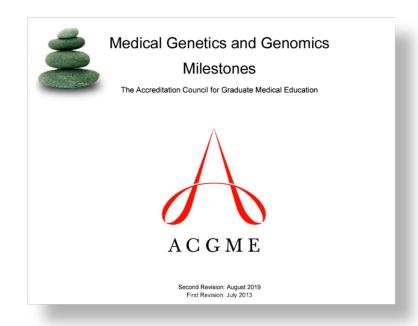
Internal Medicine and Medical Genetics and Genomics (combined) programs must annually report on **each** set of Milestones.







Internal Medicine Milestones

The Accreditation Council for Graduate Medical Education



Implementation Date: July 1, 2021 Second Revision: November 2020 First Revision: July 2013

Internal Medicine Milestones

The Milestones are designed only for use in evaluation of residents in the context of their participation in ACGME-accredited residency programs. The Milestones provide a framework for the assessment of the development of the resident 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.

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

Alliance for Academic Internal Medicine
American Board of Internal Medicine
American College of Physicians
Association of Medical Colleges
Review Committee for Internal Medicine
Society of Hospital Medicine
Society of General Internal Medicine

Understanding Milestone Levels and Reporting

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

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

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

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

Additional Notes

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

Examples are provided for some milestones within this document. Please note: the examples are not the required element or outcome; they are provided as a way to share the intent of the element.

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

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

Supplemental Guides and other resources are available on the Milestones page of each specialty section of the ACGME website. On www.acgme.org, choose the applicable specialty under the "Specialties" menu, then select the "Milestones" link in the lower navigation bar.

The diagram below presents an example set of milestones for one sub-competency in the same format as the ACGME Report Worksheet. For each reporting period, a 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 those milestones.

Systems-based Practice	1: Patient Safety and Quali	ity Improvement		
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of common patient safety events	Identifies system factors that lead to patient safety events	Participates in analysis of patient safety events (simulated or actual)	Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual)	Actively engages teams and processes to modify systems to prevent patient safety events
Demonstrates knowledge of how to report patient safety events	Reports patient safety events through institutional reporting systems (simulated or actual)	Participates in disclosure of patient safety events to patients and families (simulated or actual)	Discloses patient safety events to patients and families (simulated or actual)	Role models or mentors others in the disclosure of patient safety events
Demonstrates knowledge of basic quality improvement methodologies and metrics	Describes local quality improvement initiatives (e.g., community vaccination rate, infection rate, smoking cessation)	Participates in local quality improvement initiatives	Demonstrates skills required to identify, develop, implement, and analyze a quality improvement project	Designs,, implements, and assesses quality improvement initiatives at the institutional or community level
Comments:			Not Yet C	ompleted Level 1
Selecting a respo middle of a level i milestones in that levels have been demonstrated.	mplies that level and in lower		between levels ind	

Level 2	Level 3	Level 4	Level 5
Elicits and concisely reports a hypothesis-driven patient history for common patient presentations	Elicits and concisely reports a hypothesis-driven patient history for complex patient presentations	Efficiently elicits and concisely reports a patient history, incorporating pertinent psychosocial and other determinants of health	Efficiently and effectively tailors the history taking, including relevant historical subtleties, based on patient, family, and system needs
Independently obtains data from secondary sources	Reconciles current data with secondary sources	Uses history and secondary data to guide the need for further diagnostic testing	Models effective use of history to guide the need for further diagnostic testing
			ompleted Level 1
	reports a hypothesis- driven patient history for common patient presentations Independently obtains data from secondary	Elicits and concisely reports a hypothesis-driven patient history for common patient presentations Elicits and concisely reports a hypothesis-driven patient history for complex patient presentations Reconciles current data with secondary sources	Elicits and concisely reports a hypothesis-driven patient history for common patient presentations Elicits and concisely reports a hypothesis-driven patient history for complex patient presentations Elicits and concisely reports a patient history, incorporating pertinent psychosocial and other determinants of health Reconciles current data with secondary sources Efficiently elicits and concisely reports a patient history, incorporating pertinent psychosocial and other determinants of health Uses history and secondary data to guide the need for further diagnostic testing

Level 1	Level 2	Level 3	Level 4	Level 5
Performs a general physical examination while attending to patient comfort and safety	Performs a hypothesis- driven physical examination for a common patient presentation	Performs a hypothesis- driven physical examination for a complex patient presentation	Uses advanced maneuvers to elicit subtle findings	Models effective evidence-based physical examination technique
Identifies common abnormal findings	Interprets common abnormal findings	Identifies and interprets uncommon and complex abnormal findings	Integrates subtle physical examination findings to guide diagnosis and management	Teaches the predictive values of the examination findings to guide diagnosis and management

