

The Preventive Medicine Milestone Project: Occupational Medicine

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. The Milestones are designed only for use in evaluation of resident physicians in the context of their participation in Accreditation Council for Graduate Medical Education (ACGME)-accredited residency or fellowship programs. They neither represent the entirety of the dimensions of the 6 domains of physician competency, nor are they designed to be relevant in any other context.

Milestone Reporting

This document presents Milestones designed for programs to use in semiannual 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 1 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 postgraduate 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 FIGURE).

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 midresidency 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 *does not* 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 4 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 ACGME website's Milestone page under the heading "Educational Materials." These assessment tools are not required.

ACGME Milestone Report Form

The FIGURE presents an example set of Milestones for 1 subcompetency in the same format as the Milestone Report Form. For each reporting period, a resident's performance on the Milestones for each subcompetency will be indicated by:

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- 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.”

Work in interprofessional teams to enhance patient safety and improve patient care quality; advocate for quality patient care and optimal patient care systems; participate in identifying system errors and implementing potential systems solutions — Systems-Based Practice

Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> • 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 of morbidity 	<ul style="list-style-type: none"> • Understands key concepts related to health care quality improvement • Recognizes and reports errors and near misses 	<ul style="list-style-type: none"> • Advocates for quality care and optimal individual patient care systems • Recognizes potential sources of system failure in health care systems such as minor, major, and sentinel events 	<ul style="list-style-type: none"> • Advocates for quality care and optimal population-based care systems • Participates in a team-based approach to make system changes 	<ul style="list-style-type: none"> • Develops or leads a team to evaluate a system error and improve processes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Comments: Not yet achieved Level 1 <input type="checkbox"/></p>				

Selecting a response box in the middle of a level implies that Milestones in that level and in lower levels have been substantially demonstrated.

Selecting a response box on the line in between levels indicates that Milestones in lower levels have been substantially demonstrated as well as **some** Milestones in the higher level(s).

FIGURE | EXAMPLE SET OF MILESTONES FOR 1 SUBCOMPETENCY IN THE ACGME MILESTONE REPORT FORM

PREVENTIVE MEDICINE: OCCUPATIONAL MEDICINE MILESTONES

PATIENT CARE				
Toxicology: Recognize, evaluate, and treat exposures to toxins at work or in the general environment—Patient Care 1				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Manages patients in outpatient and inpatient settings and demonstrates knowledge of anatomy, physiology, pathophysiology, and pharmacological principles, including metabolism of drugs and other hazardous agents 	<ul style="list-style-type: none"> Demonstrates core foundation knowledge of toxicological principles, including toxicokinetics, routes of exposure and absorption, preclinical and clinical effects of toxins, evaluation and treatment of acute or chronic exposure to occupational or environmental chemical agents, screening and surveillance for exposed populations, and use and interpretation of relevant scientific literature and data bases 	<ul style="list-style-type: none"> Recognizes, evaluates, and treats (or refers) patients whose health may be affected by acute or chronic exposure to occupational or environmental chemical agents, including interpretation of laboratory and/or environmental monitoring test results under supervision Assesses clinical, worksite, and environmental data, and performs appropriate scientific literature reviews in performance of patient evaluations under supervision 	<ul style="list-style-type: none"> Recognizes, evaluates, and treats (or refers) exposures to toxicants at work or in the general environment, including interpretation of laboratory or environmental monitoring test results and applying toxicokinetic data under minimal supervision 	<ul style="list-style-type: none"> Performs complex causation analysis (eg, independent medical evaluations, toxicology consultations, etc) of patients with symptoms or conditions that may be related to toxic exposures from work or the general environment Communicates risk from real or potential hazards to groups, including health professionals, the public, and the media, in a clear and effective manner both orally and in writing

