SECTION II. EDUCATIONAL PROGRAM FOR THE M.D. DEGREE

Narrative Data and Tables

ED-1. **The medical school faculty must define the objectives of its educational program. The objectives must serve as guides for establishing curriculum content and provide the basis for evaluating the effectiveness of the educational program.**

Objectives for the educational program as a whole serve as statement of what students are expected to learn or accomplish during the course of their educational program.

It is expected that the objectives of the educational program will be formally adopted by the curriculum governance process and the faculty (as a whole or through its recognized representatives). Among those who should also exhibit familiarity with the overall objectives for the education of medical students are the dean and the academic leadership of clinical affiliates who share in the responsibility for delivering the educational program.

Educational Objectives

The faculty of the Texas Tech University Health Sciences Center (TTUHSC) at El Paso began meeting and discussing educational objectives for the future El Paso School of Medicine (EPSOM) in 2003. In the fall of 2006, the faculty reached agreement on 32 educational objectives that will form the basis of the entire curriculum for the new school. In each year of the curriculum, students will be expected to demonstrate progressive accomplishment of these educational objectives. Furthermore, each course and unit of the curriculum will use these overarching objectives to guide the development of individual course objectives.

As future physicians, medical students must acquire the knowledge, skills, behaviors, and attitudes that they will need to successfully fulfill the many roles required of a physician, including the roles of medical expert, culturally aware communicator, scholar, manager, collaborator, ethical professional, and health advocate. Thus, the 32 educational objectives have been organized around the four key components of medical education—knowledge, skills, behaviors, and attitudes—and the corresponding physician roles, as shown below.

EDUCATIONAL OBJECTIVES
TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER
EL PASO SCHOOL OF MEDICINE

Knowledge: These objectives will prepare the student to be a ***Medical Expert***.

By the time of graduation from the curriculum, the student will meet expectations for knowledge of core elements of the discipline of medicine including the abilities:

1. To interpret and apply the scientific method in the acquisition of new knowledge, the interpretation of published knowledge, and the application to problem solving in the laboratory and clinical settings
2. To employ mathematical and epidemiological principles in the application of fundamental methods of data reduction and analysis to clinical problems

3. To possess a clinically useful understanding of the elements of deductive as well as inductive reasoning
4. To comprehend biochemical and physiological analytic methods, including techniques, application, pitfalls, and interpretation
5. To integrate information about normal structure and function of living systems with an emphasis on humans
6. To relate to the normal state the variations in structure and function that lead to disease
7. To categorize, describe, and use various therapeutic methods in their application to human illness
8. To identify those urgent, life-threatening, or painful human conditions that require immediate and specific interventions, including the initiation of appropriate initial therapy for those with life-threatening cardiac, pulmonary, or neurologic conditions; the recognition and outline of initial management for patients requiring critical care; and/or the plan for and initiation of management strategies to relieve pain and ameliorate the suffering of patients
9. To demonstrate the elements of social structure and to use this information in the understanding and management of human behavior and illness
10. To describe the basic elements of the national health care system, its funding, and the effects of these factors on individual and community health
11. To demonstrate awareness of the financial, political, and other situations that pose potential and real conflicts of interest to the practice of medicine and to strive to avoid such entanglements
12. To know the cardinal ethical principles and their application in medicine

Skills: These objectives will prepare the student to be a ***Culturally Aware Communicator***.

By the time of graduation from the curriculum, the student will meet expectations for proficiency of those basic skills expected of a competent physician:

1. To collect and record in a concise, reliable, and cohesive fashion the key elements of a clinical history
2. To perform and record accurately the findings observed in a physical assessment
3. To collect, perform, and/or interpret essential laboratory assessments and diagnostic procedures
4. To use electronic resources for self-education, the education of others including patients, and for direct patient care
5. To formulate a comprehensive list of diagnostic considerations based upon integration of historical, physical, and laboratory findings
6. To demonstrate a step-wise process of diagnostic refinement through the application of clinical and deductive reasoning
7. To communicate, by oral and written means, knowledge, knowledge interpretation, and recommendations to a wide range of audiences, including patients, families, peers,

instructors, and other health care professionals, being responsive to and mindful of the needs and cultural background of the audience

8. To demonstrate self-education through the use of a comprehensive range of educational modalities

Behaviors: These objectives will prepare the student to be a ***Dutiful Scholar, Manager, and Collaborator***.

By the time of graduation from the curriculum, the student will demonstrate those behaviors expected of a competent physician:

1. To provide a precise, timely, and comprehensive approach to patient care and its documentation
2. To use the principles of self-initiated learning in approaching new challenges
3. To exhibit compassion in dealings with patients without regard to ethnicity, gender, financial situation, social condition, or incapacity
4. To conduct all interpersonal communications and activities, including those with colleagues, staff members, patients, families, and teachers, with dignity, appropriateness, and cultural awareness
5. To use the highest ethical principles in interpersonal relationships and in professional activities, including direct patient care and research

Attitudes: These objectives will prepare the student to be a ***Professional Health Advocate***.

By the time of graduation from the curriculum, the student will demonstrate the attitudes expected of a competent and concerned physician:

1. To be respectful of others and of their beliefs, opinions, and privacy
2. To be scrupulously honest in all matters of professional life
3. To provide compassion in matters that deal with the life, health, suffering, and dying of individuals under his/her care
4. To assume responsibility when appropriate with one's position, training, and experience and to defer responsibility to those with higher qualifications when necessary or appropriate
5. To maintain curiosity that will promote full inquiry and problem resolution in all professional matters
6. To work with patients and their families in a respectful and confidential manner that is appropriate to their educational level and that preserves their dignity
7. To demonstrate advocacy for the interests and needs of the patient and to place those interests and needs above one's immediate needs

Development of Specific Learning Objectives

In November 2006, after developing and reaching accord on the 32 educational objectives defined above, the TTUHSC El Paso faculty began discussing educational philosophy, including what type of curriculum they would like to develop in support of the newly

established educational objectives. Consensus was reached that the Clinical Presentation Curriculum model pioneered by the Faculty of Medicine at the University of Calgary in Alberta, Canada would be the working model for the new curriculum and would be adapted and tailored to fit the needs of the El Paso community. (The resulting curriculum is described below.)

