

Competency	Patient Care						
Sub Domain	History Taking						
Learning Objective	Performs complete or focused histories tailored to individual patient presentations and clinical settings, including patient’s cultural background and communication skills						
Milestones							
Year I		Year II		Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
<ul style="list-style-type: none">• Describes the role of history taking in the Doctor-Patient encounter• Describes the influence of culture on the patient illness experience	<ul style="list-style-type: none">• Obtains a comprehensive history from a standardized patient with minimal complexity, or in supervised encounter with a real patient, while developing appropriate patient rapport• Explains basic vocabulary related to history taking *	<ul style="list-style-type: none">• Explains how pathophysiology and patient factors are used in history taking• Gives examples of how culture shapes communication style	<ul style="list-style-type: none">• Utilizes a differential diagnosis and understanding of pathophysiology in taking a patient history• Obtains a thorough history while developing appropriate patient rapport which is tailored to the presenting problems, including at least one complicating factor **	<ul style="list-style-type: none">• Explains system factors that can constrain or facilitate history taking [†]• Conducts a time-limited history based on the differential diagnosis while maintaining patient rapport and without premature closure	<ul style="list-style-type: none">• Obtains a problem focused, organized history that is appropriate to the practice setting• Utilizes varying interview techniques to improve rapport and establish therapeutic relationships with patient^{††}	<ul style="list-style-type: none">• Uses techniques to obtain a history under more challenging circumstances **, [†]	<ul style="list-style-type: none">• Obtains a patient-centered, problem focused, organized, and culturally sensitive history that is appropriate to the practice setting

APPENDIX:

* **Basic history-taking vocabulary examples:** sign, symptom, objective, subjective, PQRST, open- or close-ended, pedigree, empathy, active listening, reflective statements.

****Examples of Complicating Factors in History Taking:**

- Medical barriers (patient with physical or psychiatric disabilities, poor recall, dementia)
- Communication barriers (using interpreters, proxy informants, or difficult communicators)
- Cultural differences (in communication or with the illness experience)
- Low health literacy
- Professionalism challenges (boundary issues, inappropriate behavior)
- Medically emergent situations

†Examples of System Factors that Facilitate/Complicate History Taking:

- Electronic Health Records
- Time constraints
- Competing demands on attention
- Privacy issues

††Therapeutic Relationship: Communicating with the patient using empathic and supportive interviewing techniques

Competency	Patient Care						
Sub Domain	Physical Exam						
Learning Objective	Performs comprehensive or focused physical examination using correct techniques to accurately identify common abnormalities with attention to patient comfort and modesty during exam						
Milestones							
Year I		Year II		Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
<ul style="list-style-type: none">• Identifies and defines the major anatomical landmarks• Demonstrates basic technique in performing the comprehensive “head-to-toe” examination• Documents basic physical exam findings	<ul style="list-style-type: none">• Demonstrates ability to perform a comprehensive exam in an uncomplicated and healthy patient with attention to patient comfort and modesty• Demonstrates understanding of normal exam findings and integrates the normal exam with relevant features of the history	<ul style="list-style-type: none">• Demonstrates ability to perform a problem-based physical exam with a focus on one organ system• Identifies and defines physical exam findings and integrates findings to pathophysiology of disease for each organ system	<ul style="list-style-type: none">• Performs a problem-focused physical exam on a standardized patient with a complex clinical presentation involving two or more organ systems• Explains the importance of physical exam findings to clinical diagnostic reasoning in patients with actual disease processes		<ul style="list-style-type: none">• Performs a comprehensive or problem-focused physical examination on patients with complex medical problems• Selects appropriate components of the physical exam based on history or presentation in different clinical settings	<ul style="list-style-type: none">• Synthesizes the physical examination findings and history of patients with complex medical presentations	<ul style="list-style-type: none">• Demonstrates proficiency with physical diagnosis sufficient to start an internship in any specialty *

APPENDIX

***Major Specialty Core Physical Diagnosis Competencies for Core Clerkships**

Internal Medicine:

- Neurological exam
- Head, ear, eye and throat exam (including fundoscopic exam)
- Cardiovascular exam
- Pulmonary exam
- Lymph node exam

Primary Care:

- Musculoskeletal exam
- Skin exam

Psychiatry

- Neurological exam
- Mental status exam

OB/Gyn

- Pelvic exam
- Breast exam
- Rectal exam

Pediatrics

- Neurological exam
- Head, ear, eye and throat exam
- Cardiovascular exam
- Pulmonary exam
- Lymph node exam
- Musculoskeletal exam
- Skin exam

Surgery

- Abdominal exam
- Wound exam
- Musculoskeletal exam
- Rectal exam

Competency	Patient Care						
Sub Domain	Diagnosis and Management						
Learning Objective	Organizes, synthesizes, and interprets information from patient records, history, and physical examination to construct a differential diagnosis and treatment plan						
Milestones							
Year I		Year II		Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
	<ul style="list-style-type: none">• Explains the importance of effective professional communication in developing a patient-centered management plan• Defines abnormal symptoms and signs to identify presence of disease• Constructs a problem list* for a patient• Describes stages of health behavior change	<ul style="list-style-type: none">• Associates common symptoms and signs with common diseases• Composes a limited differential diagnosis for a singular medical problem based on understanding of pathophysiology	<ul style="list-style-type: none">• Composes a limited differential diagnosis for each medical problem in a patient who has multiple medical problems• Constructs plan for diagnostic evaluation and initial management• Uses patho-physiology to organize problem list based on disease mechanisms• Describes the types of clinical reasoning processes, including benefits and drawbacks, that can be used in different clinical situations **	<ul style="list-style-type: none">• Constructs a comprehensive and prioritized differential diagnosis for each medical problem and generates an initial evaluation and treatment plan• Assesses and prioritizes a patient’s problem list*	<ul style="list-style-type: none">• Independently documents a comprehensive evaluation and treatment plan considering the risks and benefits to the patient• Utilizes evidence based medicine to refine the differential diagnosis and management plan• Incorporates health behavior change into the management plan	<ul style="list-style-type: none">• Incorporates elements of system-based practice into the management plan	<ul style="list-style-type: none">• Functions as the primary coordinator of patients’ care under appropriate supervision• Demonstrates flexibility in use of analytic vs. non-analytic reasoning skills in different types of clinical scenarios**• Discusses need for consultation and supervision in diagnosis and management when appropriate

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***The problem list** states the problems (concerns/diagnoses/findings) at a level of refinement consistent with the provider's understanding and may include:

- Patient concerns
- Findings (exam, lab)
- Diagnoses

The problem list may be organized by systems, by diagnosis, by organ system, or simply as a single list. The goal is prioritized organization by level of importance as perceived by provider balancing understanding of pathophysiology, clinical reasoning, and patient perspective.