Industrial Hygiene, Safety and Ergonomics and Risk/Hazard Control, and Communication: Assess if there is risk of an adverse event from exposure to physical, chemical, or biological hazards in the workplace or environment, and characterize, make recommendations for control of, and communicate the risk—Patient Care 2				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Acquires accurate and complete history and performs appropriate physical examination of patients with injuries and illnesses that may be related to workplace exposures 	<ul style="list-style-type: none"> Demonstrates understanding of core principles of industrial hygiene, ergonomics, occupational safety, and risk/hazard control and communication (eg, recognition of regulatory standards and guidelines) 	<ul style="list-style-type: none"> Participates in activities or consultations that include application of the principles of industrial hygiene, ergonomics, occupational safety, and risk/hazard control to patients, populations, and employer organizations under supervision 	<ul style="list-style-type: none"> Applies the principles of the hierarchy of controls to reduce risks from industrial hygiene, ergonomic, and safety hazards to patients, populations, and employer organizations under minimal supervision Communicates risk from hazards to patients in a clear and effective manner both orally and in writing; communicates same to labor and employer organizations (these latter 2 communications to groups/ organizations may be achieved through simulation) 	<ul style="list-style-type: none"> Interprets, analyzes, and applies principles of industrial hygiene, ergonomics, occupational safety, and risk/hazard control in complex occupational or community environments Communicates risk from hazards to groups (eg, health professionals, the public, public agencies, and the media) in a clear and effective manner both orally and in writing

Emergency Preparedness and Response: Apply skills in emergency preparedness and response—Patient Care 3

Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> ■ Demonstrates basic skills in emergency medical care 	<ul style="list-style-type: none"> ■ Demonstrates knowledge of triage concepts ■ Demonstrates basic knowledge of emergency preparedness programs 	<ul style="list-style-type: none"> ■ Demonstrates and applies understanding of emergency preparedness programs 	<ul style="list-style-type: none"> ■ Demonstrates the ability to develop and evaluate the medical portion of an emergency plan 	<ul style="list-style-type: none"> ■ Provides leadership in developing, implementing, and evaluating emergency preparedness programs

Community Health: Monitor, diagnose, and investigate community health problems—Patient Care 4

Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> ■ Identifies common health issues in a community 	<ul style="list-style-type: none"> ■ Identifies basic health status measures to assess/investigate a community's health 	<ul style="list-style-type: none"> ■ Selects and describes appropriate health status measures to assess a community's health 	<ul style="list-style-type: none"> ■ Monitors and interprets single health status indicator of the community 	<ul style="list-style-type: none"> ■ Monitors and interprets multiple and/or complex health status indicators of the community

Inform and Educate: Inform and educate populations about health threats and risks—Patient Care 5

Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> ■ Conveys basic health information to individuals or small groups 	<ul style="list-style-type: none"> ■ Identifies proper communication techniques related to health threats and risks 	<ul style="list-style-type: none"> ■ Prepares and delivers a basic health hazard/risk presentation 	<ul style="list-style-type: none"> ■ Conveys complex health information to educate a community or group and responds to queries about risk 	<ul style="list-style-type: none"> ■ Conveys sensitive/high-stakes health information to educate a community or group through a variety of media platforms

Policies and Plans: Develop policies and plans to support individual and community health efforts—Patient Care 6				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Diagnoses disease and develops an individualized treatment plan 	<ul style="list-style-type: none"> Links individuals to needed personal health services, including appropriate referrals and follow-ups 	<ul style="list-style-type: none"> Applies primary, secondary, and tertiary preventive approaches to disease prevention and health promotion for individuals or communities, with minimal supervision 	<ul style="list-style-type: none"> Applies primary, secondary, and tertiary preventive approaches to disease prevention and health promotion for the individuals and community 	<ul style="list-style-type: none"> Contributes to the development and/or implementation of a policy to improve community health efforts
Evaluating Health Services: Evaluate population-based health services—Patient Care 7				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Recognizes distinctions between population and individual health services 	<ul style="list-style-type: none"> Describes basic measures of effect (eg, risk ratio) <ul style="list-style-type: none"> Describes basic measures of quality (eg, benchmarking) Lists populations known to be underserved (eg, low income) 	<ul style="list-style-type: none"> Assesses evidence for effectiveness of a population-based health service <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Uses program goals and/or established performance criteria to evaluate a population-based health service <ul style="list-style-type: none"> Uses evaluation findings to recommend strategic or operational improvements Uses data to identify barriers to population-based health services 	<ul style="list-style-type: none"> Develops program goals and/or performance criteria to evaluate a population-based health service