Starting in January 2007, the El Paso faculty began directing its efforts toward defining detailed learning objectives for the new curriculum. These learning objectives, which are based on the educational objectives defined above, were accomplished on April 6, 2007 and circulated to a newly formed Curriculum and Educational Policy Committee. On April 25, this Curriculum and Educational Policy Committee will have met and rendered a decision regarding the newly completed curriculum.

Subordinate to the institutional educational and learning objectives, each course of the curriculum will have specific learning objectives and associated evaluation methods that are in compliance with the institutional objectives. Learning objectives, evaluation outcomes, and teaching methodologies for each course have already been established by committees of the existing faculty. New basic science and clinical faculty members will join these committees as appropriate, and the course objectives and methodologies will be reviewed and updated as needed. The faculty committees will define individual course learning objectives, develop the battery of teaching methodologies and venues that are appropriate for the topic, identify outcomes that are linked to the learning objectives, and establish the evaluation methods to be used to assess student achievement and the efficacy of the curriculum in promoting student achievement.

A brief overview of the curriculum is provided below, and detailed information about the specific learning objectives and evaluation outcomes for each course is provided in the required course forms.

Innovative Curriculum

The curriculum of the new El Paso School of Medicine will facilitate achievement of the institutional educational and learning objectives in four, core, complementary courses that will span the first two years of medical school. These courses reflect two key innovative strategies, as follows:

- **Integrated Interdisciplinary Curriculum**—Instruction in the basic sciences will be fully integrated with instruction in the clinical sciences right from the beginning in a comprehensive two-year course called **Scientific Principles of Medicine**. This course will be divided into 10 units, each of which will be taught by an interdisciplinary team of clinical and basic science faculty. A companion course, **Medical Skills**, will help students develop the practical clinical skills they will need to apply their knowledge.
- **The College System**—The curriculum is designed to promote intellectual challenge and inquiry in the context of supportive learning communities or "colleges" within the medical school. Upon admission, each student will be assigned to one of four medical student colleges. Each college will serve twenty students in each class and will be overseen by two college masters—one a basic scientist and the other a clinician. Although we do not intend to assign students to colleges based on specific career interests or personal preferences, we expect that, with time, each college will develop

its own characteristics as students establish academic and social relationships with their college peers. The college system is also designed to foster meaningful mentoring relationships between the students and the college masters. Two courses in the first- and second-year curriculum will include college-based activities—the **Society, Community, and the Individual** course and the weekly **Masters' Colloquium**.

Each of the four courses in the first two years of the curriculum is introduced below.

Scientific Principles of Medicine—The SPOM course will integrate instruction in the basic and clinical sciences and will include relevant concepts from the social and behavioral sciences as well. The course is divided into 10 units, each of which corresponds to a particular topic or body system. Each unit is organized around a set of clinical presentations (CPs) related to the given topic or body system. (See the required course forms for details.) Over the two years of the course, students will be introduced to a total of 120 CPs that are commonly encountered in medical practice. The CPs have been organized into knowledge structures called 'schemes' that will serve as the basis for structured, integrated, instruction in concepts of the basic sciences, behavioral sciences, pathology, and clinical medicine. (For an example knowledge scheme, see ED-11.)

Each unit will be taught by faculty members from various disciplines who will present information using a multidisciplinary approach and incorporating ideas that are shared across body systems. Although each unit is self-contained, the units are also sequential and will build on the knowledge, skills, attitudes, and behaviors developed in earlier units. The sequence of units is as follows:

Ten Sequential SPOM Units

YEAR 1	YEAR 2
1. General Concepts	6. Renal Endocrine
2. Gastrointestinal/Nutrition/Hematology	7. Reproductive
3. Musculoskeletal/Neurology	8. The Mind and Human Development
4. Cardiovascular Respiratory	9. Dermal Conditions and the Senses
5. Integration of Concepts I	10. Integration of Concepts II

The first SPOM unit, General Concepts, will address CPs—such as "abnormal temperature" and "allergic reactions"—that students are likely to have experienced and that cross body system lines. These CPs will offer students the opportunity to learn about conceptual scientific principles—such as modern molecular and cellular biology, inflammation, infection, and homeostasis—that will be repeatedly encountered in subsequent units. In this unit, students will devote time and effort to acquiring a strong grounding in scientific concepts that will be revisited and strengthened as they progress from one unit to the next.

The next three units in Year 1 and the first four units in Year 2 will cover the knowledge and skills related to the particular topic or organ system identified in the unit's title. Each unit will integrate the learning of clinical and basic sciences and address the role of the physician in relationship to the CPs that make up that unit. Students will be introduced to the disciplines of anatomy (including gross anatomy, histology, and embryology), biochemistry, genetics, immunology, microbiology, pathology, pharmacology, and physiology as pertinent to the clinical presentations to be studied in the unit. Each systems-

based unit is designed to ensure that students develop sufficient understanding of the scientific and clinical concepts they need to progress to the next SPOM unit. Teaching methods will include lectures, small-group discussions, laboratory exercises, demonstrations, and computer-based activities. In addition, during unscheduled free time, students and faculty may schedule clinical correlation sessions in which groups of four students will meet with faculty preceptors in their respective outpatient offices. Faculty preceptors will identify patients who have health concerns that correspond with the topic or body system being studied, and one patient will be assigned to each group. Two to four clinical correlation sessions will be scheduled for each of these units.

