The Preventive Medicine Milestone Project: Public Health and General Preventive Medicine

A Joint Initiative of

The Accreditation Council for Graduate Medical Education and The American Board of Preventive Medicine



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The milestones are designed only for use in evaluation of resident physicians in the context of their participation in ACGME-accredited residency or fellowship programs. The milestones provide a framework for assessment of the development of the resident physician in key dimensions of the elements of physician competency 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.

Preventive Medicine Milestones

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Milestone Reporting

This document presents milestones designed for programs to use in semi-annual review of resident performance and reporting to the ACGME. Milestones are knowledge, skills, attitudes, and other attributes for each of the ACGME competencies organized in a developmental framework from less to more advanced. They are descriptors and targets for resident performance as a resident moves from entry into residency through graduation. In the initial years of implementation, the Review Committee will examine milestone performance data for each program's residents as one element in the Next Accreditation System (NAS) to determine whether residents overall are progressing.

For each period, review and reporting will involve selecting milestone levels that best describe a resident's current performance and attributes. Milestones are arranged into numbered levels. Tracking from Level 1 to Level 5 is synonymous with moving from novice to expert. These levels do not correspond with post-graduate year of education.

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

- Level 1: The resident demonstrates milestones expected of an incoming resident.
- Level 2: The resident is advancing and demonstrates additional milestones, but is not yet performing at a mid-residency level.
- **Level 3:** The resident continues to advance and demonstrate additional milestones, consistently including the majority of milestones targeted for residency.
- Level 4: The resident has advanced so that he or she now substantially demonstrates the milestones targeted for residency. This level is designed as the graduation target.
- Level 5: The resident has advanced beyond performance targets set for residency and is demonstrating "aspirational" goals which might describe the performance of someone who has been in practice for several years. It is expected that only a few exceptional residents will reach this level.

Additional Notes

Level 4 is designed as the graduation *target* and <u>does not</u> represent a graduation *requirement*. Making decisions about readiness for graduation is the purview of the residency program director. Study of milestone performance data will be required before the ACGME and its partners will be able to determine whether milestones in the first four levels appropriately represent the developmental framework, and whether milestone data are of sufficient quality to be used for high-stakes decisions.

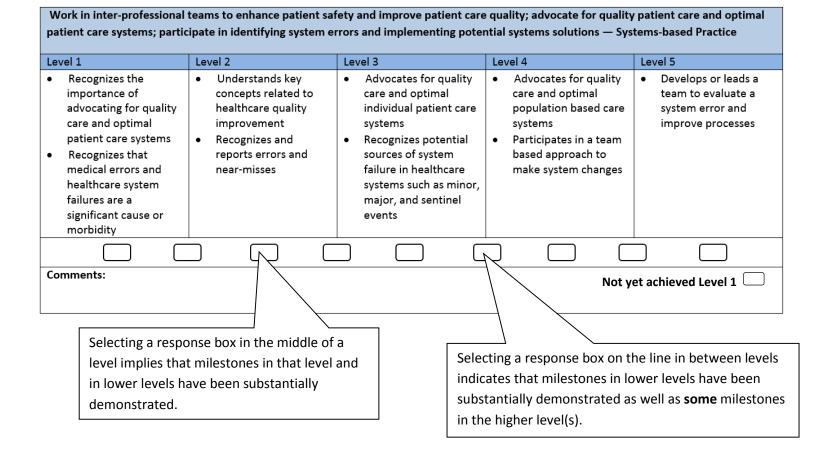
Some milestone descriptions include statements about performing independently. These activities must occur in conformity to ACGME supervision guidelines, as well as institutional and program policies. For example, a resident who performs a procedure independently must, at a minimum, be supervised through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

To aid in scoring the milestones, a listing of assessment tools by competency is available on the milestone page under the heading "Educational Materials". These assessment tools are not required.

Answers to Frequently Asked Questions about Milestones are available on the Milestones web page: <u>http://www.acqme.org/acqmeweb/Portals/0/MilestonesFAQ.pdf</u>.