Patient Care 3: Clinical Reasoning				
Level 1	Level 2	Level 3	Level 4	Level 5
Organizes and accurately summarizes information obtained from the patient evaluation to develop a clinical impression	Integrates information from all sources to develop a basic differential diagnosis for common patient presentations	Develops a thorough and prioritized differential diagnosis for common patient presentations	Develops prioritized differential diagnoses in complex patient presentations and incorporates subtle, unusual, or conflicting findings	Coaches others to develop prioritized differential diagnoses in complex patient presentations
	Identifies clinical reasoning errors within patient care, with guidance	Retrospectively applies clinical reasoning principles to identify errors	Continually re-appraises one's own clinical reasoning to improve patient care in real time	Models how to recognize errors and reflect upon one's own clinical reasoning
Comments:				ompleted Level 1 ssessable

Level 1	Level 2	Level 3	Level 4	Level 5
Formulates management plans for common conditions, with guidance	Develops and implements management plans for common conditions, recognizing acuity, and modifies based on the clinical course	Develops and implements value-based (high value) management plans for patients with multisystem disease and comorbid conditions; modifies based on the clinical course	Uses shared decision making to develop and implement value-based (high value) comprehensive management plans for patients with comorbid and multisystem disease, including those patients requiring critical care	Develops and implements comprehensive management plans for patients with rare or ambiguous presentations or unusual comorbid conditions
Identifies opportunities to maintain and promote health	Develops and implements management plans to maintain and promote health, with guidance	Independently develops and implements plans to maintain and promote health, incorporating pertinent psychosocial and other determinants of health	Independently develops and implements comprehensive plans to maintain and promote health, incorporating pertinent psychosocial and other determinants of health	

Level 1	Level 2	Level 3	Level 4	Level 5
Identifies opportunities to maintain and promote health	Develops and implements management plans to maintain and promote health	Develops and implements plans to maintain and promote health, incorporating pertinent psychosocial and other determinants of health	Develops and implements value-based (high-value) comprehensive plans to maintain and promote health	
Formulates management plans for a common chronic condition, with guidance	Develops and implements management plans for common chronic conditions	Develops and implements management plans for multiple chronic conditions	Develops and implements value-based (high value) comprehensive management plans for multiple chronic conditions, incorporating pertinent psychosocial and other determinants of health	Creates and leads a comprehensive patient-centered management plan for the patient with highly complex chronic conditions, integrating recommendations from multiple disciplines
Formulates management plans for acute common conditions, with guidance	Develops and implements management plans for common acute conditions	Develops and implements an initial management plan for patients with urgent or emergent conditions in the setting of chronic comorbidities	Develops and implements value-based (high value) management plans for patients with acute conditions	Develops and implements management plans for patients with subtle presentations, including rare or ambiguous conditions

Level 1	Level 2	Level 3	Level 4	Level 5
Uses electronic health record (EHR) for routine patient care activities	Expands use of EHR to include and reconcile secondary data sources in patient care activities	Effectively uses EHR capabilities in managing acute and chronic care of patients	Uses EHR to facilitate achievement of quality targets for patient panels	Leads improvements to the EHR
Identifies the required components for a telehealth visit	Performs assigned telehealth visits using approved technology	Identifies clinical situations that can be managed through a telehealth visit	Integrates telehealth effectively into clinical practice for the management of acute and chronic illness	Develops and innovates new ways to use emerging technologies to augment telehealth visits
Comments:			Not Yet Co Not Yet As	ompleted Level 1 sessable

Patient Care

Yes	No	Conditional on Improvemen	t

Medical Knowledge 1: A	pplied Foundational Science	ces		
Level 1	Level 2	Level 3	Level 4	Level 5
Explains the scientific knowledge (e.g., physiology, social sciences, mechanism of disease) for normal function and common medical conditions	Explains the scientific knowledge for complex medical conditions	Integrates scientific knowledge to address comorbid conditions within the context of multisystem disease	Integrates scientific knowledge to address uncommon, atypical, or complex comorbid conditions within the context of multisystem disease	Demonstrates a nuanced understanding of the scientific knowledge related to uncommon, atypical, or complex conditions
Comments:				ompleted Level 1 ssessable