The last SPOM unit in each year (Integration of Concepts I and II) is intended to integrate all of the learning for that year. Integration of Concepts is a two-week unit that does not address any new CPs. Instead, the unit consists exclusively of small-group learning with standardized patients. The standardized patients are trained to portray carefully selected medical problems that require students to integrate what they have learned in all of the preceding SPOM units that year and in the other complementary courses (described below). Learning objectives focus on medical skills (such as physical examination), communication, population health, and ethical, cultural, legal, and organizational issues related to health care.

The other three courses in the first two years of the curriculum—Medical Skills, SCI, and Masters' Colloquium—will run parallel to and complement the instruction provided in the systems-based units of the SPOM course, as described below.

Medical Skills—This course will incorporate learning objectives related to the knowledge, skills, and behaviors associated with history taking, culturally sensitive communications, conducting and recording a reliable physical assessment, and developing the technical skills necessary for simple diagnostic and therapeutic procedures, such as drawing blood and inserting catheters. The objectives related to history taking and physical examination will be addressed in parallel with the CP called "Periodic Health Examination" in the first SPOM unit (General Concepts). More specific history taking and physical examination skills required for particular body systems will be addressed in parallel with the systems-based SPOM units. Teaching will take place primarily in the clinical simulation laboratory, where students will have the chance to practice what they learn from faculty lectures and demonstrations. The application and translation of these skills to various clinical presentations will occur during small-group and clinical correlation sessions in the SPOM systems-based units, during the integrative SPOM units at the end of each year (Integration of Concepts I and II), and in the Masters' Colloquium.

Society, Community, and the Individual—The SCI course will be taught by an interdisciplinary team of faculty representing the disciplines of medical education, family medicine, and public health. SCI will focus on epidemiology, covering the knowledge and skills needed to apply the scientific method to research design and to select and apply appropriate statistical tests. In addition, the course will give students hands-on experiences within a local community, and it is designed to help students develop the behaviors and attitudes required to work collaboratively in and with a community to develop community-based research projects. The course will provide opportunities for students to apply the tools of information technology in conducting literature searches, to interpret and critique scientific articles, to weigh evidence, and to practice evidence-based medicine. As

appropriate, the course will be correlated with the systems-based units of the SPOM course. Research and service activities can take many forms, including community needs assessment, community outreach, community-based research, and public health research related to issues of healthcare access and disparities.

Masters' Colloquium—In the Masters' Colloquium, students will meet in the medical colleges (groups of twenty students each supervised by two college masters) to discuss topics related to the principles and art of medicine, such as medical ethics, cultural awareness, and the practice of medicine. The course will be directed toward the translation and application of knowledge in the clinical setting. Discussions will be keyed to the topics currently being addressed in the other courses, including, as needed, a review of the clinical and basic science objectives of each SPOM unit. Students and masters also will discuss the results of the weekly formative evaluations, which will take place every Friday afternoon. These evaluations will be used primarily to assess knowledge and skills acquired in the SPOM and Medical Skills courses, but may also be used to evaluate behaviors and attitudes by including concepts addressed in the SCI course and the Masters' Colloquium.

ED-1-A. **The objectives of the educational program must be stated in outcome-based terms that allow assessment of student progress in developing the competencies that the profession and the public expect of a physician.**

Educational objectives state what students are expected to learn. Such objectives are statements of the items of knowledge, skills, behaviors, and attitudes that students are expected to exhibit as evidence of their achievement. The educational objectives should relate to the competencies that the profession and the public expect of a physician.

The educational objectives established by the school, along with their associated outcome measures, should reflect whether and how well graduates are developing these competencies as a basis for the next stage of their training.

Student achievement of educational program objectives should be documented by specific and measurable outcome-based performance measures of knowledge, skills, attitudes, and values (for example, measures of basic science grounding in the clinical years, USMLE results, performance of graduates in residency training, performance on licensing and certification examinations). National norms should be used for comparison whenever available.

There are several widely recognized definitions of knowledge, skills, and attitudinal attributes appropriate for a physician, including those described in the AAMC's Medical School Objectives Projects, the general competencies of physicians resulting from collaborative efforts of the ACGME and ABMS, and the physician roles summarized in the CanMEDS 2000 report of the Royal College of Physicians and Surgeons of Canada.

Complete the following table showing general competencies expected of graduates, educational program (institutional learning) objectives related to each competency, and any outcome measure(s) indicating achievement of each listed objective. Add rows to the table as needed.

In developing the educational objectives for the new school, the El Paso faculty of TTUHSC considered the educational guidelines established by the Association of American Medical Colleges and the Accreditation Council on Graduate Medical Education, as well as the physician's role summarized in the CanMEDS 2000 report of the Royal College of Physicians and Surgeons of Canada. After some consideration, the faculty chose to establish consistency between the school's educational objectives and the competencies of the AAMC's Medical School Objectives Project.

In the list provided above (ED-1), TTUHSC EPSOM's educational objectives are grouped according to the four key components of medical education—knowledge, skills, behaviors, and attitudes. In the following table, these 32 educational objectives are regrouped to correspond with the general competency objectives defined in the AAMC's Medical School Objectives Project. All 32 educational objectives are included in the table and may be cross referenced to the list provided in ED-1 according to the letter and number preceding each objective in the table. For example, objective "K-12." in the table corresponds to the twelfth objective under "Knowledge" in the list above.

See also information for standard ED-47 in this section of the database.