The diagram below presents an example set of milestones for one sub-competency in the same format as the milestone report worksheet. For each reporting period, a resident's performance on the milestones for each sub-competency will be indicated by:

- selecting the level of milestones that best describes that resident's performance in relation to the milestones
- or,
- for Patient Care and Medical Knowledge milestones, selecting the option that says the resident has "Not yet rotated"
- or,
- for Interpersonal and Communication Skills, Practice-based Learning and Improvement, Professionalism, and Systems-based Practice milestones, selecting the option that says the resident has "Not yet achieved Level 1"



Emergency Preparedness and	nd Response: Apply skills in E	mergency Preparedness and	Response — Patient Care 1	
Level 1	Level 2	Level 3	Level 4	Level 5
• Demonstrates basic skills in emergency medical care	 Demonstrates knowledge of triage concepts Demonstrates basic knowledge of emergency preparedness programs 	 Demonstrates and applies understanding of emergency preparedness programs 	• Demonstrates the ability to develop and evaluate the medical portion of an emergency plan	 Provides leadership in developing, implementing, and evaluating emergency preparedness programs
Comments:				Not yet rotated

Level 1	Level 2	Level 3	Level 4	Level 5
 Identifies common health issues in a community 	 Identifies basic health status measures to assess/investigate a community's health 	 Selects and describes appropriate health status measures to assess a community's health 	 Monitors and interprets single health status indicator of the community 	 Monitors and interprets multiple and/or complex health status indicators of the community
Comments:				Not yet rotated

Inform and Educate: Inform	and educate populations ab	out health threats and risks -	– Patient Care 3	
Level 1	Level 2	Level 3	Level 4	Level 5
 Conveys basic health information to individuals or small groups 	 Identifies proper communication techniques related to health threats and risks 	 Prepares and delivers a basic health hazard/risk presentation 	 Conveys complex health information to educate a community or group and responds to queries about risk 	 Conveys sensitive/high- stakes health information to educate a community or group through a variety of media platforms
Comments:				Not yet rotated

Level 1	Level 2	Level 3	Level 4	Level 5
 Diagnoses disease and develops an individualized treatment plan 	 Links individuals to needed personal health services including appropriate referrals and follow- ups 	 Applies primary, secondary, and tertiary preventive approaches to disease prevention and health promotion for individuals or communities, with minimal supervision 	 Applies primary, secondary, and tertiary preventive approaches to disease prevention and health promotion for the individuals and community 	 Contributes to the development and/o implementation of a policy to improve community health efforts
Comments:				Not yet rotated

Level 1	Level 2	Level 3	Level 4	Level 5
 Recognizes distinctions between population and individual health services 	 Describes basic measures of effect (e.g., risk ratio) Describes basic measures of quality (e.g., benchmarking) Lists populations known to be underserved (e.g., low income) 	 Assesses evidence for effectiveness of a population-based health service Uses scientific literature to identify a target population for a given population-based health service Uses scientific literature to identify barriers to delivery of population- based health service 	 Uses program goals and/or established performance criteria to evaluate a population- based health service Uses evaluation findings to recommend strategic or operational improvements Uses data to identify barriers to population- based health services 	 Develops program goals and/or performance criteria to evaluate a population-based health service
Comments:				Not yet rotated

Level 1	Level 2	Level 3	Level 4	Level 5
 Identifies and recognizes basic measures of disease frequency (incidence, prevalence, mortality) and risk (risk ratios, odds ratios) 	 Knows methods for calculating basic measures of disease frequency and risk 	 For a defined population, uses data to calculate measures of disease frequency and one or more risk factors for a specified disease or condition 	 Uses data to characterize the health of a local population, compares it with that of other populations, identifies localities or groups with poorer health, and identifies and assesses the importance of different risk factors, for at least one disease or condition 	 Uses data to fully characterize the health of a population, compares it with that of other populations, identifies localities or groups with poorer health, and identifies and assesses the importance of different risk factors, for a range of diseases and conditions
Comments:				Not yet rotated

