teams, with supervision* *In complex clinical situations, enables safe and effective transitions of care/hand-offs, with supervision* *Effectively uses local EMS resources to meet the needs of a patient population and community*	● Works with the social worker to coordinate care for a homeless patient that will ensure follow-up ● Coordinates with law enforcement for a difficult transport ● Routinely uses a standardized hand-off tool when transferring a patient to the emergency department or specialty team ● Refers patients to a free clinic for their routine health care needs
Level 4 *In complex clinical situations, coordinates patient care by integrating the roles of the interprofessional teams, independently*	● Coordinates care for home hospice services

In complex clinical situations, enables safe and effective transitions of care/hand-offs, independently *Participates in changing and adapting EMS practice to provide for the needs of specific populations*	● Incorporates communication with primary provider regarding a frequent user ● Identifies an issue with the patient and notifies the social worker of the need for resources post-discharge ● Assists in designing protocols for a leave-behind naloxone program
Level 5 *Analyzes the process of EMS care coordination and implements systemic improvements* *Implements systemic improvement for transitions of care* *Leads EMS system innovations and advocates for populations and communities with specific health care needs*	● Leads a program to provide community paramedic-led care to high-risk heart failure patients ● Develops a protocol to improve transitions to long-term care facilities ● Leads development of telemedicine consultation program
Assessment Models or Tools	● Direct observation ● Medical record (chart) audit ● Multisource feedback ● Objective structured clinical examination (OSCE) ● Quality metrics and goals mined from electronic health records ● Review of sign-out tools, use and review of checklists
Curriculum Mapping	●
Notes or Resources	● CDC. Population Health Training. https://www.cdc.gov/pophealthtraining/whatis.html. 2021. ● Kaplan KJ. In Pursuit of Patient-Centered Care. Tissue Pathology; 2016. http://tissuepathology.com/2016/03/29/in-pursuit-of-patient-centered-care/#axzz5e7nSsAns. 2021. ● Skochelak SE, Hammoud MM, Lomis KD, et al. *AMA Education Consortium: Health Systems Science*. 2nd ed. Elsevier; 2021. ISBN:9780323694629.

Systems-Based Practice 4: Physician Role in Health Care Systems **Overall Intent:** To understand the physician's role in the complex health care system and how to optimize the system to improve patient care and the health system's performance	
Milestones	**Examples**
Level 1 *Identifies key components of EMS within the complex health care system* *Identifies basic knowledge domains required for medical practice*	● Differentiates between level of care provided by various EMS clinicians including emergency medical technicians (EMTs) and paramedics ● Describes cognitive, affective, and psychomotor domains important for EMS clinicians
Level 2 *Describes how components of a complex health care system are interrelated to EMS systems, and how this impacts patient care* *Demonstrates efficient integration of information technology, including EMS information systems, required for medical practice*	● Explains how a mobile integrated health system integrates with the 911 system to provide optimal patient care and minimize unnecessary hospitalization ● Recognizes that appropriate EMS documentation can influence billing ● Integrates EMS patient care reports into hospital medical records
Level 3 *Discusses how individual EMS practice affects the broader system* *Describes core administrative knowledge needed for the transition to independent EMS practice*	● Uses outcome data from hospitalized patients to inform response resources ● Discusses the core elements of EMS physician contract negotiation
Level 4 *Manages various components of the complex EMS system to provide efficient and effective patient care and the transition of care* *Analyzes individual EMS practice patterns and professional requirements*	● Ensures proper EMS documentation of systems of care patients for database reporting ● Analyzes dispatch protocols to assure optimal resource assignment ● Identifies the need for more field time and arranges experiences
Level 5 *Advocates for or leads EMS systems change that enhances high value, efficient, and effective patient care, and the transition of care*	● Works with community or professional organizations to advocate for proper EMS use ● Uses regional benchmarks to improve efficiency
Assessment Models or Tools	● Direct observation ● Medical record (chart) audit ● Patient satisfaction data ● Portfolio
Curriculum Mapping	●