General Competencies Expected of Graduates

GENERAL COMPETENCY as defined in AAMC's Medical School Objectives Project	EDUCATIONAL PROGRAM OBJECTIVE(S)[a] of the Texas Tech University Health Sciences Center El Paso School of Medicine	OUTCOME MEASURE(S) and evaluation method(s) used to assess outcomes
Physicians must be altruistic.		
Knowledge of the theories and principles that govern ethical decision making, and of the major ethical dilemmas in medicine, particularly those that arise at the beginning and end of life and those that arise from the rapid expansion of knowledge of genetics	**Knowledge** K-12. To know the cardinal ethical principles and their application to medicine **Behaviors** B-5. To use the highest ethical principles in interpersonal relationships and in professional activities including direct patient care and research **Attitudes** A-3. To provide compassion in matters that deal with life, health, suffering, and dying of individuals under his/her care	**Outcome Measures** Demonstrated acquisition of factual and conceptual knowledge Demonstrated ability to identify and discuss both pros and cons associated with current major ethical dilemmas **Evaluation Methods** Weekly formative examinations[b] End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e] (especially in SPOM unit called The Mind and Human Development) Oral presentations, small-group discussions, and student debates[f]
Compassionate treatment of patients, and respect for their privacy and dignity	**Behaviors** B-3. To exhibit compassion in dealings with patients without regard to ethnicity, gender, financial situation, social condition, or incapacity B-4. To conduct all interpersonal communications and activities, including those with colleagues, staff members, patients, families, and teachers, with dignity, appropriateness, and cultural awareness **Attitudes** A-1. To be respectful of others and of their beliefs, opinions, and privacy A-6. To work with patients and their families in a respectful and confidential manner that is appropriate to their educational level and that preserves their dignity	**Outcome Measure** Demonstrated appropriate personal behavior in patient interactions **Evaluation Methods** OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e] Oral presentations, small-group discussions, and student debates[f] Patient surveys[g]

GENERAL COMPETENCY as defined in AAMC's Medical School Objectives Project	**EDUCATIONAL PROGRAM OBJECTIVE(S)**[a] of the Texas Tech University Health Sciences Center El Paso School of Medicine	**OUTCOME MEASURE(S)** and evaluation method(s) used to assess outcomes
Honesty and integrity in all interactions with patients' families, colleagues, and others with whom physicians must interact in their professional lives	**Attitudes** A-2. To be scrupulously honest in all matters of professional life	**Outcome Measures** Demonstrated appropriate personal behavior in patient interactions Demonstrated honesty and absence of suspicious behavior in all personal interactions **Evaluation Methods** Direct observation of behavior, including during weekly formative examinations[b] and end-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e] Oral presentations, small-group discussions, and student debates[f] Patient, staff, and peer surveys[g]
An understanding of, and respect for, the roles of other health care professionals, and of the need to collaborate with others in caring for individual patients and in promoting the health of defined populations	**Skills** S-7. To communicate, by oral and written means, knowledge, knowledge interpretation, and recommendations to a wide range of audiences including patients, families, peers, instructors, and other health care professionals, being responsive to and mindful of the needs and cultural background of the audience **Behaviors** B-1. To provide a precise, timely, and comprehensive approach to patient care and its documentation	**Outcome Measures** Demonstrated appropriate personal behavior in patient interactions Demonstrated professional behavior in the classroom, small groups, clinics, and hospital wards Demonstrated willingness, ability, and actual collaboration in various problem-solving situations, including patient care **Evaluation Methods** End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e] Oral presentations, small-group discussions, and student debates[f] Patient, staff, and peer surveys[g]

GENERAL COMPETENCY as defined in AAMC's Medical School Objectives Project	**EDUCATIONAL PROGRAM OBJECTIVE(S)**[a] of the Texas Tech University Health Sciences Center El Paso School of Medicine	**OUTCOME MEASURE(S)** and evaluation method(s) used to assess outcomes
A commitment to advocate at all times the interests of one's patients over one's own interests	**Attitudes** A-7. To demonstrate advocacy for the interests and needs of the patient and to place those interests and needs above one's immediate needs.	**Outcome Measure** Demonstration of appropriate behavior choices in clinical and community-based settings **Evaluation Methods** End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e]
An understanding of the threats to medical professionalism posed by the conflicts of interest inherent in various financial and organizational arrangements for the practice of medicine	**Knowledge** K-11. To demonstrate awareness of the financial, political, and other situations that pose potential and real conflicts of interest to the practice of medicine and to strive to avoid such entanglements.	**Outcome Measures** Demonstration of appropriate behavior choices in clinical and community-based settings Demonstrated ability to identify conflicts of interest in professionalism and commerce **Evaluation Methods** End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Oral presentations, small-group discussions, and student debates[f] Written reports[h]

GENERAL COMPETENCY as defined in AAMC's Medical School Objectives Project	**EDUCATIONAL PROGRAM OBJECTIVE(S)**[a] of the Texas Tech University Health Sciences Center El Paso School of Medicine	**OUTCOME MEASURE(S)** and evaluation method(s) used to assess outcomes
The capacity to recognize and accept limitations in one's knowledge and clinical skills, and a commitment to continuously improve one's knowledge and ability	**Skills** S-4. To use electronic resources for self-education, the education of others including patients, and for direct patient care S-8. To demonstrate self-education through the use of a comprehensive range of educational modalities **Behaviors** B-2. To use the principles of self-initiated learning in approaching new challenges **Attitudes** A-4. To assume responsibility when appropriate to one's position, training, and experience and to defer responsibility to those with higher qualifications when necessary or appropriate A-5. To maintain curiosity that will promote full inquiry and problem resolution in all professional matters	**Outcome Measures** Demonstrable ability to use library, electronic, and other resources in the preparation of written reports and oral presentations Demonstrable ability to admit lack of knowledge or skills in the classroom and clinical situations **Evaluation Methods** Weekly formative examinations[b] End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e] Oral presentations, small-group discussions, and student debates[f] Written reports[h]
Physicians must be knowledgeable.		
Knowledge of the normal structure and function of the body (as an intact organism) and of each of its major organ systems	**Knowledge** K-1. To interpret and apply the scientific method in the acquisition of new knowledge, the interpretation of published knowledge, and the application to problem solving in the laboratory and clinical settings K-5. To integrate information about normal structure and function of living systems with an emphasis on humans K-6. To relate to the normal state the variations in structure and function that lead to disease	**Outcome Measures** Acquisition of pertinent factual information Demonstrated ability to synthesize factual information to reach appropriate conclusions **Evaluation Methods** Weekly formative examinations[b] End-of-unit summative examinations[c] (especially the first four SPOM units each year; basic sciences are emphasized in the peripatetic laboratory segment of these examinations) Preceptor student-performance evaluations[e] NBME subject examinations (formative) and USMLE Step 1 (summative)[i]