**** Clinical reasoning processes:**

Examples of non-analytic clinical reasoning skills (pattern recognition, heuristics)

- Recognizing medical emergencies, and take first steps to address
- Prioritizing patient care needs based on assessment of acuity
- Recognizing “sick versus not sick” and seek help as appropriate
- Anticipating disease course, recognizing when patient responds/fails to respond to treatment

Examples of analytic reasoning skills

- Hypothetico-deductive reasoning
- Causal reasoning
- Bayesian analysis
- Worst-case scenario reasoning

Examples of common clinical problem solving skills:

- Anticipates and responds to changes in patient acuity and evolution of clinical condition (*see heuristics*)
- Able to exercise sound clinical judgment in both time-open and time-limited clinical encounters
- Utilizes algorithmic decision-making when appropriate
- Demonstrates ability to personalize clinical reasoning to construct and apply appropriate prototypes of disease

Competency	Patient Care						
Sub Domain	Procedures						
Learning Objective	Understands informed consent and performs uncomplicated procedures on patients or in simulation						
Milestones							
Year I		Year II		Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
	<ul style="list-style-type: none">• Defines elements of informed consent for procedures		<ul style="list-style-type: none">• Explains ethical and legal issues of informed consent in various patient populations and clinical scenarios*• Explains indications, contra-indications, complications, and technique for Category 3** procedures		<ul style="list-style-type: none">• Explains indications, contra-indications, complications, and technique for common procedures (Category 1-3)**• Demonstrates technical skill and ability to perform Category 2 procedures** with step-by-step assistance and supervision		<ul style="list-style-type: none">• Demonstrates technical skill and ability to perform Category 1 procedures** with minimal assistance and with supervision

Appendix

*** *Examples of consent issues in varied patient populations/clinical scenarios:*** children, homeless patients, patients in jails, issues related to STIs and harming others.

*****Procedure categories***

Category 3 procedures:

Chest compressions
Cardiac defibrillation

Category 2 procedures:

Cardiac defibrillation
Foley catheterization
Naso/orogastric tube
Bag mask ventilation
Extraglottic airway
Tracheal intubation
Basic ultrasound
Vaginal delivery

Category 1 procedures:

Venipuncture
Intravenous access
Suturing
Basic hand knot tying
Sterile field setup
Sterile gowning/gloving
Chest compressions

Competency	Patient Care						
Sub Domain	Documentation and Presentation						
Learning Objective	1. Accurately documents subjective and objective findings, assessments, plans, and treatments in paper-based and electronic health records in accordance with established guidelines 2. Clearly and efficiently presents patients to attending and resident physicians, consultants, peers, and allied health professionals						
Milestones							
Year II				Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
<ul style="list-style-type: none">• Explains the professional obligations of health care providers for patient health information (1,2) *• Lists the elements and sequence of the history, physical exam, other clinical data, assessment, and plan (1,2)• Classifies the types of medical documentation (1) **	<ul style="list-style-type: none">• Retrieves clinical information from paper and electronic health records in assigned clinical settings (1,2)• Documents patient data into a SOAP note format (1)• Presents patient data organized into a SOAP note format with focus on accuracy of subjective, objective data gathering and with simple assessment and basic plan (2)	<ul style="list-style-type: none">• Documents a comprehensive history and physical in a clinical setting with guidance (1)	<ul style="list-style-type: none">• Documents a history and physical without guidance, addressing the complexities present in the patient’s care(1)• Explains basic documentation requirements for billing (1)• Presents a comprehensive history focused on clinical problems with minimal reliance on notes (2)• Demonstrates understanding that documentation and oral presentations vary based on clinical setting and situation (1,2)	<ul style="list-style-type: none">• Presents relevant patient-centered clinical information appropriate to the clinical setting and situation to the clinical care team and allied health professionals (2)• Incorporates relevant literature into documentation and presentation (1, 2)• Demonstrates compliance with billing and documentation requirements (1)	<ul style="list-style-type: none">• Documents using a patient-centered, problem-focused approach addressing complex issues † and incorporating evidence-based medicine (1)• Incorporates history, physical, assessment, and treatment plan into presentation appropriate to practice setting (2)• Presents the patient history at bedside and modifies the language, style, and tone as appropriate (2)	<ul style="list-style-type: none">• Demonstrates understanding of effective hand-off when transferring care (1,2)• Performs appropriate documentation and presentation around transitions of care including discharge plans and needs (1,2)	<ul style="list-style-type: none">• Demonstrates effective and efficient communication of information needed for hand-offs (1,2)• Demonstrates succinctness and selection of key elements in documentation and presentation (1,2)

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* ***Health Information Professional obligations*** include an understanding of HIPPA and the terms Privacy, Confidentiality, Plagiarism, as well as professional behaviors that include gathering of a competent history and physical, documenting and presenting in a clear and timely manner, and avoiding the perpetuation of erroneous information (Chart Lore).

*****Examples of different documentation based on Health Provider role or patient's transition through the health system:*** Full History, Physical, Consultation, Progress Note, Allied Health Note, Documentation of preventative health services, Transfer Summaries. Different charting systems include paper based formats and the electronic health record.