Clinical Occupational and Environmental Medicine: Provide evidence-based clinical evaluation and treatment for injuries and illnesses that are occupationally or environmentally related—Patient Care 8				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Understands basic epidemiologic concepts and recognizes that diseases and injuries occur in a social and environmental context Acquires a history and performs a basic physical examination that may be related to workplace or environmental exposures 	<ul style="list-style-type: none"> Understands controls that can be used to reduce exposures in the workplace Acquires an accurate and relevant history, including occupational history, and performs intermediate level physical examination that may be related to workplace or environmental exposures under direct supervision; begins formulation of the differential diagnosis, assessment, and plan Begins to assess work-relatedness (eg, repair of simple laceration, initial management of nondisplaced distal extremity fracture, interpretation of surveillance pure-tone audiometry) 	<ul style="list-style-type: none"> Works with a team to evaluate and identify workplace or environmental causes of injury or illness and recommends controls or programs to reduce exposure, and to enhance the health and productivity of workers under substantial supervision Acquires an accurate, organized, and relevant history, including occupational history, and performs advanced level physical examination that may be related to workplace or environmental exposures under minimal direct supervision Formulates an appropriate differential diagnosis and assessment; provides appropriate treatment and plan, including accommodations, for simple cases Applies evidence-based clinical practice guidelines in treatment and management (eg, management of work-related asthma and interpretation of spirometry) 	<ul style="list-style-type: none"> Works with a team to evaluate and identify workplace or environmental causes of injury or illness and recommends controls or programs to reduce exposure, and to enhance the health and productivity of workers under minimal supervision Acquires an accurate, organized, and relevant history, including occupational history, and performs advanced level physical examination that may be related to workplace or environmental exposures Formulates an appropriate differential diagnosis and assessment; provides appropriate treatment and plan, including accommodations, for complex cases under indirect supervision Applies evidence-based clinical practice guidelines in treatment and management; provides care efficiently (eg, implementing an evidence-based treatment approach for a patient with work-related low back pain unresponsive to evidence-based treatments) 	<ul style="list-style-type: none"> Leads a team to evaluate and identify a previously unrecognized workplace or environmental cause of injury or illness Participates in cases of complex occupational injury and illness that require tertiary prevention measures, such as multidisciplinary case management, specialty referral, and advanced accommodation systems; provides supervision of other independently licensed health care professionals; receives minimal oversight by attending physician (eg, managing a patient with traumatic brain injury with multiple medical providers involved)

Occupational and Environmental Medicine—Related Law and Regulations: Comply with regulations important to occupational and environmental health; workplace hazard-related (eg, Occupational Safety and Health Administration–based), and consumer/community hazard-related (eg, Environmental Protection Agency, Consumer Product Safety Commission)—Patient Care 9				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Identifies relevant regulatory agencies with jurisdiction for regulating exposure in the geographic area and industry/agent 	<ul style="list-style-type: none"> Lists the criteria/regulatory levels for exposures to the specific substance or hazard 	<ul style="list-style-type: none"> Reviews actual exposure monitoring data and prepares written reports about compliance for managers, workers, or government 	<ul style="list-style-type: none"> Prepares a written exposure monitoring and reporting system plan for a specific workplace or other defined entity 	<ul style="list-style-type: none"> Based on personal research (empirical data or systematic literature review), prepares a proposal for modifying an existing regulatory standard

