Internal Medicine

Milestones for Singapore

ACGME INTERNATIONAL

May 2017

The Internal Medicine Milestones for Singapore

The Milestones are designed only for use in evaluation of residents in the context of their participation in ACGME-I-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. 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.

Milestones Reporting

This document presents milestones designed for programs to use in semi-annual review of resident performance and reporting to the ACGME-I. Milestones are knowledge, skills, attitudes, and other attributes for each of the ACGME-I competencies organized in a developmental framework from less to more advanced. They are descriptors and targets for resident performance as a learner moves from entry into their program through graduation.

For each period, review and reporting will involve selecting milestone levels that best describe each resident's current performance and attributes. Milestones are arranged in numbered levels. Tracking from "Level 1" to "Level 5" is synonymous with moving from novice to expert in the specialty. These levels do not correspond with time in the educational program. Dependent upon previous education and experience, residents may enter a program at varying points in the Milestones.

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

> **Level 1:** The resident demonstrates milestones expected of an incoming resident.

> **Level 2:** The resident is advancing and demonstrates additional milestones, but is not yet performing at a mid-residency level.

> **Level 3:** The resident continues to advance and demonstrate additional milestones; the resident demonstrates the majority of milestones targeted for residency in this sub-competency.

> **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

The "Level 4" Milestones are designed as the graduation *target* and *do not* represent a graduation *requirement*. Making decisions about readiness for graduation is the purview of the program director. Study of Milestones performance data will be required before the ACGME-I and its partners will be able to determine whether milestones in the first four levels appropriately represent the developmental framework, and whether Milestone data overall are of sufficient quality to be used for high-stakes decisions.

Answers to Frequently Asked Questions about Milestones are posted on the ACGME-I website.

The diagram below presents an example set of milestones for one sub-competency in the same format as the ACGME-I Report Worksheet. For each reporting period, a learner's performance on the milestones for each sub-competency will be indicated by selecting the level of milestones that best describes that learner's performance in relation to those milestones.

Systems-Based Practice 1: Patient Safety and Quality 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 (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 quality improvement initiatives (e.g., community vaccination rate, infection rate, smoking cessation)	Participates in local quality improvement initiatives	Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project	Creates, implements, and assesses quality improvement initiatives at the institutional or community level

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Comments:

Not yet achieved 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.

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).

Patient Care 1: Gathering and Synthesizing Essential and Accurate Information to Define Each Patient's Clinical Problem(s)

Level 1	Level 2	Level 3	Level 4	Level 5
Inconsistently collects accurate historical data	Consistently acquires accurate and relevant histories	Consistently acquires accurate and relevant histories from patients	Acquires accurate histories from patients in an efficient, prioritized, and hypothesis-driven fashion	Obtains relevant historical subtleties, including sensitive information that informs the differential diagnosis
Performs physical exam, but misses some key physical exam findings	Consistently performs accurate and appropriately thorough physical exams	Consistently performs accurate and appropriately thorough physical exams	Performs accurate physical exams that are targeted to the patient's complaints	Identifies subtle or unusual physical exam findings
Relies exclusively on documentation of others to generate own database or differential diagnosis or is overly reliant on secondary data	Consistently recognizes patient's central clinical problem but develops limited differential diagnoses	Uses collected data to define a patient's central clinical problem(s)	Synthesizes data to generate a prioritized differential diagnosis and problem list	Efficiently utilizes all sources of secondary data to inform differential diagnosis
Inconsistently recognizes patient's central clinical problems	Consistently recognizes potentially life threatening problems		Effectively uses history and physical examination skills to minimize the need for further diagnostic testing	Role models and teaches the effective use of history and physical examination skills to minimize the need for further diagnostic testing
Inconsistently recognizes potentially life threatening problems				

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Comments:

Not Yet Achieved Level 1 ☐

Patient Care 2: Developing and Achieving Comprehensive Management Plan for Each Patient				
Level 1	Level 2	Level 3	Level 4	Level 5
Care plans are inconsistently appropriate or accurate	Consistently develops an appropriate care plan but seeks additional guidance when needed	Consistently develops appropriate care plan	Appropriately modifies care plans based on patient's clinical course, additional data, and patient preferences	Role models and teaches complex and patient-centered care
Inconsistently reacts to situations that require urgent or emergency care	Consistently reacts to situations that require urgent or emergency care	Consistently recognizes situations requiring urgent or emergency care and arranges for an appropriate level of care	Recognizes disease presentations that deviate from common patterns and require complex decision-making	Develops customized, prioritized care plans for the complex patients, incorporating diagnostic uncertainty and cost effectiveness principles
Inconsistently seeks additional guidance when needed		Seeks additional guidance and/or consultation as appropriate	Manages common acute and chronic diseases	
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Comments: Not Yet Achieved Level 1 ☐				

Patient Care 3: Managing Patients with Progressive Responsibility and Independence

