

Competencies for Medical Education

UMass Medical School

A Physician is first and foremost a Healer. Six attributes of the physician as healer form the organizing headings of this document: **Professional, Scientist, Communicator, Clinical Problem Solver, Patient & Community Advocate, and Person.** Under each heading, we describe specific competencies that students graduating from UMass School of Medicine will have demonstrated.* As an educational community, we strive to produce graduates who will become caring healers both by assuring that they possess the requisite knowledge and skills and by strengthening their natural talents and desire to care for others.

PHYSICIAN AS PROFESSIONAL

1. Professional values

Scope: The graduate can define what each of the following professional values entails and can explain why each is important in an effective doctor-patient relationship: honesty, altruism, compassion, boundaries, and respect for patients, families and other members of the healthcare team.

Behaviors that demonstrate competence:

- a. Consistently acts in the patient's best interests,
- b. Never misrepresents or falsifies information and/or actions.
- c. Preserves patient dignity and minimizes potential for embarrassment e.g., by proper draping, sensitive handling of patient information, using language appropriate to the patient's capacity to understand.
- d. Respects generally accepted boundaries for physician-patient relationships.
- e. Maintains composure even when stressed and avoids being hostile, abusive, arrogant, dismissive or inappropriately angry.

Measures include: behavior on exams, assignments; presenting clinical information; OSCE; direct observation in both preclinical and clinical settings; praise / concern professionalism incident reports; peer evaluation.

2. Standards of care

Scope: The graduate can explain the appropriate standards of care involved in such basic clinical situations as informed consent, surrogate decision making, parental refusal of consent for a child, confidentiality, adverse event reporting, and end-of-life care.

Behaviors that demonstrate competence:

- a. Demonstrates ability to obtain a valid, voluntary consent (knows the kinds of information required for valid consent and knows the standard by which adequacy of disclosure is judged).

* Some behaviors may legitimately be categorized under multiple Competencies. To minimize duplication, we have listed them under one Competency, and cross referenced others (*in italics*).

- b. Demonstrates knowledge of and follows current rules governing confidentiality and patients' protected health information.
- c. Knows the institution's protocol for handling code status and is able to explain to patients and families the purpose and limitations of various medical technologies that may be involved in end-of-life treatment.
- d. Knows the institution's protocol for handling medical error and informs patients promptly with appropriate consultation.

Measures include: presenting clinical information; OSCEs; direct observation in both preclinical and clinical settings; praise / concern professionalism incident reports; peer evaluation.

3. Ethical reasoning

Scope: The graduate can describe what is involved in each of the generally accepted ethical principles (e.g., autonomy, beneficence, nonmaleficence, primacy of life, justice) and ethical concepts (fidelity, respect for persons, conflict of interest, scarcity).

Behaviors that demonstrate competence:

- a. Responds appropriately to potential ethical conflicts.
- b. Able to recognize and reason through ethical dilemmas in clinical practice, while respecting cultural and religious beliefs the patient may have that affect his/her choices.
- c. Able to recognize and manage situations that present a conflict of interest, including balancing obligations to patients with one's self interest.
- d. Able to identify suspected impairment or incompetence in another health care professional and respond appropriately.
- e. Able to balance a dedication to the fundamental principle of serving the interests of the individual patient with a commitment to social justice, including the fair distribution of finite healthcare resources.

Measures include: presenting clinical information; OSCEs; direct observation in both preclinical and clinical settings; praise / concern professionalism incident reports; peer evaluation; self-reflection.

4. Effective member of interdisciplinary team

Scope: The graduate can explain the roles of health care professionals and consultants and can use these resources as an effective member of an interdisciplinary team.

Behaviors that demonstrate competence:

- a. Maintains availability for professional responsibilities (i.e., required activities, available on clinical service, responds to pager) and actively assumes patient care activities, without inappropriately transferring patients or responsibilities.
- b. Works cooperatively with health care team members, showing sensitivity to their needs, feelings, and wishes.
- c. Completes tasks in a timely fashion (papers, reports, examinations, appointments, patient notes, patient care tasks).

Measures include: presenting clinical information; direct observation in both preclinical and clinical settings; praise / concern professionalism incident reports; peer evaluation.

5. Self-assessment and ongoing learning

Scope: The graduate understands the need for lifelong, continuing learning and seeks opportunities to increase personal knowledge and skills. *See also “Physician as Scientist,” items 3b-c, and “Physician as Person,” items 1a, 1b and 3b.*

PHYSICIAN AS SCIENTIST

1. Acquisition of core scientific knowledge

Scope: The graduate will demonstrate core knowledge about established and evolving biomedical, clinical and cognate sciences.