Medical Knowledge 2: Therapeutic Knowledge				
Level 1	Level 2	Level 3	Level 4	Level 5
Explains the scientific basis for common therapies	Explains the indications, contraindications, risks, and benefits of common therapies	Integrates knowledge of therapeutic options in patients with comorbid conditions, multisystem disease, or uncertain diagnosis	Integrates knowledge of therapeutic options within the clinical and psychosocial context of the patient to formulate treatment options	Demonstrates a nuanced understanding of emerging, atypical, or complex therapeutic options
Comments:			Not Yet C	ompleted Level 1
				ssessable

evel 1	Level 2	Level 3	Level 4	Level 5
Explains the rationale, isks, and benefits for common diagnostic esting	Explains the rationale, risks, and benefits for complex diagnostic testing	Integrates value and test characteristics of various diagnostic strategies in patients with common diseases	Integrates value and test characteristics of various diagnostic strategies in patients with comorbid conditions or multisystem disease	Demonstrates a nuanced understanding of emerging diagnostic tests and procedures
nterprets results of common diagnostic tests	Interprets complex diagnostic data	Integrates complex diagnostic data accurately to reach high-probability diagnoses	Anticipates and accounts for limitations when interpreting diagnostic data	

Medical Knowledge

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

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of care coordination	Coordinates care of patients by effectively engaging interprofessional teams in routine clinical situations	Coordinates care of patients by effectively engaging interprofessional teams in complex clinical situations	Models effective coordination of patient-centered care among different disciplines and specialties	Analyzes the process of care coordination and leads in the design and implementation of improvements
Identifies key elements for safe and effective transitions of care and hand-offs	Performs safe and effective transitions of care/hand-offs in routine clinical situations	Performs safe and effective transitions of care/hand-offs in complex clinical situations	Models and advocates for safe and effective transitions of care/hand- offs within and across health care delivery systems, including outpatient settings	Improves quality of transitions of care within and across health care delivery systems to optimize patient outcomes
Demonstrates knowledge of population and community health needs and disparities	Identifies specific population and community health needs and inequities for the local population	Uses local resources effectively to meet the needs of a patient population and community	Participates in changing and adapting practice to provide for the needs of specific populations	Leads innovations and advocates for populations and communities with health care inequities

Level 1	Level 2	Level 3	Level 4	Level 5
Identifies key components of the health care system	Describes how components of a complex health care system are interrelated, and how this impacts patient care	Discusses how individual practice affects the regional and national health care system	Manages various components of the complex health care system to provide efficient and effective patient care	Advocates for or leads systems change that enhances high-value, efficient, and effective patient care
Describes basic health payment systems	Delivers care with consideration of each patient's payment model Engages with patients in shared decision making, informed by each patient's payment model		Advocates for patient care needs with consideration of the limitations of each patient's payment model	Actively engaged in influencing health policy through advocacy activities at the local, regional, or national level

Systems-Based Practice

Yes	No	Conditional on I	mnrovement
165	INO	Conditional on i	mprovement

Practice-Based Learning	and Improvement 1: Evide	ence-Based and Informed F	Practice	
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates how to access, categorize, and analyze clinical evidence, with guidance	Articulates clinical questions and elicits patient preferences and values to guide evidence-based care	Critically appraises and applies the best available evidence, integrated with patient preference, to the care of complex patients	Applies evidence, even in the face of uncertainty and conflicting evidence, to guide care, tailored to the individual patient	Coaches others to critically appraise and apply evidence to patient care
Comments:			Not Yet C	Completed Level 1

Level 1	Level 2	Level 3	Level 4	Level 5
Accepts responsibility for personal and professional development by establishing goals	Demonstrates openness to performance data (feedback and other input) to inform goals	Seeks performance data episodically, with adaptability, and humility	Seeks performance data consistently with adaptability, and humility	Models consistently seeking performance data with adaptability and humility
Identifies the factors that contribute to gap(s) between ideal and actual performance, with guidance	Analyzes and reflects on the factors which contribute to gap(s) between ideal and actual performance, with guidance	Institutes behavioral change(s) to narrow the gap(s) between ideal and actual performance	Challenges one's own assumptions and considers alternatives in narrowing the gap(s) between ideal and actual performance	Coaches others on reflective practice
	Actively seeks opportunities to improve	Designs and implements an individualized learning plan, with prompting	Independently creates and implements an individualized learning plan	Uses performance data to measure the effectiveness of the individualized learning plan and when necessary, improves it

