The Regional Anesthesiology and Acute Pain Medicine Milestone Project

A Joint Initiative of

The Accreditation Council for Graduate Medical Education

The American Board of Anesthesiology

ACGME   ABA ™

February 2018

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The Milestones are designed only for use in evaluation of fellows 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 fellow 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.

Regional Anesthesiology and Acute Pain Medicine Milestones

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Milestone Reporting

This document presents Milestones designed for programs to use in semi-annual review of fellow 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 fellow performance as a fellow moves from entry into fellowship through graduation. In the initial years of implementation, the Review Committee will examine Milestone performance data for each program's fellows as one element in the Next Accreditation System (NAS) to determine whether fellows overall are progressing.

For each period, review and reporting will involve selecting milestone levels that best describe each fellow'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 in the subspecialty. These levels do not correspond with post-graduate year of education.

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

Level 1: The fellow demonstrates milestones expected of an incoming fellow.

Level 2: The fellow is advancing and demonstrates additional milestones, but is not yet performing at a mid-fellowship level.

Level 3: The fellow continues to advance and demonstrate additional milestones, consistently including the majority of milestones targeted for fellowship.

Level 4: The fellow has advanced so that he or she now substantially demonstrates the milestones targeted for fellowship. This level is designed as the graduation target.

Level 5: The fellow has advanced beyond performance targets set for fellowship 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 fellows 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 fellowship program director. Study of Milestone performance data will be required before the ACGME and its partners will be able to determine whether milestones in the first four levels appropriately represent the developmental framework, and whether Milestone data are of sufficient quality to be used for high-stakes decisions.

Some milestone descriptions include statements about performing independently. These activities must occur in conformity to the ACGME supervision guidelines, as well as to institutional and program policies. For example, a fellow 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 fellow's performance on the milestones for each sub-competency will be indicated by selecting the level of milestones that best describes that fellow's performance in relation to those milestones.

Patient Care 3 — Technical/Procedural Skills				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Performs routine nerve blocks with direct supervision	Performs complex nerve blocks with direct supervision	Performs routine nerve blocks with oversight	Performs complex nerve blocks with oversight	Recognized as an expert resource in performing peripheral nerve blocks
Performs routine neuraxial blocks with direct supervision	Performs neuraxial blocks for patients with complex anatomy with direct supervision	Performs routine neuraxial blocks with oversight	Performs neuraxial blocks for patients with complex anatomy with oversight	Recognized as an expert resource in performing neuraxial blocks
Applies knowledge of ultrasonography to acquire images of basic anatomy	Applies knowledge of ultrasonography to optimize images of basic anatomy	Uses ultrasound to identify complex anatomy	Uses ultrasound to identify complex anatomy and alter patient management appropriately	Recognized as an expert institutional resource for using ultrasound to identify complex anatomy

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: Peri-Procedural Assessment and Management				
Level 1	Level 2	Level 3	Level 4	Level 5
Formulates and implements regional anesthetic plans for healthy patients undergoing routine procedures	Formulates and implements regional anesthetic plans for patients with moderately complex co-morbidities (e.g., obstructive sleep apnea) undergoing routine procedures	Formulates and implements regional anesthetic plans for patients with moderately complex co-morbidities (e.g., obstructive sleep apnea) undergoing major procedures	Formulates and implements regional anesthetic plans for patients with highly complex co-morbidities (e.g., severe pulmonary disease and congestive heart failure) undergoing major procedures	Formulates and implements regional anesthetic plans for patients with rare co-morbidities (e.g., inherited genetic disease) undergoing major procedures
Identifies common peri-operative, neurologic, pharmacologic, infectious, and hemorrhagic complications	Identifies and manages common peri-operative, neurologic, pharmacologic, infectious, and hemorrhagic complications, with direct supervision	Identifies and manages less common peri-operative, neurologic, pharmacologic, infectious, and hemorrhagic complications, with direct supervision	Identifies and manages peri-operative, neurologic, pharmacologic, infectious, and hemorrhagic complications, with oversight	Identifies and manages rare peri-operative, neurologic, pharmacologic, infectious, and hemorrhagic complications
☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐
Comments:			Not Yet Achieved Level 1 ☐	