Notes or Resources	● Agency for Healthcare Research and Quality (AHRQ). Major Physician Measurement Sets. https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/measurementsets.html. 2021. ● AHRQ. Measuring the Quality of Physician Care. https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/challenges.html. 2021. ● Center for Medicare and Medicaid Services (CMS). MACRA. https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/MACRA-MIPS-and-APMs.html. 2021. ● The Commonwealth Fund. Health System Data Center. http://datacenter.commonwealthfund.org/?_ga=2.110888517.1505146611.1495417431-1811932185.1495417431#ind=1/sc=1. 2021. ● Dzau VJ, McClellan MB, McGinnis JM, et al. Vital directions for health and health care: Priorities from a National Academy of Medicine initiative. *JAMA*. 2017;317(14):1461-1470. https://nam.edu/vital-directions-for-health-health-care-priorities-from-a-national-academy-of-medicine-initiative/. 2021. ● The Kaiser Family Foundation: Topic: Health Reform. https://www.kff.org/topic/health-reform/. 2021. ● Skochelak SE, Hammoud MM, Lomis KD, et al. *AMA Education Consortium: Health Systems Science*. 2nd ed. Elsevier; 2021. ISBN:9780323694629.

Systems-Based Practice 5: EMS Personnel (Supervision and Training) **Overall Intent:** To understand the scope of practice and core fund of knowledge for EMS clinicians at each certification level and design training materials to meet the EMS clinicians' educational, health, and well-being needs	
Milestones	**Examples**
Level 1 *Demonstrates awareness of educational content appropriate to scope of practice* *Demonstrates awareness of culture of safety and EMS clinician health and well-being*	● Describes the difference between components and requirements for certification at the Emergency Medical Responder (EMR), Emergency Medical Technician (EMT), Advanced Emergency Medical Technician (AEMT), or paramedic level ● Ensures seatbelt use in patient compartment of ambulance ● Lists resources such as peer support for EMS clinician health and well-being
Level 2 *With supervision, designs and presents educational content appropriate to scope of practice* *Describes a culture of safety and EMS clinician health and well-being*	● Prepares an educational activity appropriate for pre-hospital clinician's certification level on a pre-hospital clinical condition ● Discusses Just Culture concepts
Level 3 *Identifies educational needs and develops training materials appropriate to scope of practice* *Integrates a culture of safety and EMS clinician health and well-being into pre-hospital practice, with supervision*	● Designs a trauma simulation appropriate for paramedics to introduce a new advanced life support protocol ● Participates in the implementation of a back-injury prevention program
Level 4 *Develops educational content in response to identified educational need* *Independently integrates culture of safety and EMS clinician health and well-being into pre-hospital practice*	● Implements training on electrocardiogram (EKG) interpretation of STEMI after noting a high false positive catheter lab activation rate ● Develops and implements a program to reduce low-back injuries
Level 5 *Designs a curriculum or course appropriate for a given scope of practice or to address a specific need involving multiple levels of care providers* *Designs health and well-being program for EMS system*	● Develops a community paramedicine curriculum ● Develops and implements a back injury reduction program regionally or statewide

Assessment Models or Tools	● Direct observation ● Incident reports ● Simulated/Actual sentinel event investigation
Curriculum Mapping	●
Notes or Resources	● EMS. Compass. https://www.ems.gov/projects/ems-compass.html. 2021. ● EMS. Strategy for a National EMS Culture of Safety. https://www.ems.gov/pdf/Strategy-for-a-National-EMS-Culture-of-Safety-10-03-13.pdf. 2021. ● NAEMSP. Quality and Safety. https://naemsp.org/resources/position-statements/quality-and-safety/. 2021.

Practice-Based Learning and Improvement 1: Evidence-Based and Informed Practice **Overall Intent:** To incorporate evidence and patient values into clinical practice	
Milestones	**Examples**
Level 1 *Demonstrates how to access and use available evidence*	● Describes how to access and use health information, including accessing articles and using databases, such as UpToDate or ClinicalKey ● Discusses the principles of evidence-based practice
Level 2 *Articulates the questions necessary to guide evidence-based systems of care*	● Formulates patient-oriented clinical questions and may take the form of PICO (Patient-Intervention-Control-Outcome); self-identifies areas of uncertainty and asks for help in answering clinical questions
Level 3 *Locates and applies the best available evidence to guide systems of care*	● Demonstrates a high level of mastery with electronic tools applied to clinical practice ● Uses clinical practice guidelines in making patient care decisions while eliciting patient preferences ● Adheres to agency, department, and institutional clinical care policies and processes
Level 4 *Critically appraises and applies evidence even in the face of incomplete or conflicting evidence to guide systems of care*	● Identifies the variability of medical evidence and demonstrates the ability to critically evaluate source data and merge the evidence with its application to pre-hospital patient care ● Uses evidence-based practices while also being able to define when and/or why to deviate from those practices
Level 5 *Coaches others to critically appraise and apply evidence for systems of care, and/or participates in the development of guidelines*	● Leads local teams tasked with developing best practices in the context of the local jurisdiction ● Sought after by EMS clinicians to teach them how to interpret and apply literature to their practice ● Leads clinical teaching on application of best practices in critical appraisal of EMS literature
Assessment Models or Tools	● Direct observation ● Oral or written examinations ● Presentation evaluation ● Research portfolio
Curriculum Mapping	●
Notes or Resources	● Flaherty RJ. A simple method for evaluating the clinical literature. *Fam Pract Manag.* 2004;11(5):47-52. https://www.aafp.org/fpm/2004/0500/p47.html. 2021. ● Institutional Institutional Review Board (IRB) guidelines ● National Institutes of Health. Write Your Application. https://grants.nih.gov/grants/how-to-apply-application-guide/format-and-write/write-your-application.htm. 2021. ● U.S. National Library of Medicine. PubMed Tutorial. https://www.nlm.nih.gov/bsd/disted/pubmedtutorial/cover.html. 2021. ● Various journal submission guidelines