Practice-Based Learning and Improvement

Yes	No	Conditional	on	Improve	ement

Level 1	Level 2	Level 3	Level 4	Level 5	
Demonstrates professional behavior in routine situations	Identifies potential triggers for professionalism lapses and accepts responsibility for one's own professionalism lapses	Demonstrates a pattern of professional behavior in complex or stressful situations	Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in oneself and others	Coaches others when their behavior fails to meet professional expectations	

Level 1	Level 2	Level 3	Level 4	Level 5	
Demonstrates knowledge of basic ethical principles	Applies basic principles to address straightforward ethical situations	Analyzes complex situations using ethical principles and identifies the need to seek help in addressing complex ethical situations	Analyzes complex situations and engages with appropriate resources for managing and addressing ethical dilemmas as needed	Identifies and seeks to address system-level factors that induce or exacerbate ethical problems or impede their resolution	

Professionalism 3: Acco	untability/Conscientiousne	ss			
Level 1	Level 2	Level 3	Level 4	Level 5	
Performs administrative tasks and patient care responsibilities, with prompting	Performs administrative tasks and patient care responsibilities in a timely manner in routine situations	Performs administrative tasks and patient care responsibilities in a timely manner in complex or stressful situations	Proactively implements strategies to ensure that the needs of patients, teams, and systems are met	Creates strategies to enhance other's ability to efficiently complete administrative tasks and patient care responsibilities	
Comments:			Not Yet C	ompleted Level 1	

Professionalism 4: Know	ledge of Systemic and Ind	ividual Factors of Well-Bei	ng*	
Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes the importance of getting help when needed to address personal and professional well-being	Lists resources to support personal and professional well-being Recognizes that institutional factors affect well-being	With prompting, reflects on how personal and professional well-being may impact one's clinical practice Describes institutional factors that affect well-being	Reflects on actions in real time to proactively respond to the inherent emotional challenges of physician work Suggests potential solutions to institutional factors that affect well-being	Participates in institutional changes to promote personal and professional well-being
Comments:				ompleted Level 1

Professionalism

	,	Yes	No	Conditional	on In	nprovement
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^{*}This subcompetency is not intended to evaluate a resident's well-being. Rather, the intent is to ensure that each resident has the fundamental knowledge of factors that impact well-being, the mechanism by which those factors impact well-being, and available resources and tools to improve well-being.

Level 1	Level 2	Level 3	Level 4	Level 5
Uses language and non- verbal behavior to demonstrate respect and establish rapport	Establishes and maintains a therapeutic relationship using effective communication behaviors in straightforward encounters	Establishes and maintains a therapeutic relationship using effective communication behaviors in challenging patient encounters	Establishes and maintains therapeutic relationships using shared decision making, regardless of complexity	Coaches others in developing and maintaining therapeutic relationships and mitigating communication barriers
Identifies common barriers to effective communication		Identifies complex barriers to effective communication, including personal bias	Mitigates communication barriers	Models the mitigation of communication barriers

Interpersonal and Communication Skills 2: Interprofessional and Team Communication				
Level 1	Level 2	Level 3	Level 4	Level 5
Respectfully requests and responds to a consultation	Clearly and concisely requests and responds to a consultation	Checks own and others' understanding of recommendations when providing or receiving consultation	Coordinates recommendations from different consultants to optimize patient care	Facilitates conflict resolution between and amongst consultants when disagreement exists
Uses verbal and non- verbal communication that values all members of the interprofessional team	Communicates information, including basic feedback with all interprofessional team members	Facilitates interprofessional team communication to reconcile conflict and provides difficult feedback	Adapts communication style to fit interprofessional team needs and maximizes impact of feedback to the team	Models flexible communication strategies that facilitate excellence in interprofessional teamwork
Comments:			Not Yet C	Completed Level 1

Level 1	Level 2	Level 3	Level 4	Level 5
Accurately documents comprehensive and current information	Documents clinical encounter, including reasoning, through organized notes	Documents clinical encounter through concise and thorough notes	Documents clinical encounter clearly, concisely, timely, and in an organized form, including anticipatory guidance	Guides departmental or institutional communication policies and procedures
Communicates using formats specified by institutional policy to safeguard patient personal health information	Selects direct (e.g., telephone, in-person) and indirect (e.g., progress notes, text messages) forms of communication based on context, with assistance	Appropriately selects direct and indirect forms of communication based on context	Models effective written and verbal communication	

Interpersonal and Communication Skills

Yes	No	Conditional on	Improvement

Overall Clinical Competence

his rating represents the assessment of the resident's development of overall clinical competence during this year of training:	
Superior: Far exceeds the expected level of development for this year of training	
Satisfactory: Always meets and occasionally exceeds the expected level of development for this year of training	
Conditional on Improvement: Meets some developmental milestones but occasionally falls short of the expected level of developme this year of training. An improvement plan is in place to facilitate achievement of competence appropriate to the level of training.	nt for
Unsatisfactory: Consistently falls short of the expected level of development for this year of training.	