Behaviors that demonstrate competence:

- a. Describes the normal structure and function of each major organ system and their interactions.
- b. Understands the molecular, biochemical and cellular processes that maintain homeostasis.
- c. Can explain the altered structure and function — the pathology and pathophysiology — that is seen in the major categories of injury and disease.
- d. Can describe causes (genetic, developmental, toxic, microbiologic, autoimmune, neoplastic, degenerative, traumatic and behavioral) of diseases and maladies, and the ways in which these processes present in clinical practice.
- e. Can explain principles of pharmacology and describe the major categories of drugs, including their actions, interactions, and the indications for their use.
- f. Can describe currently accepted and evidence-based best approaches to treatment of patients who present with the major types of injury or disease.
- g. Understands population-specific factors that affect disease prevention, incidence, diagnosis, treatment and outcomes and uses this information to tailor appropriate care to specific patient populations.

Measures include: clinical performance on core clerkships; written and oral examinations in basic science courses and clinical clerkships; OSCEs; performance on USMLE steps 1, 2.

2. Understanding of the scientific method

Scope: The graduate will demonstrate an understanding of the scientific method as an iterative process that can be used in acquiring new information.

Behaviors that demonstrate competence:

- a. Uses the scientific method to characterize the kinds of information needed to solve scientific problems.
- b. Practices the scientific method in developing and testing justifiable hypotheses about the causation and treatment of diseases.

Measures include: Written and oral examinations in the basic science courses and clinical clerkships; performance in laboratory-based educational experiences; presentations of written or oral journal critiques (new), patient presentations; small group discussions.

3. Application of scientific method to patient care and career-long learning

Scope: The graduate will apply the scientific method to problem solving in patient care.

Behaviors that demonstrate competence:

- a. Applies an iterative, scientific process of problem solving to patient care — gathering data, generating and testing hypotheses, interpreting and reflecting upon outcomes and altering actions when appropriate.
- b. Applies information gained in this iterative process of patient care to add to his/her own foundational core of medical knowledge, improve the care of his/her patients and enhance the medical knowledge of his/her colleagues.

Measures include: preparation and presentations of written or oral journal critiques (new); oral and written case presentation to faculty, fellow students; clinical performance on core clerkships; formal case write-ups; oral cognitive interviews (new).

PHYSICIAN AS COMMUNICATOR

1. Doctor-patient communication

Scope: The graduate will apply core principles, practices and state-of-the-art models in patient/doctor communication by building productive relationships with the patient and when appropriate, with family members.

Behaviors that demonstrate competence:

- a. Communicates effectively during all stages of the doctor-patient relationship: developing rapport, remaining attentive and responsive throughout, and bringing closure to the therapeutic relationship as necessary.
- b. Observes, listens, and elicits important information in interactions with patients.
- c. Elicits and responds appropriately to the patient's unspoken questions and unrevealed concerns.
- d. Assesses the patient's understanding of written and verbal communications.
- c. Teaches, counsels and negotiates wellness and disease prevention activities with patients or their surrogates.
- d. Recommends, and negotiates, appropriate treatment plans based on clinical judgment and patient preferences.

Measures include: direct observation in both preclinical and clinical settings (LPP, community clerkship, clinical rotations); OSCE; student self-assessment exercises (new) assessment of written patient education information by faculty and lay people (new).

2. Communication with patients from multiple backgrounds

Scope: The graduate understands the impact of families, culture and social systems on the way that patients experience and communicate about illness, responding appropriately to needs and preferences as they arise. *See also "Physician as Professional," item 3b.*

Behaviors that demonstrate competence:

- a. Uses knowledge of the values and norms of major cultural and religious groups to provide culturally competent care.
- b. Does not stereotype members of a particular group, but recognizes individual differences.

- c. Uses knowledge of different social conditions to communicate effectively with patients from diverse groups (socioeconomic status, education level, underserved populations, etc.).

Measures include: direct observation in both preclinical and clinical settings (LPP, community clerkship, clinical rotations); OSCE; student self-assessment exercises (new); assessment of written information provided to patient by faculty and lay people (new).