Practice-Based Learning and Improvement 2: Reflective Practice and Commitment to Personal Growth **Overall Intent:** To seek clinical performance information with the intent to improve care; reflects on all domains of practice, personal interactions, and behaviors, and their impact on colleagues and patients (reflective mindfulness); develop clear objectives and goals for improvement in some form of a learning plan	
Milestones	**Examples**
Level 1 *Demonstrates an openness to feedback and other input*	● Identifies goals for growth opportunities in areas needing improvement ● Accepts feedback from the patient care team
Level 2 *Demonstrates an openness to feedback and other input and uses it to develop personal and professional goals* *Identifies the factors that contribute to the gap(s) between expectations and actual performance*	● After receiving a metric report in the bottom quartile, discusses possible reasons with mentor(s) and begins to implement suggested changes ● Assesses time management skills and their impact on timely completion of assigned tasks ● Demonstrates understanding of performance gaps when completing self-evaluation
Level 3 *Seeks and accepts feedback and other input for developing personal and professional goals* *Analyzes and reflects upon the factors that contribute to gap(s) between expectations and actual performance*	● Creates a personal curriculum to improve pre-hospital management of patients with chest pain ● Solicits feedback from members of the patient care team ● Participates in quality assurance and process improvement activities related to own performance
Level 4 *Using feedback and other input, continually improves and measures the effectiveness of one's personal and professional goals* *Analyzes, reflects on, and institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance*	● Uses performance metrics to create an improvement plan for field intubation success rate ● After patient encounter, debriefs with the pre-hospital team members to optimize future collaboration in the care of the patient and family members
Level 5 *Acts as a role model for the development of personal and professional goals* *Coaches others on reflective practice*	● Models practice improvement and adaptability ● Develops educational module for collaboration with pre-hospital care team members ● Assists other team members in developing their individualized learning plans
Assessment Models or Tools	● Chart stimulated recall ● Direct observation ● Review of learning plan

Curriculum Mapping	●
Notes or Resources	● Burke AE, Benson B, Englander R, Carraccio C, Hicks PJ. Domain of competence: Practice-based learning and improvement. Acad Pediatr. 2014;14(2 Suppl):S38-S54. https://www.academicpedsjnl.net/article/S1876-2859(13)00333-1/fulltext. 2021. ● Hojat M, Veloski JJ, Gonnella JS. Measurement and correlates of physicians' lifelong learning. *Acad Med.* 2009;84(8):1066-74. https://insights.ovid.com/crossref?an=00001888-200908000-00021. 2021. ● Lockspeiser TM, Schmitter PA, Lane JL, Hanson JL, Rosenberg AA, Park YS. Assessing residents' written learning goals and goal writing skill: Validity evidence for the learning goal scoring rubric. Acad Med. 2013;88(10):1558-1563. https://insights.ovid.com/article/00001888-201310000-00039. 2021.