Medical Genetics and Genomics Milestones

The Accreditation Council for Graduate Medical Education



Second Revision: August 2019 First Revision: July 2013

Medical Genetics and Genomics Milestones

The Milestones are designed only for use in evaluation of residents in the context of their participation in ACGME-accredited residency or fellowship programs. The Milestones provide a framework for the assessment of the development of the resident 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.

Medical Genetics and Genomics Milestones

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

American Board of Medical Genetics and Genomics

Association of Professors of Human and Medical Genetics

ACGME Review Committee for Medical Genetics and Genomics

Understanding Milestone Levels and 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. The narrative descriptions are targets for resident performance throughout their training.

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

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

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).

Additional Notes

For residents who have insufficient data/evaluations to assess, please choose "not yet assessable."

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

Examples are provided for some milestones within this document. Please note that the examples are not the required element or outcome; they are provided as a way to share the intent of the element.

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

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

Supplemental Guides and other resources are available on the Milestones page of each specialty section of the ACGME website. On www.acgme.org, choose the applicable specialty under the "Specialties" menu, then select the "Milestones" link in the lower navigation bar.

The diagram below presents an example set of milestones for one sub-competency in the same format as the ACGME Report Worksheet. For each reporting period, a 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 those milestones.

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of common patient safety events	Identifies system factors that lead to patient safety events	Participates in analysis of patient safety events (simulated or actual)	Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual)	Actively engages teams and processes to modify systems to prevent patient safety events
Demonstrates knowledge of how to report patient safety events	Reports patient safety events through institutional reporting systems (actual or simulated)	Participates in disclosure of patient safety events to patients and families (simulated or actual)	Discloses patient safety events to patients and families (simulated or actual)	Role models or mentors others in the disclosure of patient safety events
Demonstrates knowledge of basic quality improvement methodologies and metrics	Describes local (institutional) quality improvement initiatives	Participates in local (institutional quality improvement initiatives	Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project	Creates, implements, and assesses quality improvement initiatives at the institutional or community (state /federal) level
Comments:			Not Yet C	Completed Level 1
Selecting a response box in the middle of a level implies that milestones in that level and in lower levels have been substantially demonstrated.		ı lower	between levels in	

Level 1	Level 2	Level 3	Level 4	Level 5
Takes a general medical and family history	Takes a basic genetics- focused history and completes a basic pedigree	Takes a genetics-focused history with some pertinent positive and negative findings; completes an accurate pedigree	Takes a comprehensive genetic history with pertinent positive and negative findings; integrates the history with other data to develop a differential diagnosis	Makes a nationally recognized contribution by describing a new genetic disorder or expanding the phenotype of a known syndrome or disorder
Completes a general physical examination	Completes a basic genetics-focused physical examination; identifies normal and abnormal phenotypic features and/or anomalies	Completes a genetics- focused physical examination; identifies and accurately describes common phenotypic features and/or anomalies; recognizes common syndromes or disorders	Identifies and accurately describes phenotypic features and/or anomalies using standardized nomenclature; recognizes complex syndromes or disorders	

Level 1	Level 2	Level 3	Level 4	Level 5
Identifies the variety of testing modalities for genetic conditions	Identifies basic testing options for common genetic disorders	Identifies strengths and limitations of testing methodologies in order to select first tier tests	Selects and prioritizes testing options across a broad spectrum of complex disorders and inheritance patterns/ mechanisms	Contributes to the knowledge base for the refinement of ambiguous
Identifies the components of the genetics test result	Identifies resources to facilitate interpretation of positive, negative, and uncertain test results	Uses resources to interpret diagnostic test results in the context of the phenotype	Uses resources to interpret ambiguous test results in the context of the phenotype	test results
Recognizes the availability of intervention for some genetic conditions	Identifies resources and guidelines for treatment and management of common genetic conditions	Implements treatment and/or surveillance plans for common genetic conditions	Implements treatment and/or surveillance plans for complex genetic conditions	Creates evidence-based guidelines for management