Patient Care 2: Acute Pain Management				
Level 1	Level 2	Level 3	Level 4	Level 5
Formulates and implements multimodal acute pain management plans for healthy patients undergoing routine procedures	Formulates and implements multimodal acute pain management plans for patients with moderately complex co-morbidities (e.g., chronic pain, opioid tolerance, opioid sensitive) undergoing routine procedures	Formulates and implements multimodal acute pain management plans for patients with moderately complex co-morbidities undergoing major procedures	Formulates and implements multimodal acute pain management plans for patients with highly complex co-morbidities (e.g., patient with substance abuse, opioid dependence) undergoing major procedures	Is recognized as an expert resource for multimodal acute peri-operative pain management
Performs a comprehensive evaluation and assessment of patients with acute non-surgical pain	Formulates a plan to manage patients with acute non-surgical pain	Implements a plan to manage patients with acute non-surgical pain, with direct supervision	Implements a plan to manage patients with acute non-surgical pain, with oversight	Is recognized as an expert resource for acute non-surgical pain management
Identifies common side effects associated with acute pain interventions (procedural and non-procedural)	Identifies and manages common side effects associated with acute pain interventions (e.g., opioid-induced nausea, nerve block-associated motor weakness), with direct supervision	Identifies and manages less common complications associated with acute pain interventions (e.g., failed block, epidural hematoma or abscess), with direct supervision	Identifies and manages complications associated with acute pain interventions, with oversight	Identifies and manages rare complications associated with acute pain interventions

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Comments:	Not Yet Achieved Level 1 ☐

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Patient Care 3: Technical/Procedural Skills

Level 1	Level 2	Level 3	Level 4	Level 5
Performs routine nerve blocks, with direct supervision	Performs complex nerve blocks, with direct supervision	Performs routine nerve blocks, with oversight	Performs complex nerve blocks, with oversight	Is recognized as an expert resource in performing peripheral nerve blocks
Performs routine neuraxial blocks, with direct supervision	Performs neuraxial blocks for patients with complex anatomy, with direct supervision	Performs routine neuraxial blocks, with oversight	Performs neuraxial blocks for patients with complex anatomy, with oversight	Is recognized as an expert resource in performing neuraxial blocks
Applies knowledge of ultrasonography to acquire images of basic anatomy	Applies knowledge of ultrasonography to optimize images of basic anatomy	Uses ultrasound to identify complex anatomy	Uses ultrasound to identify complex anatomy and alter patient management appropriately	Is recognized as an expert institutional resource for using ultrasound to identify complex anatomy

☐	☐	☐	☐	☐	☐	☐	☐	☐	

Comments: Not Yet Achieved Level 1   ☐

Medical Knowledge 1: Anatomy, Physiology, and Pharmacology				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates basic knowledge of anatomy relevant to common regional anesthesia procedures	Demonstrates advanced knowledge of applied anatomy relevant to regional anesthesia procedures	Demonstrates functional application of anatomic knowledge (e.g., microanatomy and common anatomic variations relevant to complex regional anesthesia procedures)	Demonstrates functional application of advanced anatomic knowledge (e.g., recognition of aberrant anatomy, complex degenerative and post-surgical or traumatic changes)	Is recognized as an expert resource in applied anatomy
Demonstrates basic knowledge of nerve function and physiologic implications of acute pain management	Demonstrates advanced knowledge of nerve function and physiology, including common patient-related factors relevant to assessment and functional application	Demonstrates functional application of advanced physiologic knowledge in the care of patients with complex comorbid disease(s)	Demonstrates functional application of advanced physiology, including recognition of rare physiologic responses and effects on organ systems	Is recognized as an expert resource in applied physiology
Demonstrates basic knowledge of local anesthetic, adjuvant, opioid, and anticoagulant pharmacology	Demonstrates advanced knowledge of local anesthetic, adjuvant, opioid, non-opioid analgesic, and anticoagulant pharmacology	Demonstrates advanced knowledge of pharmacology, including drug choice, dosing, side effects, and potential drug-drug interactions	Demonstrates advanced knowledge of pharmacology in patients with complex comorbid diseases and/or inherited disorders of metabolism	Is recognized as an expert resource in applied pharmacology