Professionalism 1: Professional Behavior and Ethical Principles **Overall Intent:** To recognize and address lapses in ethical and professional behavior, demonstrates ethical and professional behaviors, and use appropriate resources for managing ethical and professional dilemmas	
Milestones	**Examples**
Level 1 *Demonstrates professional behavior in routine situations and in how to report professionalism lapses* *Demonstrates knowledge of the ethical principles underlying patient care*	● Discusses how fatigue may cause a lapse in professionalism ● Identifies that tardiness has adverse effect on patient care and on professional relationships ● Articulates how the principle of "do no harm" applies to a patient who may not need field cardioversion even though the training opportunity exists ● Recognizes that ethical principles should stop an EMS physician from performing a procedure for which they are not trained and/or credentialed
Level 2 *Identifies and describes potential triggers and takes responsibility for professionalism lapses* *Analyzes straightforward situations using ethical principles*	● Respectfully approaches an EMS clinician who is operating outside of protocol ● Notifies appropriate supervisor when an EMS clinician has repeatedly operated outside of protocols ● Applies ethical principles to: informed consent, surrogate decision making, advance directives, termination of resuscitation decisions, confidentiality, error disclosure, stewardship of limited resources, and related topics
Level 3 *Exhibits professional behavior in complex and/or stressful situations* *Analyzes complex situations using ethical principles, and recognizes the need to seek help in managing and resolving them*	● Exhibits empathetic behaviors towards a distraught family member following an unsuccessful resuscitation attempt of a relative ● Identifies an inappropriate social media post that included protected health information and seeks guidance regarding next steps ● Offers treatment and/or destination options for a patient, free of bias, while recognizing own limitations and consistently honoring the patient's choice
Level 4 *Identifies situations that might trigger professionalism lapses and intervenes to prevent them in oneself and others* *Uses appropriate resources for managing and resolving ethical dilemmas*	● Actively considers the perspectives of others ● Models respect for patients and promotes the same from colleagues when a patient or family member expresses frustrations with prior negative EMS system interactions ● Recognizes and uses ethics consults, literature, risk-management/legal counsel to resolve ethical dilemmas
Level 5 *Coaches others when their behavior fails to meet professional expectations*	● Coaches others when their behavior fails to meet professional expectations and creates a performance improvement plan to prevent recurrence

Identifies and addresses system-level factors that either induce or exacerbate ethical problems or impede their resolution	● Engages stakeholders to address excessive ambulance patient offload times at emergency department arrival to decrease patient and provider frustrations that lead to unprofessional behavior
Assessment Models or Tools	● Direct observation ● Global evaluation ● Multisource feedback ● Oral or written self-reflection ● Simulation
Curriculum Mapping	●
Notes or Resources	● ABIM Foundation. American Board of Internal Medicine. Medical professionalism in the new millennium: A physician charter. *Annals of Internal Medicine*. 2002;136(3):243-246. https://annals.org/aim/fullarticle/474090/medical-professionalism-new-millennium-physician-charter. 2021. ● ACEP. Code of Ethics for Emergency Physicians. https://www.acep.org/patient-care/policy-statements/code-of-ethics-for-emergency-physicians/. 2021. ● AMA. Ethics. https://www.ama-assn.org/delivering-care/ethics. 2021. ● Bynny RL, Paauw DS, Papadakis MA, Pfeil S. *Medical Professionalism Best Practices: Professionalism in the Modern Era*. Aurora, CO: Alpha Omega Alpha Medical Society; 2017. *Medical Professionalism Best Practices: Professionalism in the Modern Era*. Aurora, CO: Alpha Omega Alpha Medical Society; 2017. http://alphaomegaalpha.org/pdfs/Monograph2018.pdf. 2021. ● Levinson W, Ginsburg S, Hafferty FW, Lucey CR. *Understanding Medical Professionalism*. 1st ed. New York, NY: McGraw-Hill Education; 2014. ISBN:978-0071807432. ● Williams KA, Berry BC, Yee A, et al. Code of ethics for EMS physician medical directors. *Prehosp Emerg Care*. 2021;25(4):461. https://www.tandfonline.com/doi/full/10.1080/10903127.2020.1808747. 2021.

Professionalism 2: Accountability/Conscientiousness **Overall Intent:** To take responsibility for one's own actions and the impact on patients and other members of the health care team	
Milestones	**Examples**
Level 1 *In routine situations, performs tasks and responsibilities with appropriate attention to detail* *Responds promptly to requests and reminders to complete tasks and responsibilities*	● Completes procedure logs in an accurate and detailed manner ● Appropriately prepares for didactic sessions ● Completes end-of-rotation evaluations ● Responds to emails and other communications in a timely manner
Level 2 *In routine situations, performs tasks and responsibilities in a timely manner with appropriate attention to detail* *Takes responsibility for failure to complete tasks and responsibilities*	● Completes administrative tasks, procedure logs, and licensing requirements by specified due date ● Promptly responds to and corrects delinquencies in tasks when notified by program administration
Level 3 *In complex or stressful situations, performs tasks and responsibilities in a timely manner with appropriate attention to detail* *Recognizes situations that might impact one's own ability to complete tasks and responsibilities in a timely manner, and describes strategies for ensuring timely task completion in the future*	● Notifies fellowship faculty members when clinical workload exceeds individualcapability ● Maintains appropriate communications and/or documentation during a mass casualty incident ● In preparation for being away from the fellowship, ensures completion of and/or delegation of program responsibilities
Level 4 *Proactively implements strategies to ensure that the needs of patients, teams, and systems are met* *Recognizes situations that might impact others' ability to complete tasks and responsibilities*	● Organizes a pre-shift huddle with EMS clinicians to set goals for the shift to ensure all needs are met ● While providing online medical control prioritizes essential information, during a critical trauma or mass casualty incident
Level 5 *Takes ownership of system outcomes*	● Sets up a meeting with EMS leadership to streamline transfer of care and leads team to find solutions to the problem
Assessment Models or Tools	● Compliance with deadlines and timelines ● Direct observation ● Global evaluations ● Multisource feedback