Patient Care 3: Pre- and Post-Test Genetic Counseling					
Level 1	Level 2	Level 3	Level 4	Level 5	
Participates in pre-test counseling	Explains the rationale for the recommended testing	Conveys the impact and limitations of disorder-specific targeted testing while obtaining informed consent	Clearly conveys the impact and limitations of complex untargeted testing while obtaining informed consent	Participates in the development of professional practice guidelines regarding testing and return of results	
Participates in post-test counseling	Explains the results of the test	Conveys the impact and limitations of diagnostic and non-diagnostic results	Conveys the impact and limitations of unexpected and ambiguous results		
Comments:	Comments: Not Yet Completed Level 1 Not Yet Assessable				

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates basic medical knowledge of embryology, inheritance, and genetic mechanism of disease	Applies knowledge of embryology, inheritance, and genetic mechanism of disease to identify a differential diagnosis	Applies advanced knowledge of embryology, inheritance, and genetic mechanism of disease to make a diagnosis	Applies advanced knowledge of embryology, inheritance, and genetic mechanism of disease to diagnostic and therapeutic interventions	Contributes to peer- reviewed resources addressing genetic mechanism of disease
Demonstrates basic medical knowledge of gene and genome structure and function	Applies knowledge of gene and genome structure and function to identify a differential diagnosis	Applies advanced knowledge of gene and genome structure and function to make a diagnosis	Applies advanced knowledge of gene and genome structure and function to diagnostic and therapeutic interventions	Recognized as a national expert in diagnosis and management of genetic disease

Level 1	Level 2	Level 3	Level 4	Level 5	
Recognizes syndromic and non-syndromic etiologies	Identifies syndromic and non-syndromic etiologies	Demonstrates knowledge of syndromic and non- syndromic etiologies and the impact on diagnosis and management	Applies knowledge of syndromic and non-syndromic etiologies to diagnosis and management	Serves as an expert resource for syndromic and/or non-syndromic etiologies	
Recognizes that phenotypes evolve across the lifespan	Identifies the changes of phenotypes across the lifespan	Demonstrates knowledge of the changes in phenotypes across the lifespan and how it impacts diagnosis and management	Applies knowledge of the changes in phenotypes across the lifespan and how it impacts diagnosis and management	Contributes to peer- reviewed resources addressing natural history of genetic disease	
Comments:					

Medical Knowledge 3: Clinical Reasoning					
Level 1	Level 2	Level 3	Level 4	Level 5	
Demonstrates a basic framework for clinical reasoning	Demonstrates clinical reasoning to determine relevant information	Synthesizes information to inform clinical reasoning, with assistance	Independently synthesizes information to inform clinical reasoning in complex cases	Develops a novel approach for the assessment of complex	
Identifies appropriate resources to inform clinical reasoning	Selects relevant resources based on scenario to inform decisions	Seeks and integrates evidence-based information to inform diagnostic decision making in complex cases, with assistance	Independently seeks out, analyzes and applies relevant original research to diagnostic decision making in complex clinical cases	cases	
Comments:	Comments: Not Yet Completed Level 1 Not Yet Assessable				

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

Systems-Based Practice	Systems-Based Practice 2: System Navigation for Patient-Centered Care				
Level 1	Level 2	Level 3	Level 4	Level 5	
Demonstrates knowledge of care coordination	Coordinates care of patients in routine clinical situations effectively using the roles of the interprofessional teams, including non-physician patient caregivers	Coordinates care of patients in complex clinical situations effectively using the roles of the interprofessional teams	Role models effective coordination of patient- centered care among different disciplines and specialties including referrals and testing	Analyzes the process of care coordination and leads in the design and implementation of improvements	
Identifies key elements for safe and effective transitions of care and hand-offs	Performs safe and effective transitions of care/hand-offs in routine clinical situations	Performs safe and effective transitions of care/hand-offs in complex clinical situations	Role models and advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems including outpatient settings, referrals, and testing	Improves quality of transitions of care within and across health care delivery systems to optimize patient outcomes	
Demonstrates knowledge of population and community health needs and disparities	Identifies specific population and community health needs and inequities for the local population	Uses local resources effectively to meet the needs of a patient population and community	Participates in changing and adapting practice to provide for the needs of specific populations including advocating for a patient's genetic testing coverage	Leads innovations and advocates for populations and communities with health care inequities at the state or federal level	
Comments:			Not Yet C	ompleted Level 1	