GENERAL COMPETENCY as defined in AAMC's Medical School Objectives Project	**EDUCATIONAL PROGRAM OBJECTIVE(S)**[a] of the Texas Tech University Health Sciences Center El Paso School of Medicine	**OUTCOME MEASURE(S)** and evaluation method(s) used to assess outcomes
Knowledge of the molecular, biochemical, and cellular mechanisms that are important in maintaining the body's homeostasis	**Knowledge** K-1. To interpret and apply the scientific method in the acquisition of new knowledge, the interpretation of published knowledge, and the application to problem solving in the laboratory and clinical settings K-4. To comprehend biochemical and physiological analytic methods, including techniques, application, pitfalls, and interpretation K-5. To integrate information about normal structure and function of living systems with an emphasis on humans K-6. To relate to the normal state the variations in structure and function that lead to disease	**Outcome Measures** Acquisition of pertinent factual information Demonstrated ability to synthesize factual information to reach appropriate conclusions **Evaluation Methods** Weekly formative examinations[b] End-of-unit summative examinations[c] (especially the first four SPOM units each year; basic sciences are emphasized in the peripatetic laboratory segment of these examinations) Preceptor student-performance evaluations[e] NBME subject examinations (formative) and USMLE Step 1 (summative)[i]
Knowledge of the various causes (genetic, developmental, metabolic, toxic, microbiologic, autoimmune, neoplastic, degenerative, and traumatic) of maladies and the ways in which they operate on the body (pathogenesis)	**Knowledge** K-4. To comprehend biochemical and physiological analytic methods, including techniques, application, pitfalls, and interpretation K-5. To integrate information about normal structure and function of living systems with an emphasis on humans K-6. To relate to the normal state, the variations in structure and function that lead to disease	**Outcome Measures** Acquisition of pertinent factual information Demonstrated ability to synthesize factual information to reach appropriate conclusions **Evaluation Methods** Weekly formative examinations[b] End-of-unit summative examinations[c] (especially the first four SPOM units each year; basic sciences are emphasized in the peripatetic laboratory segment of these examinations) OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e] NBME subject examinations (formative) and USMLE Step 1 (summative)[i]

GENERAL COMPETENCY as defined in AAMC's Medical School Objectives Project	**EDUCATIONAL PROGRAM OBJECTIVE(S)**[a] of the Texas Tech University Health Sciences Center El Paso School of Medicine	**OUTCOME MEASURE(S)** and evaluation method(s) used to assess outcomes
Knowledge of the altered structure and function (pathology and pathophysiology) of the body and its major organ systems that are seen in various diseases and conditions	**Knowledge** K-4. To comprehend biochemical and physiological analytic methods, including techniques, application, pitfalls, and interpretation K-5. To integrate information about normal structure and function of living systems with an emphasis on humans K-6. To relate to the normal state, the variations in structure and function that lead to disease	**Outcome Measures** Acquisition of pertinent factual information Demonstrated ability to synthesize factual information to reach appropriate conclusions **Evaluation Methods** Weekly formative examinations[b] End-of-unit summative examinations[c] (especially the first four SPOM units each year; basic sciences are emphasized in the peripatetic laboratory segment of these examinations) OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e] NBME subject examinations (formative) and USMLE Step 1 (summative)[i]
An understanding of the power of the scientific method in establishing the causation of disease and efficacy of traditional and non-traditional therapies	**Knowledge** K-1. To interpret and apply the scientific method in the acquisition of new knowledge, the interpretation of published knowledge, and the application to problem solving in the laboratory and clinical settings	**Outcome Measure** Application of the scientific method in study design, community surveys, and other data gathering techniques **Evaluation Methods** End-of-unit summative examinations[c] (especially the first four SPOM units each year; basic sciences are emphasized in the peripatetic laboratory segment of these examinations) OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e] Written reports[h]

GENERAL COMPETENCY as defined in AAMC's Medical School Objectives Project	**EDUCATIONAL PROGRAM OBJECTIVE(S)**[a] of the Texas Tech University Health Sciences Center El Paso School of Medicine	**OUTCOME MEASURE(S)** and evaluation method(s) used to assess outcomes
An understanding of the need to engage in lifelong learning to stay abreast of relevant scientific advances, especially in the disciplines of genetics and molecular biology	**Skills** S-4. To use electronic resources for self-education, the education of others including patients, and for direct patient care S-8. To demonstrate self-education through the use of a comprehensive range of educational modalities **Behaviors** B-2. To use the principles of self-initiated learning in approaching new challenges	**Outcome Measure** Demonstrable ability to use library, electronic, and other resources in the preparation of written reports and oral presentations **Evaluation Methods** End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e] Oral presentations, small-group discussions, and student debates[f] Written reports[h]
Physicians must be skillful.		
The ability to obtain an accurate medical history that covers all essential aspects of the history, including issues related to age, gender, and socio-economic status	**Skills** S-1. To collect and record in a concise, reliable, and cohesive fashion the key elements of a clinical history	**Outcome Measure** Demonstrable ability to elicit and record a reliable clinical history **Evaluation Methods** End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e]
The ability to perform both a complete and an organ system specific examination, including a mental status examination	**Skills** S-2. To perform and record accurately the findings observed in a physical assessment	**Outcome Measure** Demonstrable ability to perform complete and organ specific physical examinations including a mental status examination **Evaluation Methods** End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e]