Level 1	Level 2	Level 3	Level 4	Level 5
Requires direct supervision in the delivery of patient care	Requires direct and indirect supervision to ensure patient safety and quality care	Requires indirect supervision to ensure patient safety and quality care	Independently manages patients who have a broad spectrum of clinical disorders including undifferentiated syndromes across inpatient and ambulatory clinical settings	Manages unusual, rare, or complex disorders
Requires direct supervision to manage problems or common chronic diseases appropriately in all clinical settings	Requires direct and indirect supervision to manage problems or common chronic diseases appropriately in all clinical settings	Provides appropriate preventive care and chronic disease management in the ambulatory setting	Seeks additional guidance and/or consultation as appropriate	
Inconsistently provides preventive care appropriately in all clinical settings	Consistently provides preventive care appropriately in all clinical settings, with guidance	Provides comprehensive care for single or multiple diagnoses in the inpatient setting	Appropriately manages situations requiring urgent or emergent care	
Requires direct supervision to manage patients with straightforward diagnoses appropriately in all clinical settings	Requires direct and indirect supervision to manage patients with straightforward diagnoses appropriately in all clinical settings	Under supervision, provides appropriate care in the intensive care unit	Effectively supervises the management decisions of the team	
	Manages complex inpatients or patients requiring intensive care, with guidance	Initiates management plans for urgent or emergent care		

Comments: Not Yet Achieved Level 1 ☐

Patient Care 4: Skill in Performing Procedures

Level 1	Level 2	Level 3	Level 4	Level 5
Possesses insufficient technical skill for safe completion of common procedures with appropriate supervision	Possesses basic technical skill for safe completion of common procedures with appropriate direct supervision	Possesses sufficient technical skill for the completion and interpretation of some common procedures with appropriate indirect supervision	Consistently demonstrates technical skill to successfully and safely perform and interpret procedures	Demonstrates skill to independently perform and interpret complex procedures that are anticipated for future practice
Is inattentive to patient safety and comfort when performing invasive procedures	Is attentive to patient safety and comfort when performing procedures	Consistently manages patient safety and comfort when performing procedures	Maximizes patient comfort and safety when performing procedures	Demonstrates expertise to teach and supervise others in the performance of procedures
Applies the ethical principles of informed consent	Recognizes the need to obtain informed consent for procedures, and effectively obtains it	Consistently recognizes appropriate patients, indications, and associated risks in the performance of procedures	Consistently recognizes appropriate patients, indications, and associated risks in the performance of procedures in all situations	
Recognizes the need to obtain informed consent for procedures, but ineffectively obtains it			Effectively obtains and documents informed consent in challenging circumstances (e.g., language or cultural barriers)	
Understands and communicates ethical principles of informed consent			Quantifies evidence for risk-benefit analysis during obtainment of informed consent for complex procedures or therapies	

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Comments:

Not Yet Achieved Level 1   ☐

Patient Care 5: Requesting and Providing Consultative Care				
Level 1	Level 2	Level 3	Level 4	Level 5
Inconsistently manages patients as a consultant to other physicians/health care teams	Consistently manages patients as a consultant to other physicians/health care teams	Provides consultation services for patients with clinical problems requiring basic risk assessment	Provides consultation services for patients with basic and complex clinical problems requiring detailed risk assessment	Switches between the role of consultant and primary physician with ease
Inconsistently applies risk assessment principles to patients while acting as a consultant	Consistently applies risk assessment principles to patients while acting as a consultant		Asks meaningful clinical questions that guide the input of consultants	Manages discordant recommendations from multiple consultants
Inconsistently formulates a clinical question for a consultant to address	Consistently formulates a clinical question for a consultant to address			

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Comments: Not Yet Achieved Level 1 ☐

Medical Knowledge 1: Clinical Knowledge

Level 1	Level 2	Level 3	Level 4	Level 5
Possesses basic scientific, socioeconomic, or behavioral knowledge required to provide patient care	Possesses sufficient scientific, socioeconomic, and behavioral knowledge required to provide care for common medical conditions and basic preventive care	Possesses advanced scientific, socioeconomic, and behavioral knowledge required to provide care for common medical conditions and basic preventive care	Possesses the scientific knowledge required to provide care for complex medical conditions and comprehensive preventive care Possesses the socioeconomic and behavioral knowledge required to provide care for complex medical conditions and comprehensive preventive care	Possesses the scientific knowledge required to successfully diagnose and treat medically uncommon, ambiguous and complex conditions Possesses the socioeconomic and behavioral knowledge required to successfully diagnose and treat medically uncommon, ambiguous and complex conditions
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Comments:	
	Not Yet Achieved Level 1 ☐