† ***Examples of complex issues:*** multiple patient care issues including acute and chronic care needs, multiple pathophysiological processes and treatment effects; significant complexities in care systems including setting, ancillary needs

Competency	Knowledge						
Sub Domain	Principles of Scientific Discovery						
Learning Objective	1. Recognizes the central importance of discovery and understands how current medical knowledge is scientifically justified and evolves 2. Critically appraises and incorporates new information in the practice of evidence-based medicine						
Milestones							
Year I		Year II		Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
<ul style="list-style-type: none">• Describes scientific reasoning and its application to medicine and basic biological principles (1)• Describes hypothesis development (1)• Identifies examples of on or off campus expertise in leading edge research * (1,2)• Explains the value of scholarship as a critical professional responsibility (1)	<ul style="list-style-type: none">• Describes the basic components of medical manuscripts in a peer reviewed journal (1,2)• Identifies resources to find critically accepted medical information (2)• Explains how current medical knowledge is scientifically justified and how that knowledge evolves (1)	<ul style="list-style-type: none">• Compiles the appropriate primary literature to address a scientific question (1,2)• Describes hypothesis testing (1)	<ul style="list-style-type: none">• Describes skills required for communication in the fields of medicine and scientific inquiry ** (1,2)	<ul style="list-style-type: none">• Applies scientific reasoning skills and technology to promote evidence based medical practice (1,2)• Describes the ethical principles of clinical and translational research in patient care (2)	<ul style="list-style-type: none">• Discusses strategies and limitations of applying new scientific information into clinical practice (1,2)• Critically appraises a peer reviewed article and adequately presents it in a journal club setting (1,2)	<ul style="list-style-type: none">• Explains how to engage in medical research at this medical school and beyond (1)• Develops a testable hypothesis and/or clinical question for research (1,2)• Demonstrates skills required for communication in the fields of medicine and scientific inquiry ** (1,2)	<ul style="list-style-type: none">• Critically appraises and presents a peer reviewed article and applies findings to patient care in a journal club setting (1,2)• Writes and presents a scholarly (research or clinically based) abstract (1,2)

APPENDIX:

* Biomedical, educational, clinical, behavioral, implementation sciences

** ***Specific communication skills that should be mastered and applied to the fields of medicine and scientific inquiry*** (adapted from: AAMC-HHMI Scientific Foundations for Future Physicians, 2009) ***include the ability to:***

- write logically and with clarity and style about important questions across disciplines;
- articulate persuasively, both orally and in writing, focused, sophisticated, and credible thesis arguments;
- be able to use the methodologies that particular disciplines apply for understanding and communicating results effectively;
- approach evidence with probity and intellectual independence; and
- use source material appropriately with scrupulous and rigorous attribution.

Competency	Knowledge						
Sub Domain	Fundamental Knowledge and Clinical Reasoning						
Learning Objective	1. Applies core scientific knowledge* acquired and integrated at the molecular, cellular, organ-system, individual, and population levels to diagnose and treat disease 2. Engages in clinical reasoning based on an understanding of the patient, pathophysiology, application of sound scientific principles, and fundamental knowledge to solve problems						
Milestones							
Year I		Year II		Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
<ul style="list-style-type: none">• Explains normal biology from the molecular to the individual (1)• Understands the approach to solving simple clinical cases, integrating core scientific knowledge* (1,2)	<ul style="list-style-type: none">• Uses understanding of disease mechanisms* and patient specific data** to address simple clinical cases (1,2)• Explains how the principles of scientific discovery can be applied to basic clinical problems (2)	<ul style="list-style-type: none">• Lists types of common cognitive errors in medical decision-making[†] (2)• Applies core scientific knowledge* to interpretation of core clinical problems^{††}, addressing the pathophysiology and etiology (1,2)	<ul style="list-style-type: none">• Applies knowledge of the principles of scientific discovery to interpretation of basic clinical problems (2)• Integrates understanding of core scientific knowledge*, patient specific data**, and population-based factors to solve simple clinical cases and make decisions for patient care (1,2)	<ul style="list-style-type: none">• Integrates core scientific knowledge* to gather and accurately interpret patient data and manage clinical problems (1,2)• Recognizes common cognitive errors in patient care[†] (2)	<ul style="list-style-type: none">• Applies core scientific knowledge* to problem solving in a dynamic clinical environment[†] and addressing core clinical problems for each major specialty^{††} (1,2)• Monitors and avoids common cognitive errors[†] (2)	<ul style="list-style-type: none">• Utilizes principles of scientific discovery to analyze and solve complex clinical problems (2)	<ul style="list-style-type: none">• Integrates understanding of core scientific knowledge*, patient specific data**, and population-based factors to solve complex clinical problems (1,2)

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* **Core Scientific Knowledge** (from: AAMC-HHMI Scientific Foundations for Future Physicians, 2009)

- Apply knowledge of molecular, biochemical, cellular, and systems-level mechanisms that maintain homeostasis, and of the dysregulation of these mechanisms, to the prevention, diagnosis, and management of disease.
- Apply major principles of physics and chemistry to explain normal biology, pathobiology of significant diseases, and the mechanisms of action of major technologies used in the prevention, diagnosis, and treatment of disease.
- Use the principles of genetic transmission, molecular biology of the human genome, and population genetics to infer and calculate risk of disease, to institute an action plan to mitigate this risk, to obtain and interpret family history and ancestry data, to order genetic tests, to guide therapeutic decision making, and to assess patient risk.
- Apply the principles of the cellular and molecular basis of immune and nonimmune host defense mechanisms in health and disease to determine the etiology of disease, identify preventive measures, and predict response to therapies.
- Apply the mechanisms of general and disease-specific pathological processes in health and disease to the prevention, diagnosis, management, and prognosis of critical human disorders.
- Apply principles of the biology of microorganisms in normal physiology and disease to explain the etiology of disease, identify preventive measures, and predict response to therapies.
- Apply principles of pharmacology to evaluate options for safe, rational, and optimally beneficial drug therapy.
- Apply quantitative knowledge and reasoning – including integration of data, modeling, computation, and analysis – and informatics tools to diagnostic and therapeutic clinical decision making.