Work Fitness and Disability Integration: Determine if a worker can safely be at work/complete required job tasks, and provide guidance for integrating an employee with a disability into the workplace—Patient Care 10				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Acquires an accurate and relevant history with pertinent physical examination findings of injuries and diseases which may result in an impairment, disability, or limitation to perform required job tasks 	<ul style="list-style-type: none"> Opens, manages, and directs straightforward workers' compensation treatment plans, and close workers' compensation injury/illness cases following the relevant state, federal, and public workers' compensation insurance rules 	<ul style="list-style-type: none"> Opens, manages, and directs complicated workers' compensation treatment plans, and close workers' compensation injury/illness cases following the relevant state, federal, and public workers' compensation insurance rules 	<ul style="list-style-type: none"> Provides advice and remediation strategies concerning summary results or trends in disability, disease, or risk that may have public health significance in order to maximize worker productivity—this may be achieved through simulation 	<ul style="list-style-type: none"> Performs an independent medical evaluation, including an impairment formulation following the relevant state, federal, and public workers' compensation insurance rules
Health and Productivity: Identify and address individual and organizational factors in the workplace in order to optimize the health of the worker and enhance productivity—Patient Care 11				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Recognizes that individual and organizational factors in the workplace can influence health and productivity 	<ul style="list-style-type: none"> Identifies individual and organizational factors in the workplace which influence the health and productivity of workers, such as ethnicity, language, health beliefs, absenteeism, presenteeism, safety culture, etc 	<ul style="list-style-type: none"> Describes the appropriate use and limitations of health risk assessment and screening for well populations, and the applications of screening, assessment, and early intervention for targeted high-risk groups Counsels employees about health risks and lifestyle 	<ul style="list-style-type: none"> Monitors and surveys at least 1 workforce and interprets monitoring and surveillance data for prevention of disease in the workplace to enhance the health and productivity of workers under supervision (may be achieved through simulation) Communicates scientific knowledge related to health and productivity to target groups with supervision 	<ul style="list-style-type: none"> Designs, implements, and evaluates worksite health promotion and disease prevention programs independently, incorporating authoritative guidelines as appropriate
Public Health, Surveillance, and Disease Prevention: Develop, evaluate, and manage medical surveillance programs for the workplace—Patient Care 12				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Demonstrates working knowledge of basic principles underlying screening (eg, sensitivity, specificity, predictive value, positive/negative, etc) 	<ul style="list-style-type: none"> Performs a medical surveillance examination following prescribed guidelines; communicates results in writing to patient (and employer, if relevant) 	<ul style="list-style-type: none"> Independently determines which tests are appropriate, cost-effective, and/or mandatory for a specific worker-patient 	<ul style="list-style-type: none"> Prepares a valid aggregate analysis and summary of actual medical surveillance examinations for a specific focus, such as lead exposed workers, lipid screening, hearing conservation (may be achieved through simulation) 	<ul style="list-style-type: none"> Develops a comprehensive program plan for an actual workplace, including test selections, follow-up plans, marketing, and comparison of cost-effectiveness of alternative strategies

Occupational and Environmental Medicine–Related Management and Administration—Patient Care 13				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Understands the basic use of information technology to prepare simple reports, present data, and communicate with colleagues and patients 	<ul style="list-style-type: none"> Adopts protocols to manage patient records and protect confidentiality Demonstrates an understanding of the roles of various professionals in an occupational health service, including other independent licensed health care professionals 	<ul style="list-style-type: none"> Identifies and implements, under supervision, process and outcome measures for work populations and benchmarks with other organizations Applies techniques of process improvement in uncomplicated circumstances 	<ul style="list-style-type: none"> Designs, with supervision, cost containment strategies for workers' compensation, health benefits, and disability management programs Communicates technical and clinical information to professionals and lay audiences, including labor and management with supervision 	<ul style="list-style-type: none"> Plans, designs, implements, manages, and evaluates comprehensive occupational/environmental health programs, projects, and protocols that enhance the health, safety, and productivity of workers, their families, and members of the community
Ethics: Apply an ethical approach to promote the health and welfare of the individual worker and protect worker rights and privacy in the context of overriding workplace public health and safety—Patient Care 14				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Describes the legal rights of patients to confidentiality of personal health information as stipulated in the Health Insurance Portability and Accountability Act 	<ul style="list-style-type: none"> Informs workers of results of clinical and surveillance evaluations in an ethical manner consistent with legal requirements Describes the legal and ethical uses of medical surveillance information from worker populations Describes the physician's role and responsibilities with respect to identification and reporting of work-related illness and injuries 	<ul style="list-style-type: none"> Distinguishes between personal health information protections and state laws governing release of clinical information related to work-related injury/illness, as well as medical surveillance programs 	<ul style="list-style-type: none"> Demonstrates the ability to protect the privacy and confidentiality rights of the individual worker (may be achieved through simulation) Advises employers of summary results and trends in disability, disease, or risk that may have public health significance without jeopardizing individual employee privacy rights (may be achieved through simulation) Understands and applies appropriate sharing and restriction of information for various aspects of occupational medicine (eg, Americans with Disabilities Act) 	<ul style="list-style-type: none"> Develops ethically sound policies and procedures for workplace programs related to substance abuse testing, fertility protection, fitness for duty evaluations, and safety sensitive positions Advocates for health and safety issues arising in the workplace