Comments: Not Yet Achieved Level 1 ☐

Medical Knowledge 2: Procedures and Techniques (includes indications and contraindications, ultrasound, and nerve stimulation)				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of the technical approaches, indications, and contraindications for common neuraxial and peripheral nerve blocks	Demonstrates and applies knowledge to advanced neuraxial and peripheral nerve blocks	Demonstrates knowledge of a range of procedural alternatives (e.g., approach, technique, equipment, or drugs) for individual blocks	Demonstrates and applies a knowledge of procedural alternatives to choose individual blocks and formulate a patient-specific plan	Generates new knowledge related to procedures and techniques related to acute pain management and regional anesthesia
Demonstrates a fundamental understanding of ultrasound localization techniques	Integrates knowledge of peripheral nerve stimulation techniques with ultrasound guidance, recognizing appropriate motor response for basic peripheral nerve blocks	Integrates knowledge of peripheral nerve stimulation techniques with ultrasound guidance, recognizing appropriate motor response for advanced peripheral nerve blocks	Integrates knowledge of alternative approaches to nerve and plexus localization (e.g., paresthesia, perivascular, fascial plane, loss of resistance [LOR], field blocks)	Applies knowledge of the full range of nerve localization techniques and the limitations associated with individual and combined techniques
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Comments:				Not Yet Achieved Level 1 ☐

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Medical Knowledge 3: Assessment of Acute Pain				
Level 1	Level 2	Level 3	Level 4	Level 5
Performs targeted history and physical examination for routine surgical and non-surgical patients with acute pain, including the use of common pain scales, detailed medication history, and motor and sensory exam, with direct supervision	Performs targeted history and physical examination for routine surgical and non-surgical patients with acute pain, with oversight	With direct supervision, performs targeted history and physical examination for surgical and non-surgical patients with complex co-morbidities, preexisting psychosocial risk factors, chronic pain, and/or extremes of age, who are experiencing acute pain	With oversight, performs targeted history and physical examination for surgical and non-surgical patients with complex co-morbidities, preexisting psychosocial risk factors, chronic pain, and/or extremes of age, who are experiencing acute pain	Is recognized as an expert resource for the assessment of, and consultative services for, acute pain in surgical and non-surgical patients
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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

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 team	Coordinates care of patients in complex clinical situations, effectively utilizing the roles of the interprofessional team	Role models effective coordination of patient-centered care among different disciplines and specialties	Analyzes the process of care coordination and leads the design and implementation of improvements
Identifies key elements for safe and effective transitions of care and handoffs	Performs safe and effective transitions of care/handoffs in routine clinical situations	Performs safe and effective transitions of care/handoffs in complex clinical situations	Role models and advocates for safe and effective transitions of care/handoffs within and across health care delivery systems, including outpatient settings	Improves quality of transitions of care within and across healthcare 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	Analyzes how personal practice affects the system (e.g., length of stay, readmission rates, clinical efficiency)	Manages the interrelated components of the complex health care system 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 government, private, public, and uninsured care and different practice models	Delivers care informed by patient-specific payment model	Utilizes shared decision making in patient care taking into consideration payment models	Advocates for patient care, understanding the limitations of patient-specific payment models (e.g., community resources, patient assistance resources)	Participates in advocacy activities for health policy to better align payment systems with high-value care
Applies resources for daily practice (e.g., information technology, documentation compliance, billing and coding), with direct supervision	Applies knowledge of information technology, documentation compliance, billing, and coding to daily practice, with oversight	Demonstrates basic knowledge of contract negotiations, malpractice insurance, government regulation, compliance, Medicare Access and CHIP Reauthorization Act (MACRA), and Multi-directional Impact Protection Program (MIPS)	Applies knowledge of contract negotiations, malpractice insurance, government regulation, compliance, MACRA, and MIPS to the transition to independent practice	