****Patient specific data:** for example – demographics, patient history and physical exam, habits, lifestyle, culture, and genetics

[†]**Critical clinical decision-making cognitive functions and common problem solving skills to adopt and avoid**

Heuristics:

- Recognizes acutely ill from sub-acutely ill
- Recognizes medical emergencies
- Utilizes differential diagnosis to develop care plan
- Utilizes evolution of physical exam findings to modify treatment course
- Anticipating disease course, recognizes when patient responds/fails to respond to treatment

Examples of common clinical problem solving skills:

- Anticipates and responds to changes in patient acuity and evolution of clinical condition (*see Heuristics*)
- Able to exercise sound clinical judgment in both time-open and time-limited clinical encounters
- Utilizes algorithmic decision-making when appropriate
- Demonstrates ability to personalize clinical reasoning to construct and apply appropriate prototypes of disease

Cognitive errors

- Context errors – limits possible consideration to only one set of diagnostic possibilities
- Availability error – chooses a diagnosis that is familiar over the more rare diagnosis
- Premature closure – once a decision is made, other possibilities are not considered

†† Examples of common core problem lists for the major specialties:

Internal Medicine – antibiotics and infection (UTI, skin, pneumonia), abdominal pain, altered mental status, anemia, chest pain, cough, dyspnea, syncope, fluid and electrolyte imbalance, GI bleeding, acute renal failure, CHF, COPD/asthma, DVT/PE, diabetes mellitus, liver disease, life threatening illness

Ob/Gyn – labor and delivery, pregnancy complications, pregnancy and abdominal procedures, abnormal pelvic masses and bleeding, abnormal pap, menopause, vaginitis

Pediatrics – exams for different age groups, asthma, croup, pneumonia, foreign body aspiration, abdominal pain, diarrhea, vomiting, rash, limp, seizure, headache, malignancy, congenital heart disease, sickle cell anemia, cerebral palsy, attention deficit hyperactivity disorder

Primary Care – alcohol or illicit drug use, anemia, arrhythmia, arthritis, asthma, back pain, bronchitis, COPD, delirium/dementia, diabetes, dizziness, fever, GERD, hyperlipidemia, hypertension, hypothyroidism, obesity, UTI

Psychiatry – depression, anxiety, social withdrawal, disruptive and agitated behavior, substance use, unexplained physical complaints, personality disorders, bipolar disorders, psychotic disorders, delirium, PTSD, panic disorders, dementia, autism

Surgery – abdominal pain, fluids, nutrition, shock, anesthesia, laparoscopy, plastic and burns, vascular, colorectal, hernias, organ specific surgery

Competency	Interpersonal and Communication Skills						
Sub Domain	Collaborative Relationships						
Learning Objective	1. Establishes and maintains effective, collaborative, empathic, and therapeutic relationships with patients and families 2. Establishes and maintains effective, collaborative relationships with all members of the interprofessional team						
Milestones							
Year I		Year II		Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
<ul style="list-style-type: none">• Defines the elements of a therapeutic relationship* and factors that create and maintain it (1)• Identifies elements of communication and constructive professional relationships ** (2)• Describes importance of team-based care and appreciates the role of each team member (2)• Defines elements of formative feedback *** (2)	<ul style="list-style-type: none">• Describes how the therapeutic relationship affects the healing process and the clinician (1)• Develops a therapeutic relationship while obtaining a history (1)• Practices providing feedback to peers (2)	<ul style="list-style-type: none">• Develops a therapeutic relationship while obtaining comprehensive history focused on a clinical problem (1)• Develops professional relationships with faculty, peers, and staff [†] (2)	<ul style="list-style-type: none">• Practices giving feedback incorporating all key elements of effective feedback exchange (2)	<ul style="list-style-type: none">• Describes strategies for dealing with the influence of non-patient related factors^{††} on the therapeutic relationship (1)• Explains how to work effectively in a multi-disciplinary team ^{†††} (2)	<ul style="list-style-type: none">• Develops a therapeutic relationship that is interpersonally challenging while completing a history, assessment and treatment plan [#] (1)• Uses strategies for dealing with the influence of non-patient related factors ^{††} on the therapeutic relationship (1)• Uses strategies in managing conflicts within the team (2)• Demonstrates role of feedback provider for colleagues (2)	<ul style="list-style-type: none">• Demonstrates how to work effectively in a multidisciplinary team ^{†††} (2)	<ul style="list-style-type: none">• Develops a therapeutic relationship with patient and family while managing multiple patients and developing practical assessments and treatment plans (1)• Describes and demonstrates key elements of leadership in team-based care (2)• Models, supports, and teaches clerkship students to develop communication competencies (1,2)

Appendix

***Therapeutic relationship elements:** Safety, confidentiality, healing, awareness of power differences, unconditional positive regard, respect, boundaries, physical space, psychosocial environment

**** Examples of elements of communication and professional relationships:**

- Appreciate the important role of professional relationships in the health professions
- Describe the elements of a *positive* professional relationships (and qualities/examples of when it goes wrong). These relationships may be between individuals, within groups, and with institutions. The elements include:
 - collaboration (vs. accommodating/compromising/competing)
 - mutual respect
 - ability to develop common ground
 - inclusiveness of the perspectives of other colleagues
 - effective feedback exchange
 - active listening
 - effective conflict management.
- Discuss the new roles that learners assume as first year medical students, as adult learners (in various small group and large group formats), peer, beneficiaries of medical education resources, volunteer clinician/beginner clinician. The term 'medical education resources' acknowledges that medical students are among a select group who are granted access to medical school infrastructure and resources.
- Identify the stakeholders of these roles: themselves, other medical students, staff, mentors, and faculty
- Recognize that there are various interactional styles (Myers Briggs/ Colors) that impact their professional relationships.
- Identify one's learning and interactional style and describe how it plays out in their own relationships

***** Feedback Definition:** Information provided to help with making adjustments/corrections/improvements/refinement in order to achieve the learning objectives of the recipient (*i.e.* student, peers, faculty, staff). Not just evaluation.