Medical Knowledge 2: Knowledge of Diagnostic Testing and Procedures				
Level 1	Level 2	Level 3	Level 4	Level 5
Possesses foundational knowledge of diagnostic testing and procedures	Inconsistently interprets basic diagnostic tests accurately	Interprets basic diagnostic tests accurately	Consistently interprets basic and advanced diagnostic tests accurately	Anticipates and accounts for pitfalls and biases when interpreting diagnostic tests and procedures
	Does not understand the concepts of pre-test probability and test performance characteristics	Demonstrates a basic understanding of the rationale and risks associated with common procedures	Needs assistance to understand the concepts of pre-test probability and test performance characteristics	Pursues knowledge of new and emerging diagnostic tests and procedures
	Minimally understands the rationale and risks associated with common procedures		Fully understands the rationale and risks associated with common procedures	
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Comments: Not Yet Achieved Level 1 ☐				

Systems-Based Practice 1: Patient Safety and Quality 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 (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 quality improvement initiatives (e.g., community vaccination rate, infection rate, smoking cessation)	Participates in local quality improvement initiatives	Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project	Creates, implements, and assesses quality improvement initiatives at the institutional or community level
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Comments: Not Yet Achieved Level 1 ☐				

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 utilizing the roles of the interprofessional teams	Coordinates care of patients in complex clinical situations effectively utilizing the roles of their interprofessional teams	Role 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	Role 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
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Comments: Not Yet Achieved Level 1 ☐				

Systems-Based Practice 3: Physician Role in Health Care Systems				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies components of the complex health care system	Describes the physician's role and how the interrelated components of complex health care system impact patient care	Is cognizant of how personal practice affects the system (e.g., length of stay, readmission rates, clinical efficiency)	Manages the interrelated components of the complex health care systems for efficient and effective patient care	Advocates for or leads change to enhance systems for high value, efficient, and effective patient care
Describes basic health payment systems, including private, public, and different practice models			Advocates for patient care understanding the limitations of each patient's payment model (e.g., community resources, patient assistance resources)	Participates in advocacy activities for health policy to better align payment systems with high value care
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Comments:				Not Yet Achieved Level 1 ☐

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	Coaches others to critically appraise and apply evidence for complex patients and/or participates in the development of guidelines
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Comments:	Not Yet Achieved Level 1 ☐

Practice-Based Learning and Improvement 2: Reflective Practice and Commitment to Personal Growth				
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	Intentionally seeks performance data consistently, with adaptability and humility	Role models consistently seeking performance data, with adaptability and humility
Identifies the factors that contribute to gap(s) between expectations and actual performance	Analyzes and reflects on the factors that 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	Coaches 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 implementation of learning plans for others
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Comments:			Not Yet Achieved Level 1 ☐	

Professionalism 1: Professional Behavior and Ethical Principles

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

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Comments: Not Yet Achieved Level 1   ☐

Professionalism 2: Accountability/Conscientiousness				
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 clinical and non-clinical 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 situations that may impact others' ability to complete tasks and responsibilities in a timely manner	Takes ownership of system outcomes
Responds promptly to requests or reminders to complete tasks and responsibilities	Recognizes situations that may impact 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		

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Comments:

Not Yet Achieved Level 1 ☐

Professionalism 3: Self-Awareness and Help-Seeking

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	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	
	Demonstrates appropriate help-seeking behaviors			

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Comments:

Interpersonal and Communication Skills 1: Patient- and Family-Centered Communication

Level 1	Level 2	Level 3	Level 4	Level 5
Uses language and non-verbal 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	Easily 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 (e.g., language, disability) while accurately communicating own role within the health care system	Identifies complex barriers to effective communication (e.g., health literacy, cultural)	When prompted, reflects on personal biases while attempting to minimize communication barriers	Independently 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 an 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	Independently 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 in situations with a high degree of uncertainty/conflict
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Comments:

Not Yet Achieved Level 1   ☐

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 understanding of recommendations when providing consultation	Communicates feedback and constructive criticism to superiors	Facilitates regular health care team-based feedback in complex situations
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		
	Solicits feedback on performance as a member of the health care team	Communicates concerns and provides feedback to peers and learners		

Comments: Not Yet Achieved Level 1 ☐

Interpersonal and Communication Skills 3: Communication within Health Care Systems				
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, in a timely manner, and in an organized written form, including anticipatory guidance	Models feedback to improve others' written communication
Safeguards patient personal health information	Demonstrates accurate, timely, and appropriate use of documentation tools (e.g., templates)	Uses appropriate channels to offer clear and constructive suggestions to improve the system	Produces written or verbal communication (e.g., patient notes, e-mail, etc.) that serves as an example for others to follow	Guides departmental or institutional communication around policies and procedures
Communicates through appropriate channels as required by institutional policy (e.g., patient safety reports, cell phone/pager usage)	Appropriately selects direct (e.g., telephone, in-person) and indirect (e.g., progress notes, text messages) forms of communication based on context		Initiates difficult conversations with appropriate stakeholders to improve the system	Facilitates dialogue regarding systems issues among larger community stakeholders (e.g., institution, health care system, field)
	Documents required data in formats specified by institutional policy			
	Respectfully communicates concerns about the system			

Comments: Not Yet Achieved Level 1   ☐