Level 1	Level 2	Level 3	Level 4	Level 5
 Distinguishes between experimental and observational studies 	• Explains what is meant by validity, bias, confounding, and effect modification; describes commonly used study designs (e.g., randomized controlled trail [RCT], cohort; case- control, cross-sectional); distinguishes between association and causation; lists criteria for causal inference	 Critically reviews and interprets epidemiologic literature for commonly used study designs, identifying purpose, population, design, and biases 	 Able to design and conduct a basic epidemiological study (defines aims; selects appropriate study designs; collects, analyzes, and interprets data; identifies limitations; summarizes and discusses findings) 	 Independently designs and conducts a complex epidemiological study that addresses confounding and effect modification analytically suitable for peer- reviewed publication
Comments:				Not yet rotated

 Identifies most common methods for preventing individual disease spread (e.g., hand hygiene) and behavioral risk factors associated with clusters or outbreaks occurring (e.g., hospital, vital statistics, or other data to establish the existence of a cluster or outbreak hospital, vital statistics, or other data to establish the existence of a cluster or outbreak Characterizes and interprets data collected Leads a team to 	Level 1	Level 2	Level 3	Level 4	Level 5
	or outbreaks occurIdentifies most common methods for preventing individual disease spread	 environmental, health, and behavioral risk factors associated with clusters or outbreaks occurring (e.g., congregate settings, immuno-compromised populations, and drug abuse) Understands aspects of disease that predispose to outbreak development (e.g., high infectivity, subclinical phase) Identifies most common methods for preventing disease spread in populations (e.g., 	 event; uses surveillance, hospital, vital statistics, or other data to establish the existence of a cluster or outbreak Establishes a case definition, including clinical and laboratory findings; participates in collection of demographic, clinical, and/or risk factor information from cases Understands approaches for mitigating and responding to a cluster or 	 investigate and collects data to describe a cluster or outbreak Characterizes and interprets data collected from a cluster or outbreak investigation Applies a strategy or plan for management of an outbreak (e.g., limiting spread, mitigating 	 investigate a cluster or outbreak of a novel disease or atypical disease presentation Leads a team to investigate and manage an outbreak, including supervision of staff, assignment of roles, program design, monitoring of

Level 1	Level 2	Level 3	Level 4	Level 5
 Aware of the need to report selected diseases to public health authorities Aware of the need for surveillance systems in a variety of settings (e.g., public health agencies, hospitals, clinics, nursing homes) 	 Identifies commonly used surveillance data sources (e.g., Behavioral Risk Factor Suvelleince System [BRFSS], vital statistics, hospital discharge data) and the conditions typically monitored using such systems Recognizes difference between active and passive surveillance 	 Thoroughly describes the components of an existing surveillance system (e.g., aims, stakeholders, data sources, quality, uses, etc.) Develops a list of challenges in designing and maintaining a surveillance system 	 Analyzes surveillance data to identify appropriate targets for individual, community, and/or systems interventions Evaluates one or more aspects of the quality and effectiveness of a surveillance system (e.g., data completeness, ease of use, compliance) 	 Independently designs and operates a new surveillance system
Comments:				Not yet rotated

Clinical Preventive Services populations — Patient Care		rding the performance of pro	pposed clinical preventive ser	vices for individuals and
Level 1	Level 2	Level 3	Level 4	Level 5
 Locates and appraises evidence from a scientific study related to a patient's health problem 	 Leads a discussion with peers of the strengths and weaknesses of an individual study relevant to CPS 	 Participates in the examination of evidence to address a proposed clinical preventive service 	 Participates in the development or analysis of a guideline to address a proposed clinical preventive service 	 Systematically examines scientific evidence and develops an evidence- based guideline to address a proposed clinical preventive service
Comments:				Not yet rotated

Conditions of Public Health	Conditions of Public Health Significance: Implement appropriate clinical care for individuals with conditions of public health significance —				
Patient Care 11					
Level 1	Level 2	Level 3	Level 4	Level 5	
 Obtains history and basic physical Prescribes indicated medications 	 Generates a differential diagnosis for a disease or condition of public health significance and proposes a treatment plan Identifies diseases and conditions that require a public health response 	 Accurately diagnoses and effectively treats common presentations of diseases/conditions of public health significance with direct supervision Participates in an appropriate public health intervention for a disease or condition that requires a public health response 	 Accurately diagnoses and effectively treats common presentations of diseases/conditions of public health significance Initiates an appropriate public health intervention for a disease or condition that requires a public health response 	 Accurately diagnoses and effectively treats complex conditions and unusual presentations of diseases/conditions of public health significance 	
Comments:				Not yet rotated	