Elements of Effective Feedback:

- Specific
- Helps individual progress towards their learning objectives
- Mutual respect
- With the premise that there is the capacity for improvement
- Reciprocal dialogue
- Timely
- Relevant and applicable
- Learning objective(s) are mutually agreed upon by recipient and provider
- Collaborative professional relationships are necessary for and require effective feedback
- To give and receive feedback, while useful, may be inherently uncomfortable

Role of Recipient and Providers of Feedback:

Recipients are able to:

- discuss their learning goals
- contribute to safe learning environment
- recognize that effective feedback is usually uncomfortable
- be open to potential for improvement through feedback

- critically appraise the feedback
- constructively discuss feedback received
- mutually arrive at a meaningful assessment and plan of action towards learning objective

Providers are able to:

- discuss learning goals
- contribute to safe learning environment
- have given thoughtful and diligent assessment of the learner's assets and needs prior to the exchange
- recognize that effective feedback is usually uncomfortable
- assess recipient's level of readiness for feedback
- identify and address barriers to receiving feedback
- develop a safe space for discussion and critical appraisal of the feedback given
- mutually arrive at a meaningful assessment and plan of action towards learning objective

[†] **Examples of professional relationship development:**

- able to discuss the new roles that learners assume: student leaders, representative of the health professions and UCDHS to communities, adult learners (in various small group and large group formats), peer, beneficiaries of medical education resources
- describe the various interactional styles (Myers Briggs/ Colors) and how these can impact their professional relationships
- able to discuss each other's interactional styles with peers and faculty
- appreciate the contributions of people with diverse interactional styles to the professional relationships

^{††} Such as hidden curriculum, competing expectations, burnout, time pressures, systems issues. [**Hidden curriculum:** The set of influences, pressures, and constraints that function at the level of organizational structure and culture including, for example, implicit rules to survive the institution such as customs, rituals, and taken-for-granted aspects that are often unarticulated or unexplored. (from: Lemp, H. and C. Seale, The hidden curriculum in undergraduate medical education: qualitative study of medical students' perceptions of teaching. *Br Med J* **329**:770-779, 2004)]

^{†††} **Examples of challenges to developing and maintaining professional relationships inherent in working in health care:** systems conflicts, interpatient conflicts, Maslow conflicts, values conflicts, role transitions and ambiguity, hierarchical/power conflicts

[#] **Examples of interpersonally challenging therapeutic relationships:** personality problems, communication barriers, cultural bias, generational conflicts

Competency	Interpersonal and Communication Skills						
Sub Domain	Information Sharing						
Learning Objective	1. Communicates clearly on scientific and medical matters with patients, family, colleagues, and community 2. Demonstrates effective communication in shared decision-making						
Milestones							
Year I		Year II		Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
• Defines shared decision-making * (2)	• Organizes oral and written information to be shared with patients, family, colleagues, and community (1) • Describes the ethical principles relevant to shared decision-making (2)	• Describes the process for shared decision-making with patient and family** (2)	• Demonstrates communication and assessment strategies to ensure patient understanding of medical information (1) • Demonstrates the steps of and recognizes the threats to shared decision-making in an uncomplicated patient (2)	• Critically analyzes the effectiveness of shared decision-making in clinical cases (2)	• Communicates clearly and uses appropriate language with patients, family, colleagues, and community on scientific and medical matters *** (1) • Recognizes circumstances when shared decision-making is legally inapplicable (2) • Identifies strategies to manage the challenges to effective shared decision-making (2)	• Demonstrates effective skills in communication of critical information when requesting consultations or handing off care to incoming team (1,2)	• Communicates complex information clearly and effectively using oral, written, and electronic media (1) • Demonstrates effective and seamless shared decision-making (2)

APPENDIX

*** *Shared Decision-Making Definition:*** Decisions made through collaboration between patients and their doctors, informed by the best evidence and resources available, and weighed according to the specific characteristics and values of the patient. The positive outcomes of shared decision-making are not only in the decision but also in the therapeutic relationship and include increased understanding of values, priorities, and perspectives.

**** *Process of Shared Decision-Making***

- Determine stakeholders (*i.e.* patient, providers, treatment team, self, society) of the decision
- Determine evidence for treatment and relevant resources
- Inquire patient's opinions, concerns, goals, and priorities
- Share one's professional assessment, concerns, goals, priorities in light of patient's perspectives
- Actively elicit patient (and/or other stakeholders) opinions/concerns/goals/priorities

***** *Scientific matters can be communicated clearly to patients and the public, taking into account the level of scientific literacy of the audiences and understanding the intellectual and emotional responses to medical diagnoses and therapies*** (*adapted from: AAMC-HHMI Scientific Foundations for Future Physicians, 2009*).

For example, physicians should be able to explain to patients:

- the complexity and variability of the human body to help them appreciate that there is no single approach to the prevention, diagnosis, and management of disease;
- the influence of genetic, lifestyle (behavioral, psychological, sociocultural), and environmental factors in health and disease, as well as the heritability of genetic factors;
- in appropriate terms, the technologies for diagnosis and treatment of disease, their relative risks and benefits, and the advantages and disadvantages of alternative choices;
- in appropriate terms, the rationale for treatment strategies, including lifestyle changes as well as pharmacological interventions, how the drugs work, their possible interactions with other drugs, their risks and benefits, and alternatives, both pharmacological and non-pharmacological; and
- how the brain and other organ systems interact to mediate behavior throughout the lifespan in health and in disease.

Competency		Professionalism					
Sub Domain		Altruism and Humanism					
Learning Objective		Advocates for the interest of patients over one’s own interests, demonstrates commitment to helping those in need, and practices respect, humility, compassion, empathy, honor, and integrity					
Milestones							
Year I		Year II		Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
<ul style="list-style-type: none">• Defines altruism and humanism• Demonstrates awareness of altruism and humanism as key principles that drive medical professionals	<ul style="list-style-type: none">• Demonstrates altruistic and humanistic behavior when risk to self is minimal	<ul style="list-style-type: none">• Explains the important roles of altruism and humanism in guiding a professional’s approach in patient care scenarios• Explains that maintaining altruism and humanism may come at cost of sacrificing other professionalism principles• Reflects on and appreciates one’s own strengths and weaknesses and identifies personal challenges to maintaining an altruistic/human-istic approach	<ul style="list-style-type: none">• Defines and begins to anticipate the “hidden curriculum” *• Demonstrates awareness of hypothetical clinical situations that may result in challenges to altruism and humanism• Lists strategies to work through altruism and humanism challenges in hypothetical patient care scenarios **	<ul style="list-style-type: none">• Exercises altruism and humanism in clinical situations ***• Identifies situations that pose challenges to altruism and humanism• Observes, processes, and discusses breaches by self and others in altruism and humanism• Acknowledges and expresses appreciation when altruistic and humanistic care is observed despite challenges	<ul style="list-style-type: none">• Applies strategies to work through altruism and humanism challenges, altering professional priorities with appropriate justification		<ul style="list-style-type: none">• Serves as a professional role model and resource for junior colleagues• Helps and teaches colleagues to develop skills necessary to deal with challenges to altruism and humanism• Applies principles of altruism and humanism to other health professionals and the community