GENERAL COMPETENCY as defined in AAMC's Medical School Objectives Project	**EDUCATIONAL PROGRAM OBJECTIVE(S)**[a] of the Texas Tech University Health Sciences Center El Paso School of Medicine	**OUTCOME MEASURE(S)** and evaluation method(s) used to assess outcomes
The ability to perform routine technical procedures including at a minimum, venipuncture, inserting an intravenous catheter, arterial puncture, thoracentesis, lumbar puncture, inserting a nasogastric tube, inserting a foley catheter, and suturing lacerations	**Skills** S-3. To collect, perform, and/or interpret essential laboratory assessments and diagnostic procedures	**Outcome Measure** Demonstrable ability to perform routine technical procedures **Evaluation Methods** End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d]
The ability to interpret results of commonly used diagnostic procedures	**Skills** S-3. To collect, perform, and/or interpret essential laboratory assessments and diagnostic procedures S-5. To formulate a comprehensive list of diagnostic considerations based upon integration of historical, physical, and laboratory findings	**Outcome Measure** Demonstrable ability to explain the methodology, potential pitfalls, and interpretation of common diagnostic procedures **Evaluation Methods** OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e]
Knowledge of the most frequent clinical, laboratory, roentgenologic, and pathologic manifestations of common maladies	**Skills** S-3. To collect, perform, and/or interpret essential laboratory assessments and diagnostic procedures S-5. To formulate a comprehensive list of diagnostic considerations based upon integration of historical, physical, and laboratory findings	**Outcome Measures** Acquisition of pertinent factual information Demonstrated ability to synthesize factual information to reach appropriate conclusions **Evaluation Methods** Weekly formative examinations[b] End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e]

GENERAL COMPETENCY as defined in AAMC's Medical School Objectives Project	**EDUCATIONAL PROGRAM OBJECTIVE(S)**[a] of the Texas Tech University Health Sciences Center El Paso School of Medicine	**OUTCOME MEASURE(S)** and evaluation method(s) used to assess outcomes
The ability to reason deductively in solving clinical problems	**Knowledge** K-2. To employ mathematical and epidemiological principles in the application of fundamental methods of data reduction and analysis to clinical problems K-3. To possess a clinically-useful understanding of the elements of deductive as well as inductive reasoning **Skills** S-6. To demonstrate a step-wise process of diagnostic refinement through the application of clinical and deductive reasoning	**Outcome Measure** Demonstrable ability to solve a series of progressively more difficult clinical problems presented as case studies **Evaluation Methods** Weekly formative examinations[b] End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e]
The ability to construct appropriate management strategies (both diagnostic and therapeutic) for patients with common conditions, both acute and chronic, including medical, psychiatric, and surgical conditions, and those requiring short- and long-term rehabilitation	**Knowledge** K-7. To categorize, describe, and use various therapeutic methods in their application to human illness **Skills** S-5. To formulate a comprehensive list of diagnostic considerations based upon integration of historical, physical, and laboratory findings	**Outcome Measure** Appropriate analysis of clinical presentations in the classroom and of actual clinical situations encountered in the clinical correlation sessions **Evaluation Methods** Weekly formative examinations[b] End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e]

GENERAL COMPETENCY as defined in AAMC's Medical School Objectives Project	**EDUCATIONAL PROGRAM OBJECTIVE(S)**[a] of the Texas Tech University Health Sciences Center El Paso School of Medicine	**OUTCOME MEASURE(S)** and evaluation method(s) used to assess outcomes
The ability to recognize patients with immediately life threatening cardiac, pulmonary, or neurological conditions regardless of etiology, and to institute appropriate initial therapy	**Knowledge** K-8. To identify those urgent, life-threatening, or painful human conditions that require immediate and specific interventions, including the initiation of appropriate initial therapy for those with life-threatening cardiac, pulmonary, or neurologic conditions; the recognition and outline of initial management for patients requiring critical care; and/or the plan for and initiation of management strategies to relieve pain and ameliorate the suffering of patients. **Behaviors** B-1. To provide a precise, timely, and comprehensive approach to patient care and its documentation	**Outcome Measure** Appropriate analysis of clinical presentations in the classroom and of actual clinical situations encountered in the clinical correlation sessions **Evaluation Methods** End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e] (Especially relevant SPOM units include Musculoskeletal/Neurology and Cardovascular/ Respiratory; both of these units are offered in Year 1.)
The ability to recognize and outline an initial course of management for patients with serious conditions requiring critical care	**Knowledge** K-8. To identify those urgent, life-threatening, or painful human conditions that require immediate and specific interventions, including the initiation of appropriate initial therapy for those with life-threatening cardiac, pulmonary, or neurologic conditions; the recognition and outline of initial management for patients requiring critical care; and/or the plan for and initiation of management strategies to relieve pain and ameliorate the suffering of patients. **Behaviors** B-1. To provide a precise, timely, and comprehensive approach to patient care and its documentation	**Outcome Measure** Appropriate analysis of clinical presentations in the classroom and of actual clinical situations encountered in the clinical correlation sessions **Evaluation Methods** End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e]

GENERAL COMPETENCY as defined in AAMC's Medical School Objectives Project	**EDUCATIONAL PROGRAM OBJECTIVE(S)**[a] of the Texas Tech University Health Sciences Center El Paso School of Medicine	**OUTCOME MEASURE(S)** and evaluation method(s) used to assess outcomes
Knowledge about relieving pain and ameliorating the suffering of patients	**Knowledge** K-8. To identify those urgent, life-threatening, or painful human conditions that require immediate and specific interventions, including the initiation of appropriate initial therapy for those with life-threatening cardiac, pulmonary, or neurologic conditions; the recognition and outline of initial management for patients requiring critical care; and/or the plan for and initiation of management strategies to relieve pain and ameliorate the suffering of patients. **Behaviors** B-1. To provide a precise, timely, and comprehensive approach to patient care and its documentation	**Outcome Measure** Appropriate analysis of clinical presentations in the classroom and of actual clinical situations encountered in the clinical correlation sessions **Evaluation Methods** End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e] (Especially relevant SPOM units include Musculoskeletal/Neurology in Year 1 and The Mind and Human Development in Year 2.)
The ability to communicate effectively, both orally and in writing, with patients, patients' families, colleagues, and others with whom physicians must exchange information in carrying out their responsibilities	**Skills** S-7. To communicate, by oral and written means, knowledge, knowledge interpretation, and recommendations to a wide range of audiences, including patients, families, peers, instructors, and other health care professionals, being responsive to and mindful of the needs and cultural background of the audience	**Outcome Measure** Demonstrated effectiveness as a communicator **Evaluation Methods** End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e] Oral presentations, small-group discussions, and student debates[f] Patient, staff, and peer surveys[g] Written reports[h]