Level 1	Level 2	Level 3	Level 4	Level 5
Identifies key components of the complex health care system (e.g., hospital, skilled nursing facility, finance, personnel, technology)	Describes how components of a complex health care system are interrelated, and how this impacts patient care	Discusses how individual practice affects the broader system (e.g., access to genetic testing and treatments, testing advocacy)	Manages various components of the complex health care system to provide efficient and effective patient care and transition of care	Advocates for or leads systems change that enhances high-value, efficient, and effective patient care and transitior of care
Describes basic health payment systems (e.g., government, private, public, uninsured care) and practice models	Delivers care with consideration of each patient's payment model (e.g., insurance type) and access to genetic testing or formula	Engages with patients in shared decision making, often informed by each patient's payment models	Advocates for patient care needs (e.g., community resources, patient assistance resources) with consideration of the limitations of each patient's payment model, including genetic testing through research	Participates in health policy advocacy activities
Identifies basic knowledge for effective transition to practice (e.g., information technology, legal, billing and coding, financial, personnel)	Demonstrates use of information technology required for medical practice (e.g., electronic health record, documentation required for billing and coding)	Describes core administrative knowledge needed for transition to practice (e.g., contract negotiations, malpractice insurance, government regulation, compliance)	Analyzes individual practice patterns and professional requirements in preparation for practice	Educates others to prepare them for transition to practice
Comments:	Tor billing and coding)	regulation, compliance)		

Practice-Based Learning and Improvement 1: Evidence-Based and Informed Practice					
Level 1	Level 2	Level 3	Level 4	Level 5	
Demonstrates how to access and use available evidence, and incorporate patient preferences and values in order to take care of a routine patient	Articulates clinical questions and elicits patient preferences and values in order to guide evidence-based care	Locates and applies the best available evidence, integrated with patient preference, to the care of complex patients	Critically appraises and applies evidence even in the face of uncertainty and conflicting evidence to guide care, tailored to the individual patient	Mentors others to critically appraise and apply evidence for complex patients; and/or participates in the development of guidelines	
Comments:			Not Yet C	ompleted Level 1	

Level 1	Level 2	Level 3	Level 4	Level 5
Accepts responsibility for personal and professional development by establishing goals	Demonstrates openness to performance data (feedback and other input) in order to inform goals	Seeks performance data episodically, with adaptability and humility	Seeks performance data consistently with adaptability and humility	Serves as a role model in seeking performance data with adaptability and humility
Identifies the factors which contribute to gap(s) between expectations and actual performance	Analyzes and reflects on the factors which contribute to gap(s) between expectations and actual performance	Analyzes, reflects on, and institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance	Challenges assumptions and considers alternatives in narrowing the gap(s) between expectations and actual performance	Mentors others on reflective practice
Actively seeks opportunities to improve	Designs and implements a learning plan, with prompting	Independently creates and implements a learning plan	Uses performance data to measure the effectiveness of the learning plan and when necessary, improves it	Facilitates the design and implementing learning plans for others

Professionalism 1: Profe	essional Behavior and Ethic	cal Principles		
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates compassion, sensitivity, honesty and integrity, and identifies potential triggers for professionalism lapses	Demonstrates compassion, sensitivity, honesty and integrity, and takes responsibility for own professionalism lapses	Demonstrates compassion, sensitivity, honesty, and integrity in complex/stressful situations	Demonstrates compassion, sensitivity, honesty, and integrity and serves as a role model to others	Coaches others when their behavior fails to meet professional expectations
Demonstrates knowledge of the ethical principles underlying patient care	Analyzes straightforward situations using ethical principles	Recognizes need to seek help in managing and resolving complex ethical situations	Recognizes and uses appropriate resources for managing and resolving ethical dilemmas as needed	Identifies and seeks to address system-level factors that induce or exacerbate ethical problems or impede their resolution
Demonstrates basic knowledge of conflict of interest	Identifies different types of conflicts of interest, knows guidelines for interactions with vendors	Identifies resources for managing and resolving conflicts of interest	Demonstrates consistently professional behavior with regard to conflicts of interest relevant to presentations, publishing, consulting, and service	
Comments:			Not Yet C	completed Level 1