Appendix

* **Hidden curriculum:** The set of influences, pressures, and constraints that function at the level of organizational structure and culture including, for example, implicit rules to survive the institution such as customs, rituals, and taken-for-granted aspects that are often unarticulated or unexplored. (from: Lemp, H. and C. Seale, The hidden curriculum in undergraduate medical education: qualitative study of medical students' perceptions of teaching. *Br Med J* 329:770-779, 2004)

** **Examples of strategies for addressing altruism/humanism challenges:** adaptive responses; conflict resolution strategies

*** **Examples of altruism/humanism in clinical settings:**

- put patient interests above self-interest
- advocate for individual patients
- care for patients even when their values conflict with one's own

Competency	Professionalism						
Sub Domain	Cultural Competence						
Learning Objective	<div>1. Demonstrates the physician’s responsibility to consider the sociocultural, genetic, and epidemiologic dimensions of health and illness</div> <div>2. Recognizes and appropriately addresses gender and cultural biases in oneself, in others, and in the health delivery process</div>						
Milestones							
Year I		Year II		Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
<div>• Describes culture and its components in broad and inclusive terms (1)</div> <div>• Describes one’s own cultural background and belief systems (1,2)</div> <div>• Appreciates the meaning of health and illness from different perspectives (1)</div>	<div>• Describes health disparities and sociocultural, genetic, and epidemiologic factors that may contribute to these disparities (1)</div> <div>• Describes the impact of language on health status and health care (1,2)</div> <div>• Appreciates conscious and unconscious bias in oneself and its impact on health care delivery (2)</div> <div>• Works collaboratively with peers across cultural groups (2)</div>	<div>• Describes and begins to implement approaches to understanding and working effectively with patients from culturally diverse backgrounds (1,2)</div>	<div>• Describes the components, challenges, and benefits of the effective use of a health care interpreter (1)</div>	<div>• Develops rapport and effectively communicates with patients across various cultural groups (1,2)</div>	<div>• Demonstrates incorporation of cultural beliefs, practices, and supports into assessment and treatment planning (1)</div>	<div>• Demonstrates effective use of a health care interpreter in actual clinical care (1)</div>	<div>• Applies knowledge of health care disparities and sociocultural, genetic, and epidemiologic factors to care of patient populations across various cultural backgrounds (1)</div>

Competency	Professionalism						
Sub Domain	Accountability						
Learning Objective	Demonstrates responsibility to oneself, patients, colleagues, the profession, and society *						
Milestones							
Year I		Year II		Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
<ul style="list-style-type: none">• Defines responsibilities in team participation **• Lists student wellness resources• Demonstrates accountability in learning and accountability for achieving the UCDSOM competencies	<ul style="list-style-type: none">• Demonstrates accountability to others in the learning environment **,†• Describes components of maintaining wellness and recognizes when wellness is compromised	<ul style="list-style-type: none">• Explains the intersection of personal wellness and relationships with the larger community and its impact on ability to carry out commitments to profession and society	<ul style="list-style-type: none">• Defines professional roles and responsibilities to society, including equitable resource use and understanding of public health obligations• Develops internal resources in maintaining wellness	<ul style="list-style-type: none">• Communicates understanding that personal wellness and commitment to patients and colleagues are sometimes in conflict• Utilizes colleagues and is available to others for consultation regarding professional commitments	<ul style="list-style-type: none">• Demonstrates accountability to patient care by responsible participation in appropriate patient care activities	<ul style="list-style-type: none">• Manages threats to personal wellness, recognizes threats to colleague wellness, and knows referral resources	<ul style="list-style-type: none">• Manages threats to maintaining a professional relationship with patients• Explains equitable resource use, conflict of interest, and laws related to public health obligations

APPENDIX

**Responsibility to:*

- oneself for maintaining wellness and recognizing when assistance is needed,
- patients for fulfilling the covenant between the patient and physician,
- colleagues for meeting professional commitments and engaging in peer review,
- the profession for adhering to honored principles and values, and
- society for addressing the health needs of the public, utilizing resources judiciously, and reporting conflicts of interest

***Examples of team participation responsibilities:*

- timely attendance for group learning activities
- appropriate preparation
- active participation in group activities
- respect for each other's opinions and efforts

†Includes appropriate consideration given to the impact of:

- attendance and timeliness
- multitasking and distraction

Competency		Professionalism					
Sub Domain		Ethical and Legal Understanding					
Learning Objective		1. Uses framework of ethical decision-making in addressing ethical issues and conflicts 2. Demonstrates familiarity with the laws affecting medical practice and research					
Milestones							
Year I		Year II		Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
<ul style="list-style-type: none">• Describes the fiduciary nature of the physician-patient relationship and the duties arising from it (1,2)• Lists the professional and legal responsibilities that are unique to physicians (1,2)	<ul style="list-style-type: none">• Describes basic ethical concepts, principles, and terminology in medicine (1)• Demonstrates familiarity with the laws that affect clinical practice and research * (2)• Describes Process for Ethical Analysis Reflection and Learning (PEARL) (1)• Describes the role of ethics in ensuring quality clinical care (1)		<ul style="list-style-type: none">• Demonstrates application of foundation knowledge of ethics to analysis of cases** (1,2)• Demonstrates behaviors that uphold the ethical tenets of the physician-patient relationship in an uncomplicated patient (1)• Describes the critical elements of each ethics-specific skill *** (1,2)	<ul style="list-style-type: none">• Describes opportunities and threats inherent in clinical practice to ethical conduct † (1)• Discusses role of ethical principles, codes of professional conduct, legal mandates and personal morality in ethical decision-making (1,2)• Demonstrates familiarity with the resources available to address difficult ethical issues (1)	<ul style="list-style-type: none">• Systematically and routinely analyzes ethical issues in clinical care (1)• Demonstrate ethics-specific clinical skills under supervision (1,2)• Describes the role of institutional ethics committees, review boards, and policies on the provision of patient care (1,2)• Discusses the implications of basic ethical and legal principles in the care of specific patient populations †† (1,2)		<ul style="list-style-type: none">• Advocates for ethical and legal responsibilities of physicians and health systems to promote quality patient care (1,2)