Level 1	Level 2	Level 3	Level 4	Level 5
 Prescribes immunizations and chemoprophylaxis 	 Identifies major risk factors of individual patients that would benefit from clinical preventive services (CPS); understands the recommendations of the U.S. Preventive Services Task Force (USPSTF) 	 Assesses relevant risks for disease and injury in individual patients and uses patient information, scientific evidence, USPSTF guidelines, and clinical judgment to select appropriate CPS for individual patients 	 Comprehensively assesses risks for diseases and injuries, and appropriately applies USPSTF and other evidence-based guidelines regarding screening, counseling, preventive medications, and immunization to individual patients 	 Comprehensively assesses risks for diseases and injuries, and appropriately applies USPSTF and other evidence-based guidelines regarding clinical preventive services in individual patients with complex health or social conditions (e.g., hospitalized, homeless, or nursing home patients)
Comments:				Not yet rotated

Behavioral Health — Medio	Level 2	Level 3	Level 4	Level 5
 Lists major effects of individual behavior on health Recognizes that social and behavioral factors influence population health 	 Identifies social and behavioral factors that affect health of individuals Identifies social and behavioral factors that affect health of populations 	 Identifies best practice and tools to assess risk behaviors Describes effective approaches to modify individual health behaviors Describes effective approaches to modify population health behaviors Identifies the causes of social and behavioral factors that affect health of populations 	 Integrates best practices and tools to assess risk behaviors Implements effective approaches to modify individual health behaviors Integrates best practices and tools to assess population risk behaviors Implements effective approaches to modify population health behaviors 	• Develops and evaluates programs to change health behaviors of individuals
Comments: Not yet rotated				

Environmental Health — Medical Knowledge 2				
Level 1	Level 2	Level 3	Level 4	Level 5
 Identifies major routes of human exposure to environmental toxicants 	 Identifies common illnesses that may be caused or influenced by environmental exposures Identifies broad environmental factors that may impact the health of a community 	 Describes individual factors that impact susceptibility to adverse health effects from environmental exposures Identifies potential population health effects from exposure to chemical, physical, and biological hazards 	 Recommends methods of reducing adverse environmental health effects for individuals Identifies sources and routes of environmental exposures to chemical, physical, and biological hazards for defined populations 	 Recommends, interprets, and explains the results of individual environmental monitoring Interprets and explains population level environmental monitoring results
Comments: Not yet rotated				

Biostatistics — Medical Knowledge 3				
Level 1	Level 2	Level 3	Level 4	Level 5
 Recognizes common statistical concepts (e.g., measures of central tendency, p-values, and confidence intervals) 	 Defines common statistical concepts (e.g., p-values and confidence intervals); describes frequently used statistical tests (e.g., paired and unpaired t- tests, chi-square tests, and others) 	 Independently utilizes simple statistical methods (e.g., paired and unpaired t-tests, chi-square tests, and appropriate non- parametric tests) to describe small data sets; participates in the use of statistical software to perform statistical tests; understands more advanced statistical methods (e.g., linear and logistic regression) 	 Selects appropriate methods for analyzing data; performs data analyses using more advanced statistical methods (e.g., linear and logistic regression); utilizes appropriate software for data management and statistical analyses; recognizes the need to use complex statistical analyses (e.g., survival analysis, repeated measures) 	 Independently analyzes large data sets using complex statistical methods
Comments:				Not yet rotated

Work and coordinate patien	nt care effectively in various h	nealth care delivery settings a	and systems — Systems-base	d Practice 1
Level 1	Level 2	Level 3	Level 4	Level 5
 Recognizes various individual and population-based health care/services delivery settings and systems 	 Works and coordinates individual patient care in various health care delivery settings and systems 	 Works and coordinates population-based health services in various health care delivery settings and systems 	 Assess organizational performance of health care delivery system 	 Interacts with other stakeholders to improve the performance of the system
Comments:			Ν	Not yet achieved Level 1

Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care, as appropriate — Systems- based Practice 2				
based Fractice 2				
Level 1	Level 2	Level 3	Level 4	Level 5
 Recognizes the importance of cost awareness and risk- benefit analysis in patient and /or population-based care 	 Identifies risks, benefits, and costs for a preventive service in an individual clinical patient 	 Demonstrates sound judgment relating to risks, benefits, and costs for a preventive service in an individual clinical patient 	 Demonstrates sound judgment relating to risks, benefits, and costs for a preventive service for a population 	 Articulates and weighs the costs, benefits, and risks of a proposed population-based service
Comments:			Ν	lot yet achieved Level 1

Level 1	Level 2	Level 3	Level 4	Level 5
 Recognizes the importance of advocating for quality care and optimal patient care systems Recognizes that medical errors and health care system failures are a significant cause or morbidity 	 Understands key concepts related to health care quality improvement Recognizes and reports errors and near misses 	 Advocates for quality care and optimal individual patient care systems Recognizes potential sources of system failure in healthcare systems, such as minor, major, and sentinel events 	 Advocates for quality care and optimal population-based care systems Participates in a teambased approach to make system changes 	 Develops or leads a team to evaluate a system error and improve processes

Identify strengths, deficiencies, and limits in one's knowledge and expertise; set learning and improvement goals and identify and perform appropriate learning activities utilizing information technology, evidence from scientific studies, and evaluation feedback; systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement — Practice-based Learning and Improvement 1

Level 1	Level 2	Level 3	Level 4	Level 5
 Acknowledges gaps in personal knowledge and expertise, and frequently asks for feedback. Understands the importance of setting learning and improvement goals Identifies problems in health care delivery and gaps in care 	 Assesses professional performance in a structured manner Begins to develop learning and improvement goals, based on feedback, with some external assistance Uses information technology to locate scientific studies related to patient health problems Understands the essentials of quality improvement 	 Incorporates feedback and assessments into practice improvement Develops learning and improvement goals, based on feedback, with minimal external assistance Critically appraises scientific studies related to patient health problems Defines and constructs process and outcomes measures of quality 	 Assesses performance by incorporating feedback and assessments from multiple stakeholders (e.g., patients, members of the health care team, third-party payors) Assimilates evidence from scientific studies into practice Participates in a quality improvement project 	 Creates novel ways to assess performance. Creates professional educational opportunities for others Systematically designs and carries out quality improvement project in clinical and other health settings.
Comments: Not yet achieved Level 1				

Compassion, integrity, and respect for others, as well as sensitivity and responsiveness to diverse patient populations, including diversity in gender, age, culture, race, religion, disabilities, and sexual orientation; knowledge about, respect for, and adherence to the ethical principles relevant to the practice of medicine, remembering in particular that responsiveness to patients that supersedes self-interest is an essential aspect of medical practice — Professionalism 1