	● Self-evaluations and reflective tools ● Simulation
Curriculum Mapping	●
Notes or Resources	● ACEP. Code of Ethics for Emergency Physicians. https://www.acep.org/patient-care/policy-statements/code-of-ethics-for-emergency-physicians/. 2021. ● Code of conduct from EMS Agency and fellow institutional manuals ● Expectations of the fellowship program regarding accountability and professionalism ● Williams KA, Berry BC, Yee A, et al. Code of ethics for EMS physician medical directors. *Prehosp Emerg Care*. 2021;25(4):461. https://www.tandfonline.com/doi/full/10.1080/10903127.2020.1808747. 2021.

Professionalism 3: Self-Awareness and Well-Being **Overall Intent:** To identify, use, manage, improve, and seek help for personal and professional well-being for self and others	
Milestones	**Examples**
Level 1 *Recognizes, with assistance, the status of one's personal and professional well-being*	● Acknowledges own response to work-life balance ● Uses self-assessment tools
Level 2 *Independently recognizes the status of one's personal and professional well-being and engages in help-seeking behaviors*	● Independently identifies and communicates the impacts of a tragedy or significant event on self or others
Level 3 *With assistance, proposes a plan to optimize personal and professional well-being*	● With the multidisciplinary team, develops a reflective response to deal with personal impact of difficult patient encounters and disclosures
Level 4 *Independently develops a plan to optimize one's personal and professional well-being*	● Independently identifies ways to manage personal stress ● Organizes schedule to appropriately balance work tasks with leisure
Level 5 *Coaches others when their emotional responses or level of knowledge/skills fail to meet professional expectations*	● Recognizes when an EMS clinician needs support to maintain well-being and develops a plan to assist ● Organizes institutional efforts to address clinician well-being after a stressful patient encounter
Assessment Models or Tools	● Direct observation ● Group interview or discussions for team activities ● Individual interview ● Institutional online training modules or assessment tools ● Self-assessment and personal learning plan
Curriculum Mapping	●
Notes or Resources	● 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. ● ACGME. "Well-Being Tools and Resources." https://dl.acgme.org/pages/well-being-tools-resources. 2021. ● Employee Assistance Programs at EMS agencies and healthcare systems ● Hicks PJ, Schumacher D, Guralnick S, Carraccio C, Burke AE. Domain of competence: personal and professional development. *Acad Pediatr*. 2014 Mar-Apr;14(2 Suppl):S80-97. https://www.academicpedsjnl.net/article/S1876-2859(13)00332-X/fulltext. 2021.

Interpersonal and Communication Skills 1: Patient- and Family-Centered Communication **Overall Intent:** To deliberately use language and behaviors to form constructive relationships with patients, to identify communication barriers including self-reflection on biases, and minimize them in the doctor-patient relationships; organize and lead communication around shared decision making	
Milestones	**Examples**
Level 1 *Uses language and non-verbal behavior to reflect respect and establish rapport while accurately communicating one's own role within the health care system*	● Introduces self and faculty member, identifies patient and others on the scene, and engages all parties in health care discussion
Identifies common barriers to effective communication (e.g., language, disability)	● Identifies need for and uses a trained interpreter with non-English-speaking patients
With insight gained through an assessment of patient/patient's family's expectations coupled with an understanding of their health status and treatment options, adjusts one's communication strategies	● Explains intravenous (IV) start or other procedure in age-appropriate terms
Level 2 *Establishes a therapeutic relationship in straightforward encounters with patients, using active listening and clear language*	● Uses patient-centered language and restates patient/parent perspective when discussing IV start or other procedure
Identifies complex barriers to effective communication (e.g., health literacy, cultural, technology)	● Recognizes the need for special communication strategies to communicate information to a patient who has limited comprehension skills
Organizes and initiates communication with a patient/patient's family by clarifying expectations and verifying one's understanding of the clinical situation	● Verifies that the patient/family member understands the treatment plan
Level 3 *Establishes a therapeutic relationship in challenging patient encounters*	● Acknowledges patient's desire to decline care/transport and explain physician's rationale for need for treatment/transport
When prompted, reflects on biases, while attempting to minimize communication barriers	● Acknowledges the difficulty in taking care of patients with multiple calls to EMS and the need to give each encounter full attention