APPENDIX

* Includes key case, statutory, and regulatory laws

** *Foundational knowledge applied to analysis of ethical issues:*

- concepts, principles, legal precedents, *etc.*
- systematic framework for ethical decision making – Process for Ethical Analysis Reflection and Learning (PEARL)

*** *Examples of ethics-specific skills:*

- Decision-making—capacity determination, informed consent, shared decision making, legal standards surrogate decision making, advanced directives, end-of-life care
- Disclosure—knowledge limits, medical errors, bad news

† *Examples of opportunities and threats to ethical conduct:*

- cases in which values, ethical principles, beliefs are in conflict
- uncertainty

†† *Examples of patient population:* children, pregnant women, the elderly, the cognitively impaired, and racial or ethnic minorities

Competency	System-Based Practice						
Sub Domain	Health Care Delivery System						
Learning Objective	1. Understands and applies core principles of health care delivery, organization, and finance 2. Understands the interaction between population, community, and individual health						
Milestones							
Year I		Year II		Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
<ul style="list-style-type: none">• Describes the major biological, environmental, and social determinants of health (1,2)• Identifies how health care technology may affect health, health disparities, and health care costs (1,2)• Defines community using four perspectives * (2)	<ul style="list-style-type: none">• Uses information about how communities are organized to understand clinical cases (2)• Examines clinical cases incorporating social determinants (2)	<ul style="list-style-type: none">• Names and describes functions of the major players in health care delivery at a regional and national level ** (1,2)• Identifies the different types of practices US physicians choose in delivering care and the differences between these care models (1)• Recognizes role of emerging technologies in improving medical care (1)	<ul style="list-style-type: none">• Describes how health care is delivered in other countries, in comparison with the US health care system, highlighting strengths and weaknesses (1)• Uses information about how health care is structured to understand clinical cases (1,2)• Defines community engagement and analyzes examples that have resulted in improved health and health care (2)	<ul style="list-style-type: none">• Describes how the local hospital system functions and integrates with other health care service providers (1,2)• Describes the experiences of patients and their families in navigating and receiving care within the health system (1,2)	<ul style="list-style-type: none">• Uses information about how systems function to advocate for patients and their families around resources, services, and access (1,2)• Plans a community engagement project (2)	<ul style="list-style-type: none">• Initiates and analyzes a community engagement project (2)	<ul style="list-style-type: none">• Plans an intervention to improve the health of a discrete population, from intervention development, to implementation, to measurement of outcomes (2)

APPENDIX

*** *Community description:***

- Four perspectives of community: systems, social, virtual, individual as described in the NIH Principles of Community Engagement.
- Explains the community relationships that one currently engages in as examples

*****Health care players:*** Medicare, Medicaid, VA, health plans, and private health insurance

Health care providers: physicians, hospitals, nurses, and other health care professionals

Competency	System-Based Practice						
Sub Domain	Health Care Quality Improvement						
Learning Objective	<div>1. Understands and applies principles of quality improvement in patient care</div> <div>2. Identifies and understands safety design principles in the care of patients and populations</div> <div>3. Identifies and participates in efforts to improve the health care system</div>						
Milestones							
Year I		Year II		Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
<div>• Describes the epidemiology of medical errors (2)</div> <div>• Explains how human factors contribute to medical errors (2)</div>	<div>• Explains the goals of quality improvement put forth by the Institute of Medicine (1)</div> <div>• Describes how provision of excellent health care involves process and systems (3)</div>	<div>• Describes safety design principles* (1)</div> <div>• Explains the value of interdisciplinary health care teams in improving patient care and outcomes (3)</div>	<div>• Explains how safety culture contributes to reducing medical errors (2)</div>	<div>• Demonstrates effective use of information technology to communicate, prevent error, and support decision making (2, 3)</div>	<div>• Identifies medical errors and hazardous systems during patient care (2)</div> <div>• Participates as an effective member of an interdisciplinary health care team to ensure that care is continuous and reliable (3)</div> <div>• Describes strategies to communicate medical errors and near-errors with patients (2)</div>		<div>• Participates as a team member in interventions to change processes and systems of care, with the objective of improving quality or reducing harm (1)</div>

APPENDIX

**Examples of safety design principles:* standardization and simplification

Competency	System-Based Practice						
Sub Domain	Optimization of Resources						
Learning Objective	Provides cost-effective care using evidence, decision support tools, and electronic health information technology						
Milestones							
Year I		Year II		Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
	<ul style="list-style-type: none">Identifies and describes use of evidence, tools, and information technologies to support cost-effective medical decision-making		<ul style="list-style-type: none">Selects and utilizes evidence, tools, and information technologies to support cost-effective medical decision-makingIdentifies and describes key drivers of the cost crisis in health care*		<ul style="list-style-type: none">Describes cost implications of common diagnostic and treatment decisions in clinical practice across major specialty domainsExplains approaches and practices that physicians can implement to address key drivers of the cost crisis in health care		<ul style="list-style-type: none">Participates in cost-effective, high-value clinical care, using tools and information technologies in real time to support decision-making

Appendix

*** *Examples of drivers of cost crisis in health care:***

- variation in clinical practice
- uncritical adoption of new technologies
- fear of liability
- market failure