MEDICAL KNOWLEDGE					
Behavioral Health—Medical Knowledge 1					
Level 1	Level 2	Level 3	Level 4	Level 5	
<ul style="list-style-type: none"> Lists major effects of individual behavior on health Recognizes that social and behavioral factors influence population health 	<ul style="list-style-type: none"> Identifies social and behavioral factors that affect health of individuals Identifies social and behavioral factors that affect health of populations 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Develops and evaluates programs to change health behaviors of individuals 	
Environmental Health—Medical Knowledge 2					
Level 1	Level 2	Level 3	Level 4	Level 5	
<ul style="list-style-type: none"> Identifies major routes of human exposure to environmental toxicants 	<ul style="list-style-type: none"> Identifies common illnesses that may be caused or influenced by environmental exposures Identifies broad environmental factors that may impact the health of a community 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Recommends, interprets, and explains the results of individual environmental monitoring Interprets and explains population level environmental monitoring results 	
Biostatistics—Medical Knowledge 3					
Level 1	Level 2	Level 3	Level 4	Level 5	
<ul style="list-style-type: none"> Recognizes common statistical concepts (eg, measures of central tendency, <i>P</i> values, and confidence intervals) 	<ul style="list-style-type: none"> Defines common statistical concepts (eg, <i>P</i> values and confidence intervals) 	<ul style="list-style-type: none"> Describes frequently used statistical tests (eg, paired and unpaired <i>t</i> tests, chi-square tests, and others) 	<ul style="list-style-type: none"> Independently utilizes simple statistical methods (eg, paired and unpaired <i>t</i> tests, chi-square tests, and appropriate nonparametric tests) to describe small data sets 	<ul style="list-style-type: none"> Participates in the use of statistical software to perform statistical tests; understands more advanced statistical methods, such as linear and logistic regression 	

Epidemiology—Medical Knowledge 4

Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Identifies and recognizes basic measures of disease frequency (incidence, prevalence, mortality) Distinguishes between experimental and observational studies 	<ul style="list-style-type: none"> Identifies and recognizes basic measures for comparing risk (risk ratios, odds ratios) Describes commonly used study designs (randomized clinical trial, cohort, case-control, cross-sectional) 	<ul style="list-style-type: none"> Knows methods for calculating basic measures of disease frequency and risk Explains what is meant by validity, bias, confounding, and effect modification; distinguishes between association and causation; lists criteria for causal inference 	<ul style="list-style-type: none"> For a defined population, uses data to calculate measures of disease frequency and 1 or more risk factors for a specified disease or condition Critically reviews and interprets epidemiologic literature for commonly used study designs, identifying purpose, population, design, and biases 	<ul style="list-style-type: none"> 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 1 disease or condition Designs and conducts a basic observational study (defines aims; selects appropriate study designs; collects, analyzes, and interprets data; identifies limitations; summarizes and discusses findings)

SYSTEMS-BASED PRACTICE

Work and coordinate patient care effectively in various health care delivery settings and systems—Systems-Based Practice 1

Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Recognizes various individual and population-based health care/services delivery settings and systems 	<ul style="list-style-type: none"> Works and coordinates individual patient care in various health care delivery settings and systems 	<ul style="list-style-type: none"> Works and coordinates population-based health services in various health care delivery settings and systems 	<ul style="list-style-type: none"> Assess organizational performance of health care delivery system 	<ul style="list-style-type: none"> Interacts with other stakeholders to improve the performance of the system

Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care, as appropriate—Systems-Based Practice 2

Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Recognizes the importance of cost awareness and risk-benefit analysis in patient and/or population-based care 	<ul style="list-style-type: none"> Identifies risks, benefits, and costs for a preventive service in an individual clinical patient 	<ul style="list-style-type: none"> Demonstrates sound judgment relating to risks, benefits, and costs for a preventive service in an individual clinical patient 	<ul style="list-style-type: none"> Demonstrates sound judgment relating to risks, benefits, and costs for a preventive service for a population 	<ul style="list-style-type: none"> Articulates and weighs the costs, benefits, and risks of a proposed population-based service

Work in interprofessional teams to enhance patient safety and improve patient care quality; advocate for quality patient care and optimal patient care systems; participate in identifying system errors and implementing potential systems solutions—Systems-Based Practice 3

Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> 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 of morbidity 	<ul style="list-style-type: none"> Understands key concepts related to health care quality improvement Recognizes and reports errors and near misses 	<ul style="list-style-type: none"> Advocates for quality care and optimal individual patient care systems Recognizes potential sources of system failure in health care systems, such as minor, major, and sentinel events 	<ul style="list-style-type: none"> Advocates for quality care and optimal population-based care systems Participates in a team-based approach to make system changes 	<ul style="list-style-type: none"> Develops or leads a team to evaluate a system error and improve processes

PRACTICE-BASED LEARNING AND IMPROVEMENT

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

Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Assesses performance by incorporating feedback and assessments from multiple stakeholders (eg, patients, members of the health care team, third-party payers) Assimilates evidence from scientific studies into practice Participates in a quality improvement project 	<ul style="list-style-type: none"> 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

PROFESSIONALISM					
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 1	Level 2	Level 3	Level 4	Level 5	
<ul style="list-style-type: none"> Seeks out, learns from, 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 in clinical situations 	<ul style="list-style-type: none"> Exhibits appropriate 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 clinical situations 	<ul style="list-style-type: none"> Exhibits appropriate 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 situations 	<ul style="list-style-type: none"> Balances ethical 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 medicine 	<ul style="list-style-type: none"> Develops organizational policies and education to support the application of these principles in the practice of individual and population-based medicine 	
Accountability to patients, society, and the profession—Professionalism 2					
Level 1	Level 2	Level 3	Level 4	Level 5	
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Appropriately engages other members of the health care team Demonstrates physician accountability to a patient population in clinical situations Able to recognize impairment in themselves or other members of the health care team 	<ul style="list-style-type: none"> Consistently demonstrates the ability to identify limits of own knowledge and proactively incorporates the expertise of others from the health care 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 health care team 	<ul style="list-style-type: none"> Acts as a consultant for clinical and population health topics Exemplifies ethical leadership in clinical and population-based settings 	

INTERPERSONAL AND COMMUNICATION SKILLS					
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 and Communication Skills 1					
Level 1	Level 2	Level 3	Level 4	Level 5	
<ul style="list-style-type: none"> Recognizes the importance of effective communication with patients, families, and the 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 	<ul style="list-style-type: none"> Demonstrates effective communication with patients, families, or the 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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/crises 	<ul style="list-style-type: none"> Creates policy for effective communication of complex health information Demonstrates effective communication outside of the local health care 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 	
Maintain comprehensive, timely, and legible medical records, including electronic health records (EHR)—Interpersonal and Communication Skills 2					
Level 1	Level 2	Level 3	Level 4	Level 5	
<ul style="list-style-type: none"> Recognizes the importance of maintaining timely and legible records, including EHR 	<ul style="list-style-type: none"> Maintains timely and legible records, including EHR 	<ul style="list-style-type: none"> Maintains complete, timely, and legible records, including EHR 	<ul style="list-style-type: none"> Consistently maintains complete, timely, and legible records, including EHR 	<ul style="list-style-type: none"> Develops a protocol for record maintenance 	