With guidance, sensitively and compassionately delivers medical information to patients, elicits patient/patient's family's values, learns their goals and preferences, and acknowledges uncertainty and conflict	● Consults family member(s) to determine goals and a plan of care for a terminally ill patient
Level 4 *Easily establishes therapeutic relationships with patients, regardless of the complexity of cases* *Independently recognizes biases of patients, while attempting to proactively minimize communication barriers* *Independently uses shared decision making with a patient/patient's family to align their values, goals, and preferences with potential treatment options and ultimately to achieve a personalized care plan*	● Engages representative family members with disparate goals in the care of a patient with dementia ● Recognizes potential bias of a patient family member related to a lung cancer death of another family member and acknowledges those concerns ● Leads a discussion with pre-hospital team and family members around withholding care
Level 5 *Acts as a mentor to others in situational awareness and critical self-reflection with the aim of consistently developing positive therapeutic relationships and minimizing communication barriers* *Acts as a role model to exemplify shared decision making in patient/patient's family's communication that embodies various degrees of uncertainty/conflict*	● Provides ethics training for pre-hospital providers ● Leads the team debrief after a critical incident
Assessment Models or Tools	● Direct observation ● OSCE ● Self-assessment including self-reflection exercises ● Standardized patients
Curriculum Mapping	●
Notes or Resources	● Berkey FJ, Wiedemer JP, Vithalani ND. Delivering bad or life-altering news. *Am Fam Physician*. 2018;98(2):99-104. https://www.aafp.org/afp/2018/0715/p99.html. 2021. ● Hashim MJ. Patient-centered communication: Basic skills. *Am Fam Physician*. 2017;95(1):29-34. https://www.aafp.org/afp/2017/0101/p29.html. 2021.

	● King A, Hoppe RB. “Best practice" for patient-centered communication: A narrative review. *J Grad Med Educ*. 2013;5(3):385-93. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3771166/. 2021. ● Laidlaw A, Hart J. Communication skills: An essential component of medical curricula. Part I: Assessment of clinical communication: AMEE Guide No. 51. *Med Teach*. 2011;33(1):6-8. https://www.tandfonline.com/doi/abs/10.3109/0142159X.2011.531170?journalCode=imte20. 2021. ● Symons AB, Swanson A, McGuigan D, Orrange S, Akl EA. A tool for self-assessment of communication skills and professionalism in residents. *BMC Med Educ*. 2009; 9:1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2631014/. 2021.

Interpersonal and Communication Skills 2: Interprofessional and Team Communication **Overall Intent:** To effectively communicate with the pre-hospital care team in both straightforward and complex situations	
Milestones	**Examples**
Level 1 *Identifies the roles and areas of expertise of various members of the health care team*	● Introduces self as a physician (fellow) in a professional manner
Uses language that reflects the values all members of the health care team	● Acknowledges the contribution of each member of the pre-hospital care team
Receives feedback in a respectful manner	● Acknowledges areas in need of improvement communicated to them by members of the prehospital care team
Level 2 *Describes the roles and areas of expertise of various members of the health care team*	● Requests advanced life support response for a patient with chest pain and directs care including 12-lead EKG acquisition
Communicates information effectively with all health care team members	● Provides clear and direct online medical control instructions and communicates patient information to receiving team or service
Solicits feedback on performance as a member of the health care team	● Requests outcome data for a patient cared for in the field
Level 3 *Integrates recommendations made by various members of the health care team to optimize patient care*	● Uses input from other EMS clinicians during a cardiac arrest resuscitation
Engages in active listening to adapt to the communication styles of the team	● Assists EMS clinicians in communicating the importance of transport to the emergency department to a hesitant or resistant patient
Communicates concerns and provides feedback to peers and learners	● Recommends areas for improvement to team members and includes multiple resources for performance enhancement
Level 4 *Uses flexible communication strategies to incorporate input from all team members and resolve conflict when needed*	● Mediates conflict and difficult dialogue when multiple EMS clinicians are collaborating on care of an agitated patient