GENERAL COMPETENCY as defined in AAMC's Medical School Objectives Project	**EDUCATIONAL PROGRAM OBJECTIVE(S)**[a] of the Texas Tech University Health Sciences Center El Paso School of Medicine	**OUTCOME MEASURE(S)** and evaluation method(s) used to assess outcomes
Physicians must be dutiful.		
Knowledge of the important non-biological determinants of poor health and of the economic, psychological, social, and cultural factors that contribute to the development and/or continuation of maladies	**Knowledge** K-9. To demonstrate the elements of social structure and to use this information in the understanding and management of human behavior and illness K-10. To describe the basic elements of the national health care system, its funding, and the effect of these factors on individual and community health	**Outcome Measures** Acquisition of pertinent factual information Demonstrated ability to synthesize factual information to reach appropriate conclusions **Evaluation Methods** End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e] Oral presentations, small-group discussions, and student debates[f] Written reports[h] (The SCI course will focus on economic, social, and cultural issues related to health care.)
Knowledge of the epidemiology of common maladies within a defined population, and the systematic approaches useful in reducing the incidence and prevalence of those maladies	**Knowledge** K-2. To employ mathematical and epidemiological principles in the application of fundamental methods of data reduction and analysis to clinical problems K-9. To demonstrate the elements of social structure and to use this information in the understanding and management of human behavior and illness	**Outcome Measures** Acquisition of pertinent factual information Demonstrated ability to synthesize factual information to reach appropriate conclusions **Evaluation Methods** End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e] Oral presentations, small-group discussions, and student debates[f] Written reports[h] (The SCI course will focus on epidemiological issues, especially in the US-Mexico Border Region.)

GENERAL COMPETENCY as defined in AAMC's Medical School Objectives Project	**EDUCATIONAL PROGRAM OBJECTIVE(S)**[a] of the Texas Tech University Health Sciences Center El Paso School of Medicine	**OUTCOME MEASURE(S)** and evaluation method(s) used to assess outcomes
The ability to identify factors that place individuals at risk for disease or injury, to select appropriate tests for detecting patients at risk for specific diseases, or in the early stage of the disease, and to determine strategies for responding appropriately	**Knowledge** K-3. To possess a clinically-useful understanding of the elements of deductive as well as inductive reasoning K-6. To relate to the normal state, the variations in structure and function that lead to disease K-7. To categorize, describe, and use various therapeutic methods in their application to human illness **Skills** S-3. To collect, perform, and/or interpret essential laboratory assessments and diagnostic procedures S-5. To formulate a comprehensive list of diagnostic considerations based upon integration of historical, physical, and laboratory findings **Behaviors** B-1. To provide a precise, timely, and comprehensive approach to patient care and its documentation	**Outcome Measures** Acquisition of pertinent factual information Demonstrated ability to synthesize factual information to reach appropriate conclusions **Evaluation Methods** End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e] Oral presentations, small-group discussions, and student debates[f] Written reports[h]
The ability to retrieve (from electronic databases and other resources), manage, and utilize biomedical information for solving problems and making decisions that are relevant to the care of individuals and populations	**Skills** S-4. To use electronic resources for self-education, the education of others including patients, and for direct patient care	**Outcome Measures** Demonstrable ability to use library, electronic, and other resources in the preparation of written reports and oral presentations Demonstrable ability to use library, electronic, and other resources to design and carry out a research project **Evaluation Methods** OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e] Oral presentations, small-group discussions, and student debates[f] Written reports[h]

GENERAL COMPETENCY as defined in AAMC's Medical School Objectives Project	**EDUCATIONAL PROGRAM OBJECTIVE(S)**[a] of the Texas Tech University Health Sciences Center El Paso School of Medicine	**OUTCOME MEASURE(S)** and evaluation method(s) used to assess outcomes
Knowledge of various approaches to the organization, financing, and delivery of health care	**Knowledge** K-10. To describe the basic elements of the national health care system, its funding, and the effects of these factors on individual and community health	**Outcome Measures** Acquisition of pertinent factual information Demonstrated ability to synthesize factual information to reach appropriate conclusions **Evaluation Methods** OSCEs, end-of-year summative examinations[d] Oral presentations, small-group discussions, and student debates[f] Written reports[h]
A commitment to provide care to patients who are unable to pay and to advocate for access to health care for members of traditionally underserved populations	**Attitudes** A-3. To provide compassion in matters that deal with the life, health, suffering, and dying of individuals under his/her care	**Outcome Measure** Demonstration of appropriate behavior choices in clinical and community-based settings **Evaluation Methods** End-of-unit summative examinations[c] OSCEs, end-of-year summative examinations[d] Preceptor student-performance evaluations[e]

NOTE: NBME = National Board of Medical Examiners; OSCE = Objective Structured Clinical Examinations; SPOM = Scientific Principles of Medicine; USMLE = United States Medical Licensing Examination

[a] The 32 educational objectives listed in ED-1 are regrouped in this table to correspond with the AAMC general competency objectives. All 32 objectives are included here. The letter and number before each objective cross reference the list in ED-1. For example, "K-12" refers to the twelfth objective under "Knowledge."