3. Communication with the healthcare team

Scope: The graduate is proficient in communicating with other members of the healthcare team through accurate and complete documentation in the medical record, well-organized case presentation and other written and verbal interactions, including assuming the role of a teacher when it is appropriate. *See also "Physician as Professional," item 4b.*

Behaviors that demonstrate competence:

- a. Provides adequate documentation in the medical record that is legible, accurate and informative.
- b. Presents clinical information about patients orally, in a focused, succinct and complete manner.
- c. Uses electronic systems to effectively utilize and share information within the system of care (e.g., patients, colleagues, medical record), while maintaining the confidentiality of protected health information.
- d. Demonstrates ability to teach fellow students and, as appropriate, other members of the team about clinically relevant material.

Measures include: OSCE; faculty observation; resident observation; peer review (new); student end-of-year student self-assessment (new).

PHYSICIAN AS CLINICAL PROBLEM SOLVER

1. Patient-centered care

Scope: The graduate delivers care that is customized and responsive to individual patients.

Behaviors that demonstrate competence:

- a. Understands and applies principles of disease prevention and behavioral change appropriate for specific patients.
- b. Appreciates the burden of suffering illness brings and provides interventions to relieve pain and suffering.
- a. Uses evidence-based practices in determining whether a course of action is likely to improve outcomes for a particular patient.
- d. Provides treatment that incorporates and respects the patient's personal values, preferences and expressed needs.

Measures include: direct observation during clerkships; SP evaluation; patient feedback (new); praise / concern professionalism incident reports.

2. Information gathering

Scope: The graduate has developed skills in acquiring and synthesizing information relevant to the patient, and can effectively utilize a variety of sources.

Behaviors that demonstrate competence:

- a. Elicits clinically relevant information during the medical interview.
- b. Selects and interprets results of physical examination maneuvers to accurately gather information about patients and their conditions.
- c. Recognizes the manifestations of physical and mental illness, and can effectively elicit a history in all settings.
- d. Uses common diagnostic tests appropriately and interprets results accurately.

Measures include: direct observation during clinical clerkships; OSCEs; SP evaluations; faculty and resident observation; end-of-year student self-assessment (new).

3. Differential diagnosis and management

Scope: The graduate uses analytic approaches to formulate differential diagnoses, and develops management plans utilizing patient information, scientific evidence, and clinical judgment. *See also, "Physician as Scientist," items 3a-c.*

Behaviors that demonstrate competence:

- a. Uses a problem-oriented, scientifically valid approach in organizing information leading to a diagnosis and management plan.
- b. Develops an appropriate differential diagnosis and problem list for each patient.
- c. Can develop a management plan for the common acute and chronic disorders across all age groups and across the phases of the human life cycle, incorporating evidence-based findings about effective clinical practice.
- d. Understands that uncertainty is inherent to the practice of medicine, and is able to make appropriate decisions based on incomplete information, including limitations in current scientific/medical knowledge.

Measures include: OSCE; faculty and resident observation; end-of-year student self-assessment (new); USMLE step 2.

4. Technical skills

Scope: The graduate understands the rationale for and can effectively perform selected medical procedures.

Behaviors that demonstrate competence:

- a. Successfully completes standard physical examination maneuvers and describes their significance.
- b. Masters the requisite psychomotor and cognitive skills to perform selected routine medical procedures when indicated.
- c. Knows how and when to initiate immediate care for patients with urgent and/or life-threatening problems in the ambulatory and inpatient setting.

Measures include: faculty and resident observation; OSCE; SP feedback; simulation exercises (new) including ACLS; end-of-year student self-assessment (new); USMLE step 2 (future).

5. Systems of care

Scope: The graduate understands various systems of care, and the importance of cooperation and coordination of efforts with other health professionals to enhance continuity of care, safety, and reliability. He/she counsels and negotiates systems of care effectively with patients and their families, and has a basic knowledge of the processes essential for quality improvement at the systems level.

Behaviors that demonstrate competence:

- a. Understands the structure and function of a variety of health care delivery systems (e.g., public vs. private hospital, private practice, Health Maintenance Organization,, CHS, nursing home).
- b. Understands the role of other health professionals and works with them to provide coordinated, continuous care.
- c. Recognizes how social issues impact quality of care in various systems (e.g. how different systems of insurance or the lack of insurance each impact clinical care.)
- d. Uses knowledge of health care delivery systems and insurance-related factors in diagnostic, treatment and discharge plans (i.e., admission criteria, sites for testing, using formulary, referral to providers, patient costs, etc.).
- e. Can identify common errors and hazards in care, and seeks appropriate consultation to manage them.
- f. Can explain current models of performance evaluation and feedback, quality assessment and improvement, and peer review.

Measures include: faculty observation in preclinical courses (PPS, LPP) and clinical clerkships; OSCEs that include integration of social issues into treatment planning; other simulation exercises / exams (new) resident observation; evaluation by other team members.