Uses effective communication to lead or manage health care teams *Communicates feedback and constructive criticism to superiors*	● Uses closed-loop communication during the management of cardiac arrest ● Informs system leadership of concerns from EMS providers about lack of appropriate PPE
Level 5 *Acts as a role model for communication skills necessary to lead or manage health care teams* *In complex situations, facilitates regular health care team-based feedback*	● Presents at conferences regarding effective communication and conflict mediation styles ● Coaches others in conflict mediation styles ● Organizes and leads a multidisciplinary meeting to organize an optimal care plan for an EMS high-volume user
Assessment Models or Tools	● Direct observation ● Global assessment ● Medical record (chart) audit ● Multisource feedback ● Simulation
Curriculum Mapping	●
Notes or Resources	● Bronsky ES, Woodson J. Effective communication in EMS. *JEMS*. https://www.jems.com/administration-and-leadership/effective-communication-in-ems/. 2021. ● Dehon E, Simpson K, Fowler D, Jones A. Development of the faculty 360. *MedEdPORTAL*. 2015;11:10174. https://www.mededportal.org/doi/10.15766/mep_2374-8265.10174. 2021. ● François, J. Tool to assess the quality of consultation and referral request letters in family medicine. *Can Fam Physician*. 2011;57(5):574–575. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3093595/. 2021. ● Green M, Parrott T, Cook G. Improving your communication skills. *BMJ.* 2012;344:e357 https://www.bmj.com/content/344/bmj.e357. 2021. ● Henry SG, Holmboe ES, Frankel RM. Evidence-based competencies for improving communication skills in graduate medical education: A review with suggestions for implementation. *Med Teach*. 2013;35(5):395-403. https://www.tandfonline.com/doi/abs/10.3109/0142159X.2013.769677?journalCode=imte20. 2021. ● Roth CG, Eldin KW, Padmanabhan V, Freidman EM. Twelve tips for the introduction of emotional intelligence in medical education. *Med Teach*. 2018;21:1-4.

	https://www.tandfonline.com/doi/abs/10.1080/0142159X.2018.1481499?journalCode=imte20. 2021.

Interpersonal and Communication Skills 3: Communication within Health Care Systems **Overall Intent:** To effectively communicate using a variety of methods	
Milestones	**Examples**
Level 1 *Recognizes how to accurately document information in the patient's record and safeguards the patient's personal information* *Communicates professionally through appropriate channels/chain of command*	● Documents accurate and appropriate patient information ● Avoids talking about patients about sensitive issues in public spaces when possible ● Describes appropriate steps to report patient safety concerns ● States the chain of command for the organization
Level 2 *Demonstrates organized diagnostic and therapeutic reasoning through the patient record in a timely manner* *Respectfully communicates concerns about the system*	● Documents are organized, accurate, and outlines clinical reasoning that supports the field management ● Recognizes that a communication breakdown has happened and respectfully brings the breakdown to the attention of a supervisor or department leadership
Level 3 *Concisely reports diagnostic and therapeutic reasoning in the patient record* *Uses appropriate channels/chain of command to offer constructive suggestions for improving the system*	● Documents complex clinical thinking but may not contain anticipatory guidance ● Directs concerns to supervisor or department leadership as appropriate, i.e., appropriate escalation
Level 4 *Communicates clearly, concisely, and contemporaneously in an organized written form, including anticipatory guidance* *Initiates difficult conversations with appropriate stakeholders to improve the system*	● Documents are consistently accurate, organized, and concise, and frequently incorporates anticipatory guidance ● Talks directly to the EMS clinician about breakdowns in communication at hospital handoff to prevent recurrence
Level 5 *Models feedback to improve others' written communication*	● Leads a task force established by the quality improvement committee to develop a plan to improve EMS hand-offs ● Identifies exemplary documentation and uses it to teach others

Leads dialogue regarding systems issues among broader community stakeholders	● Meaningfully participates in a committee to examine the EMS system emergency response plan involving EMS Agencies, hospitals, and other healthcare facilities
Assessment Models or Tools	● Direct observation ● Medical record (chart) audit ● Multisource feedback
Curriculum Mapping	●
Notes or Resources	● Haig KM, Sutton S, Whittington J. SBAR: A shared mental model for improving communication between clinicians. *Jt Comm J Qual Patient Saf*. 2006;32(3):167-175. https://www.jointcommissionjournal.com/article/S1553-7250(06)32022-3/fulltext. 2021. ● Maddry JK, Arana AA, Clemons MA, et al. Impact of a standardized EMS handoff tool on inpatient medical record documentation at a level 1 trauma center. *Prehosp Emerg Care*. 2021;25(5):656-663. https://www.tandfonline.com/doi/abs/10.1080/10903127.2020.1824050?journalCode=ipec20. 2021. ● VirtalSmarts. Crucial Moments in Healthcare. https://www.vitalsmarts.com/healthcare/. 2021.