Level 1Level 2Level 3Level 4Level 5• Seeks out, learns from, and models the attitudes and behaviors of physicians who exemplify appropriate professional attitudes, nalues, and behaviors, including caring, honesty, genuine including caring, honesty, genuine including caring, honesty, genuine including caring, honesty, genuine interest in patients and families, and tolerance and acceptance of diverse individuals and groups• Exhibits appropriate attitudes, values and behaviors, including caring, honesty, genuine interest in patients and families, and tolerance and acceptance of diverse individuals and groups• Exhibits appropriate attitudes, values and behaviors, including caring, honesty, genuine interest in patients and families, and tolerance and acceptance of diverse individuals and groups• Exhibits appropriate attitudes, values and behaviors, including caring, honesty, genuine interest in patients and families, and tolerance and acceptance of diverse individuals and groups• Exhibits appropriate attitudes, values and families, and tolerance and acceptance of diverse individuals and groups• Effectively analyzes and manages ethical issues in difficult clinical situations• Effectively analyzes and manages ethical issues in difficult clinical situations• Develops organizational policies and education to support the addressing population-based medicine• Aware of basic in clinical situations• Consistently recognizes ethical issues in clinical situations• Effectively analyzes and manages ethical issues in difficult clinical situations• Maree of ethical issues in clinical situations• Maree of <th></th> <th></th> <th></th> <th></th> <th></th>					
and models the attitudes and behaviors of physicians who exemplify appropriate 	Level 1	Level 2	Level 3	Level 4	Level 5
Comments:	 and models the attitudes and behaviors of physicians who exemplify appropriate professional attitudes, values, and behaviors, including caring, honesty, genuine interest in patients and families, and tolerance and acceptance of diverse individuals and groups Aware of basic bioethical principles; identifies ethical issues 	 attitudes, values and behaviors in straightforward situations, including caring, honesty, genuine interest in patients and families, and tolerance and acceptance of diverse individuals and groups Consistently recognizes ethical issues in practice; discusses, analyzes, and manages in common 	 attitudes, values and behaviors in difficult situations, including caring, honesty, genuine interest in patients and families, and tolerance and acceptance of diverse individuals and groups Effectively analyzes and manages ethical issues in difficult clinical 	 principles required for individual patient care with those needed for addressing population health Consistently and effectively analyzes and manages ethical issues in both clinical and population-based 	policies and education to support the application of these principles in the practice of individual and population-based
Comments: Not yet achieved Level 1					
	Comments: Not yet achieved Level 1				

Accountability to patients, society and the profession — Professionalism 2				
Level 1	Level 2	Level 3	Level 4	Level 5
 Recognizes limits of knowledge in most clinical situations Understands importance of physician accountability Aware of the basic causes of impairment in professionals such as fatigue, and substance use 	 Consistently recognizes limits of knowledge in common clinical situations and asks for assistance Demonstrates physician accountability to individual patients in clinical situations Identifies resources to address impairment of professionals 	 Appropriately engages other members of the healthcare team Demonstrates physician accountability to a patient population in clinical situations Able to recognize impairment in themselves or other members of the healthcare team 	 Consistently demonstrates the ability to identify limits of own knowledge and proactively incorporates the expertise of others from the healthcare team into clinical and population-based practice Demonstrates physician accountability to patients, society, and profession in the performance of clinical and population-based duties Able to respond appropriately to impairment in members of the healthcare team 	 Acts as a consultant for clinical and population health topics Exemplifies ethical leadership in clinical and population-based settings
Comments: Not yet achieved Level 1				

Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds; communicate effectively with physicians, other health care professionals and health related agencies; work effectively as a member or leader of a health care team or other professional group; act in a consultative role to other physicians and health professionals — Interpersonal Communication and Skills 1

Level 1	Level 2	Level 3	Level 4	Level 5
 Recognizes the importance of effective communication with patients, families, and public Recognizes the importance of effective communication with the health care team Recognizes the importance of working with other members of the health care team 	 Demonstrates effective communication with patients, families, or public in common situations Demonstrates effective communication with the health care team in common situations Works effectively with the health care team in common situations 	 Demonstrates effective communication with patients or the public in issues related to confidential and/or highly sensitive medical information Demonstrates effective communication with the health care team in clinical and population settings Works effectively with the health care team in clinical and population settings 	 Demonstrates effective communication with patients and the public in issues related to confidential and/or highly sensitive medical information using multiple communication modalities Able to communicate effectively with the health care team in stressful situations/crises Works effectively with the health care team in stressful situations/crisis 	 Creates policy for effective communication of complex health information Demonstrates effective communication outside of the local healthcare environment, such as state and federal agencies, regional health care systems Understands the importance of working with diverse stakeholders outside of the local health care environment, such as state and federal agencies, regional health care systems
Comments: Not yet achieved Level 1				

Maintain comprehensive, timely and legible medical records, including electronic health records (EHR) — Interpersonal Communication and				
Skills 2				
Level 1	Level 2	Level 3	Level 4	Level 5
 Recognizes the importance of maintaining timely and legible records, including EHR 	 Maintains timely and legible records, including EHR 	 Maintains complete, timely, and legible records, including EHR 	• Consistently maintains complete, timely, and legible records, including EHR	 Develops a protocol for record maintenance
Comments:			Ν	ot yet achieved Level 1