Competency	Life-Long Learning						
Sub Domain	Critical Reflection and Self-Improvement						
Learning Objective	Uses critical reflection and feedback from multiple sources and engages in appropriate learning activity to improve knowledge, professional skills, and attitude*						
Milestones							
Year I		Year II		Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
<ul style="list-style-type: none">• Understands principles of active learning**• Describes how feedback*** is part of the learning process for individuals, groups, and the overall learning community• Describes individual strengths and weaknesses and sets learning goals for personal development• Establishes a portfolio to document professional and personal development in the UCDSOM competencies	<ul style="list-style-type: none">• Applies principles of active learning**• Identifies multiple strategies for feedback and helping incorporate that feedback• Identifies areas of deficiency and constructs an individualized plan for developing those competencies	<ul style="list-style-type: none">• Describes reaction patterns in feedback exchange as recipient• Demonstrates strategies for seeking and incorporating feedback	<ul style="list-style-type: none">• Critically reflects on one’s performance in identifying strengths and challenges, setting individual learning goals, and engaging in appropriate activity to meet those goals• Uses feedback to make improvements towards learning goals• Uses portfolio documentation of professional and personal development in the UCDSOM competencies	<ul style="list-style-type: none">• Recognizes the barriers to effective feedback exchange inherent in the clinical setting[†]• Uses strategies to solicit and incorporate feedback in clinical settings	<ul style="list-style-type: none">• Appraises UCDSOM portfolio documentation of professional and personal development in the competencies		<ul style="list-style-type: none">• Documents evidence of critical reflection from clinical settings including incorporating feedback and consideration of past experiences to inform development of a plan for the future• Explains portfolio documentation of professional and personal development in the UCDSOM competencies

Appendix

Applies **Practice-Based Learning Improvement principles to the improvement of knowledge, professional skills, and attitude.*

****Active Learning:**

- Self-assessment of learning needs
- Independent identification, analysis, and synthesis of information relevant to learning needs
- Appraisal of the credibility of information sources
- Sharing information with peers and supervisors

***** Feedback Definition:** Information provided to help with making adjustments/corrections/improvements/refinement in order to achieve the learning objectives of the recipient (*i.e.*, student, peers, faculty, staff). Not just evaluation.

Elements of Effective Feedback :

- Specific
- Helps learner progress towards their learning objectives
- Mutual respect
- With the premise that there is the capacity for improvement
- Reciprocal dialogue
- Timely
- Relevant and applicable
- Learning objective(s) are mutually agreed upon by recipient and provider
- Collaborative professional relationships are necessary for and require effective feedback
- To give and receive feedback, while useful, may be inherently uncomfortable

Role of Recipient and Providers of Feedback:

Recipients are able to:

- discuss their learning goals
- contribute to safe learning environment
- recognize that effective feedback is usually uncomfortable
- be open to potential for improvement through feedback
- critically appraise the feedback
- constructively discuss feedback received
- mutually arrive at a meaningful assessment and plan of action towards learning objective

Providers are able to:

- discuss learning goals
- contribute to safe learning environment

- have given thoughtful and diligent assessment of the learner's assets and needs prior to the exchange
- recognize that effective feedback is usually uncomfortable
- assess recipient's level of readiness for feedback
- identify and address barriers to receiving feedback
- develop a safe space for discussion and critical appraisal of the feedback given
- mutually arrive at a meaningful assessment and plan of action towards learning objective

[†] ***Examples of barriers to effective feedback exchange:*** multiple sources, varying levels of reliability, health care hierarchy, conflicts of interest

Competency	Life-Long Learning						
Sub Domain	Evidence-Based Medicine						
Learning Objective	1. Identifies clinical questions in patient care and identifies, appraises, assimilates, and applies scientific evidence from the literature to the care of individual patients 2. Applies clinical evidence and epidemiology appropriately in patient care						
Milestones							
Year I		Year II		Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
	<ul style="list-style-type: none">• Defines a clinical question in the context of core scientific knowledge* and patient care and begins to access appropriate resources for answering this question (1)• Identifies basic methodological terms and principles used to study biomedical research and population health (2)		<ul style="list-style-type: none">• Appraises, assimilates, and applies scientific evidence in discussion of cases (1)• Uses basic epidemiologic terms to describe disease patterns **(2)		<ul style="list-style-type: none">• Defines clinical questions, accesses appropriate resources for answering these questions, and applies findings to patient care (1)• Applies knowledge of study design and statistical methods to the appraisal of clinical studies (2)• Applies epidemiologic terms to benefits and harms as related to the care of individual patients and populations **(2)	<ul style="list-style-type: none">• Identifies clinical questions as they emerge in clinical care activities and routinely identifies, appraises, and applies relevant, high quality evidence in clinical decision-making (1)• Describes benefits and harms of an intervention using appropriate epidemiologic terms (2)	<ul style="list-style-type: none">• Determines whether clinical evidence can be applied to an individual patient (2)• Accesses and appropriately applies information from practice guidelines in patient care(2)• Applies knowledge of disease patterns to assess the value of diagnostic tests based on patient’s risk of disease (2)

Appendix

***Core Scientific Knowledge** (from: AAMC-HHMI Scientific Foundations for Future Physicians, 2009)

- Apply knowledge of molecular, biochemical, cellular, and systems-level mechanisms that maintain homeostasis, and of the dysregulation of these mechanisms, to the prevention, diagnosis, and management of disease.
- Apply major principles of physics and chemistry to explain normal biology, pathobiology of significant diseases, and the mechanisms of action of major technologies used in the prevention, diagnosis, and treatment of disease.
- Use the principles of genetic transmission, molecular biology of the human genome, and population genetics to infer and calculate risk of disease, to institute an action plan to mitigate this risk, to obtain and interpret family history and ancestry data, to order genetic tests, to guide therapeutic decision making, and to assess patient risk.
- Apply the principles of the cellular and molecular basis of immune and nonimmune host defense mechanisms in health and disease to determine the etiology of disease, identify preventive measures, and predict response to therapies.
- Apply the mechanisms of general and disease-specific pathological processes in health and disease to the prevention, diagnosis, management, and prognosis of critical human disorders.
- Apply principles of the biology of microorganisms in normal physiology and disease to explain the etiology of disease, identify preventive measures, and predict response to therapies.
- Apply principles of pharmacology to evaluate options for safe, rational, and optimally beneficial drug therapy.
- Apply quantitative knowledge and reasoning – including integration of data, modeling, computation, and analysis – and informatics tools to diagnostic and therapeutic clinical decision making.

**** Examples of epidemiologic terms:**

- numbers needed to treat
- decrease disease-related morbidity and mortality (benefits)
- patient morbidity costs (harms)