6. Informatics

Scope: The graduate understands uses of information technology to increase the efficiency and effectiveness of health care, and incorporates it into his/her daily practice. *See also "Physician as Communicator," item 3c.*

Behaviors that demonstrate competence:

- a. Can identify literature sources appropriate to evidence-based practice, using effective search methods in a variety of media.
- b. Supports decision-making using information technology.

Measures include: reports or other exercises requiring searches or use of online databases in preclinical courses; patient write-ups; faculty observation;; resident observation.

PHYSICIAN AS PATIENT & COMMUNITY ADVOCATE

1. Advocacy

Scope: The graduate is developing expertise in helping individual patients in need and in elevating the health of populations.

Behaviors that demonstrate competence:

- a. Can assess, analyze and describe the healthcare needs of defined populations, in particular the specific needs and challenges of vulnerable populations.
- b. Uses knowledge of advocacy organizations and community resources to help patients receive needed services.
- c. Advocates for comprehensive services and excellence in care for all patients regardless of culture, ethnicity, language or socioeconomic status.

Measures include: poster presentation and faculty observation in Community Medicine clerkship; faculty observation on clinical rotations; evaluation by team members on clinical services.

2. Community Education

Scope: The graduate understands the importance of educating the entire community about health issues. He/she is beginning to acquire the knowledge and communication skills necessary to become an effective educator. *See also "Physician as Scientist," item If.*

Behaviors that demonstrate competence:

- a. Able to give presentations on health-related issues to general lay audiences, interdisciplinary teams and peers.
- b. Can assume responsibility for educating the public about important current health concerns as they arise (e.g., bioterrorism, AIDS, flu shots, advance directives).

Measures include: faculty observation in both preclinical courses and clinical clerkships; resident observation; peer review (new); lay person feedback (new).

3. Volunteerism

Scope

The graduate understands the physician's obligation to contribute to the larger community. He/she shows personal motivation by seeking opportunities to donate time and expertise to projects that enhance the well-being of others.

Behaviors that demonstrate competence:

- a. Participates in local health care initiatives such as free clinics, health care screenings and other community programs, in international programs promoting public health, or in professional or student organizations that influence healthcare and educational policies.

Measures include: narratives from faculty aware of these activities; student enrollment data in volunteer activities; summary of extracurricular activities in Dean's Letter; end-of-year student self-assessment (new).

Note: the number and selection of specific activities remains the choice of the student.

PHYSICIAN AS PERSON

1. Self Awareness

Scope: The graduate has a unique ability to see himself/herself as others see him or her. The graduate also understands his/her self-motivation and limitations and values personal growth.

Behaviors that demonstrate competence.

- a. Demonstrates an awareness of personal beliefs, values (including cultural) and emotions that influence behaviors with others.
- b. Demonstrates self-assessment and reflection skills that lead to greater understanding of one's own interests, strengths, and limitations.
- c. Solicits and accepts suggestions from others about ways to address personal weaknesses and to improve performance.
- d. Identifies and expresses personal passion for medicine whether in research, caring for others, and/or service to the community

Measures include: evaluation of PPS and clerkship small group discussions; end-of-year student self-assessment (new); feedback from SPs.

2. Well-being

Scope: The graduate recognizes own reactions to difficult situations and understands how these personal responses may affect his/her life and work.

Behaviors that demonstrate competence:

- a. Identifies signs and symptoms as well as 'triggers' of personal stress and anxiety.
- b. Uses appropriate techniques of managing stress, anxiety or other intrusive emotional states including recognition of when and how to seek help.
- c. Searches for opportunities for self-growth through an understanding of one's place within some larger whole (e.g., developing a personal sense of connectedness).
- d. Seeks to maintain personal physical / mental health by taking steps to achieve wellness.
- e. Can appropriately cope with medical mistakes and learn from them when they occur.

Measures include: participation in enrichment electives such as End of Life and Creative Writing; Clerkship OSCEs; end-of-year student self-assessment (new).

3. Relationships

Scope: The graduate participates in productive relationships with groups and individuals.

Behaviors that demonstrate competence:

- a. Demonstrates basic group skills including negotiation, delegation, time management, conflict resolution, assessment of group dynamics, and open-mindedness toward others.
- b. Responds to suggestions and criticism constructively — changing when necessary and discarding inappropriate feedback.

Measures include: end-of-year student self-assessment (new); evaluation of PPS discussion and interviewing skills; end of 3rd year and clerkship OSCEs; evaluation by team members and peers in ongoing small group activities, including medical teams.