Level 1	Level 2	Level 3	Level 4	Level 5
Takes responsibility for failure to complete tasks and responsibilities, identifies potential contributing factors, and describes strategies for ensuring timely task completion in the future	Performs tasks and responsibilities in a timely manner with appropriate attention to detail in routine situations	Performs tasks and responsibilities in a timely manner with appropriate attention to detail in complex or stressful situations	Recognizes and addresses situations that may impact others' ability to complete tasks and responsibilities in a	Volunteers to improve and takes ownership of system outcomes
Responds promptly to requests or reminders to complete tasks and responsibilities	Recognizes situations that may impact his/her own ability to complete tasks and responsibilities in a timely manner	Proactively implements strategies to ensure that the needs of patients, teams, and systems are met	timely manner	
Recognizes the role of appearance, daily demeanor and conduct in the role of a professional	Demonstrates a professional appearance, daily demeanor, and conduct	Sets a standard for appearance, daily demeanor, and conduct as a professional	Promotes professional appearance, demeanor, and conduct in their peers and associates	

Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes status of personal and professional well-being, with assistance	Independently recognizes status of personal and professional well-being	With assistance, proposes a plan to optimize personal and professional well-being	Independently develops a plan to optimize personal and professional well-being	Coaches others when emotional responses or limitations in knowledge/skills do not meet professional expectations
Recognizes limits in the knowledge/skills of self or team, with assistance	Independently recognizes limits in the knowledge/ skills of self or team and demonstrates appropriate help-seeking behaviors	With assistance, proposes a plan to remediate or improve limits in the knowledge/ skills of self or team	Independently develops a plan to remediate or improve limits in the knowledge/skills of self or team	

Level 1	Level 2	Level 3	Level 4	Level 5
Uses language and nonverbal behavior to demonstrate respect and establish rapport	Establishes a therapeutic relationship in straightforward encounters using active listening and clear language	Establishes a therapeutic relationship in challenging patient encounters	Establishes therapeutic relationships, with attention to patient/family concerns and context, regardless of complexity	Mentors others in situational awareness and critical self-reflection to consistently develop positive therapeutic relationships
Identifies common barriers to effective communication while accurately communicating own role within the health care system	Identifies complex barriers to effective communication	When prompted, reflects on personal biases while attempting to minimize communication barriers	Recognizes personal biases while attempting to proactively minimize communication barriers	Role models self- awareness practice while identifying teaching a contextual approach to minimize communication barriers
Identifies the need to adjust communication strategies based on assessment of patient/family expectations and understanding of their health status and treatment options	Organizes and initiates communication with patient/family by introducing stakeholders, setting the agenda, clarifying expectations, and verifying understanding of the clinical situation	With guidance, sensitively and compassionately delivers medical information, elicits patient/family values, goals and preferences, and acknowledges uncertainty and conflict	Uses shared decision making to align patient/family values, goals, and preferences with treatment options to make a personalized care plan	Role models shared decision making in patient/family communication including those with a high degree of uncertainty/conflict

Interpersonal and Communication Skills 2: Interprofessional and Team Communication				
Level 1	Level 2	Level 3	Level 4	Level 5
Respectfully requests a consultation	Clearly and concisely requests a consultation	Checks own understanding of consultant recommendations	Coordinates recommendations from different members of the health care team to optimize patient care	Role models flexible communication strategies that value input from all health care team members, resolving conflict when needed
Respectfully receives a consultation request	Clearly and concisely responds to a consultation request	Checks requestor's understanding of recommendations when providing consultation	Provides information to the primary care team regarding rationale for recommendations	
Uses language that values all members of the health care team	Communicates information effectively with all health care team members	Uses active listening to adapt communication style to fit team needs	Models active listening to other health care team members	
Comments:			Not Yet C	ompleted Level 1

Level 1	Level 2	Level 3	Level 4	Level 5
Accurately records information in the patient record	Demonstrates organized diagnostic and therapeutic reasoning through notes in the patient record	Concisely reports diagnostic and therapeutic reasoning in the patient record	Communicates clearly, concisely, timely, and in an organized written form, including anticipatory guidance	Models feedback to improve others' written communication
Safeguards patient personal health information	Uses documentation shortcuts accurately, appropriately and in a timely manner	Appropriately selects direct (e.g., telephone, inperson) and indirect (e.g., progress notes, text messages) forms of communication based on	Achieves written or verbal communication (e.g., patient notes, e- mail) that serves as an example for others to follow	Guides departmental or institutional communication around policies and procedures
	Documents required data in formats specified by institutional policy	context		