To help programs transition to the new version of the Milestones, the original Milestones 1.0 have been mapped to the new Milestones 2.0; it is indicated if subcompetencies are similar between versions. These are not exact matches but include some of the same elements. Not all subcompetencies map between versions. Inclusion or exclusion of any subcompetency does not change the educational value or impact on curriculum or assessment.

Milestones 1.0	Milestones 2.0
PC1: Procedures Performed in the Pre-Hospital Environment	PC1: Procedures Performed in the Pre-Hospital Environment
PC2: Pre-Hospital Recognition and Stabilization of Time/Life-Critical Conditions	PC2: Pre-Hospital Recognition and Stabilization of Time/Life-Critical Conditions
PC3: Recognition and Treatment of Pre-Hospital Conditions	PC3: Recognition and Treatment of Pre-Hospital Conditions
PC4: Mass Casualty and Disaster Management	PC4: General Special Operations in Emergency Medical Services (EMS); Mass Casualty and Disaster Management
PC5: General Special Operations in Emergency Medical Services (EMS) –	PC4: General Special Operations in Emergency Medical Services (EMS); Mass Casualty and Disaster Management
MK1: Medical Oversight	MK1: Medical Oversight
	MK2: Special Teams
SBP1: EMS Personnel (Supervision and Training)	SBP5: EMS Personnel (Supervision and Training)
SBP2: Systems Management	SBP1: Patient Safety SBP4: Physician Role in Health Care Systems
	SBP3: System Navigation for Patient-Centered Care
PBLI1: Quality Management	SBP2: Quality Improvement
PBLI2: Research	PBLI1: Evidence-Based and Informed Practice
	PBLI2: Reflective Practice and Commitment to Personal Growth
PROF1: Ethics and Professional Behavior	PROF1: Professional Behavior and Ethical Principles
PROF2: Accountability	PROF2: Accountability/Conscientiousness
	PROF3: Self-Awareness and Well-Being
ICS1: Team Communications and Management	ICS2: Interprofessional and Team Communication
ICS2: Patient-centered Communications	ICS1: Patient- and Family-Centered Communication
	ICS3: Communication within Health Care Systems

Available Milestones Resources

Milestones 2.0: Assessment, Implementation, and Clinical Competency Committees Supplement, 2021 - *https://meridian.allenpress.com/jgme/issue/13/2s*

Milestones Guidebooks: https://www.acgme.org/milestones/resources/

- *Assessment Guidebook*
- *Clinical Competency Committee Guidebook*
- *Clinical Competency Committee Guidebook Executive Summaries*
- *Implementation Guidebook*
- *Milestones Guidebook*

Milestones Guidebook for Residents and Fellows: https://www.acgme.org/residents-and-fellows/the-acgme-for-residents-and-fellows/

- Milestones Guidebook for Residents and Fellows
- Milestones Guidebook for Residents and Fellows Presentation
- Milestones 2.0 Guide Sheet for Residents and Fellows

Milestones Research and Reports: https://www.acgme.org/milestones/research/

- *Milestones National Report*, updated each fall
- *Milestones Predictive Probability Report,* updated each fall
- *Milestones Bibliography*, updated twice each year

Developing Faculty Competencies in Assessment courses - https://www.acgme.org/meetings-and-educational-activities/courses-and-workshops/developing-faculty-competencies-in-assessment/

Assessment Tool: Direct Observation of Clinical Care (DOCC) - https://dl.acgme.org/pages/assessment

Assessment Tool: Teamwork Effectiveness Assessment Module (TEAM) - https://team.acgme.org/

Improving Assessment Using Direct Observation Toolkit - https://dl.acgme.org/pages/acgme-faculty-development-toolkit-improving-assessment-using-direct-observation

Remediation Toolkit - https://dl.acgme.org/courses/acgme-remediation-toolkit

Learn at ACGME has several courses on Assessment and Milestones - https://dl.acgme.org/