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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
Accesses available evidence for care of a routine patient	Accesses available evidence for care of a complex patient (e.g., co-existing cardiac or cerebral vascular disease)	Applies knowledge of available evidence for care of patients (e.g., balancing competing risks anti-coagulated cardiac patients and risks for bleeding complications)	Critically appraises the evidentiary basis for patient care and identifies gaps in existing evidence	Serves as a local expert for implementation of evidence-based practice and clinical guidelines
☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐
Comments: Not Yet Achieved Level 1 ☐				

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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 and demonstrates openness to performance data	Seeks performance data episodically, with adaptability and humility, and formulates a learning plan	Consistently seeks performance data and implements a learning plan	Uses performance data to measure the effectiveness of the learning plan and when necessary, improves it	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	Analyzes and reflects on how one's own behavior and practice impacts others
☐	☐	☐	☐	☐	☐	☐	☐	☐

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 lapses in professionalism and understands how to appropriately report them	Demonstrates insight and takes responsibility for 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
Demonstrates knowledge of the ethical principles underlying informed consent, surrogate decision making, advance directives, confidentiality, and error disclosure	Analyzes straightforward situations using ethical principles	Analyzes complex situations using ethical principles and recognizes the need to seek help in managing and resolving them	Recognizes and utilizes appropriate resources for managing and resolving ethical dilemmas as needed (e.g., ethics consultations, literature review, risk management/legal consultation, and stewardship of limited resources)	Identifies and seeks to address system-level factors that induce or exacerbate ethical problems or impede their resolution
☐	☐	☐	☐	☐	☐	☐	☐	☐

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 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	Takes ownership of system outcomes and recognizes situations that may impact others' ability to complete tasks and responsibilities in a timely manner	Proactively develops and implements systematic strategies to improve accountability in health care systems
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	Develops or improves resources for assessing limits and remediating skills
	Demonstrates appropriate help-seeking behaviors			

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Comments:	
	Not Yet Achieved Level 1 ☐

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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 understanding of the clinical situation	With guidance, sensitively and compassionately delivers medical information; elicits patient/family values, goals, and preferences; 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

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
Uses language that values all health care team members	Communicates information effectively with all health care team members	Uses active listening to adapt communication style to fit team needs	Coordinates recommendations from different health care team members to optimize patient care	Role models flexible communication strategies that value input from all health care team members, resolving conflict when needed
	Solicits feedback on performance as a member of the health care team	Communicates concerns and provides feedback to peers and learners	Communicates feedback and constructive criticism to superiors	Facilitates regular health care team-based feedback in complex situations
☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐

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
Safeguards patient personal health information (e.g., follows HIPAA regulations)	Uses documentation shortcuts accurately, and in a timely and appropriate manner	Appropriately selects direct (e.g., telephone, in-person) and indirect (e.g., progress notes, text messages) forms of communication based on context	Uses written or verbal communication (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 use)	Documents required data in formats specified by institutional policy	Participates in discussions related to improving system communications	Initiates difficult conversations with appropriate stakeholders to improve system communications	Participates in dialogue regarding health care systems issues among larger community stakeholders (e.g., institution, practitioners, graduate medical education)
☐	☐	☐	☐	☐	☐	☐	☐	☐

Comments:	Not Yet Achieved Level 1 ☐