[b] Weekly formative examinations will be used primarily to assess knowledge and skills acquired in the SPOM and Medical Skills courses, but may also be used to evaluate behaviors and attitudes by including concepts from the Masters' Colloquium and Society, Community, and the Individual courses. Methods of examination may include written exams, peripatetic laboratory exams, and computer-based exercises.

[c] End-of-unit summative examinations will be used primarily to assess knowledge and skills acquired in each SPOM unit and the corresponding skills learned in the Medical Skills course. Methods of examination may include written exams, peripatetic laboratory exams, computer-based exercises, and demonstrations of skills using appropriate clinical simulator devices. Assessment of students' knowledge of the basic sciences will be emphasized in the peripatetic laboratory segment of the first four SPOM unit exams each year. The last SPOM unit exam in each year (Integration of Concepts I and II) will place greater emphasis on the social sciences.

[d] OSCEs will be used at the end of Year 1 and Year 2 in the Medical Skills course and in the final units of the SPOM course (Integration of Concepts I and II).

[e] Preceptors will observe students in SPOM clinical correlation sessions, SPOM small groups, and the community-based sessions in Society, Community, and the Individual. Evaluations will include assessment of student case presentations, procedure demonstrations, and recorded patient demonstrations.

[f] Oral presentations, group discussions, and student debates will be used regularly in the Masters' Colloquium.

[g] Patient, staff, and peer surveys will be used to assess behaviors and attitudes in the SPOM clinical correlation sessions and in the SCI community-based sessions.

[h] Written reports will be used primarily for summative evaluation in the SCI course.

[i] See standard ED-26 for details on the use of NBME subject exams as formative evaluations.

ED-3. **The objectives of the educational program must be made known to all medical students and to the faculty, residents, and others with direct responsibilities for medical student education.**

Among those who should exhibit familiarity with the overall objectives for the education of medical students are the dean and the academic leadership of clinical affiliates where the educational program takes place.

Describe how the general objectives of the educational program (institutional learning objectives) will be made known to: (a) medical students, (b) instructional staff, including full-time and volunteer (community) faculty, graduate students, and resident physicians with responsibility for teaching; and (c) academic leadership of the medical school and its affiliated institutions.

It will be the overall responsibility of the Associate Dean for Medical Education to inform the various constituencies of the School of Medicine about the objectives of the educational program, including the institutional educational objectives; the clinical, scientific, and skills objectives for all courses; and any modifications to these objectives. Information will also be provided regarding how the objectives are to be accomplished, including instructional methodologies to be used (in very broad terms, such as the amount of time devoted to lectures compared to small-group instruction, laboratory experience, and self-study or free time) and the means of evaluation. The school has developed materials and processes to facilitate the distribution of this information, as follows:

Medical Students

Informational CD—The school has developed a compact disc (CD) that contains all of the necessary information, including institutional learning objectives; the clinical, scientific, and skills objectives for the ten units in the SPOM course; knowledge schemes for each of the 120 CPs to be covered in the SPOM units (see ED-11 for details); and learning objectives for the Medical Skills, SCI, and Masters' Colloquium courses. The class schedule, sequence of SPOM units, and the sequence of CPs within each unit is also included. Informational materials about the School of Medicine will be added within the next few months, but not so soon that it becomes out of date before the first class is enrolled in 2009. Upon admission to the school, pre-matriculating students will receive a copy of this CD.

Website—The information available on the CD will also be posted on the curriculum website of the El Paso School of Medicine. Information will be updated at least once annually and more often as needed to reflect any changes in the educational objectives or class schedule.

Annual orientation sessions—At the beginning of each academic year, each class will receive a general orientation that will include information about the objectives of the educational program and the rationale behind the innovative El Paso curriculum.

Medical Student Handbook—The institutional educational objectives are included in the Student Affairs Handbook, which will be provided to each student during orientation. A copy of the student handbook is available online at http://www.ttuhsc.edu/elpaso/som/.

Teaching unit orientations—Each structural teaching unit (course, SPOM unit, clinical rotation, etc.) will begin with a brief orientation session in which the specific institutional educational objectives to be considered during that unit will be identified. Information about the methods used to evaluate student accomplishment will also be included.

Written materials in course syllabi—In each course or teaching unit, faculty will provide a syllabus with information describing the objectives of the institutional educational program that will be included in the course or unit. Information about the methods used to evaluate student accomplishment will also be included.

Web-based course materials—Using the resources of the institution's virtual library and the Blackboard educational database management system, electronic versions of the syllabus, presentations, reference lists, supplementary reading, and other course materials will be posted on course-specific websites.

Instructional Staff (full-time and volunteer or community faculty)

Faculty convocation—The Faculty of the School of Medicine will convene annually at the beginning of the new academic year. As part of this convocation, faculty will participate in meetings and seminars to review School of Medicine policy, curriculum, and other important issues. At least one session will be devoted to a review of the objectives of the educational program. The faculty also will receive a copy of the same informational CD that will be distributed to the students (described above).

Course Committees—Each course and SPOM unit will be overseen by a multidisciplinary course committee, which will be chaired by the course director. Review of institutional educational objectives will be considered during the development of learning objectives, course evaluations, and the annual evaluation review for each individual course or unit.

Teaching unit preparation meetings—The instructional staff for each teaching unit or course will meet before and after the commencement of the teaching unit to review the course committee's plans for course content, including how the specific course objectives relate to the institutional educational objectives, expectations for student participation and performance, and methods of evaluation.

Academic Department meetings—The components of the undergraduate curriculum that are the responsibility of particular members of an academic department will be a regular item on the monthly agenda of that academic department. On at least an annual basis, the chair of the academic department will discuss with the faculty the objectives of the educational program of the School of Medicine as well as those of the academic unit. This discussion will be documented in the minutes of the departmental meeting.

Academic leadership of the medical school and affiliated institutions

While the Curriculum and Educational Policy Committee will oversee the curriculum and its synergism with the institutional objectives, the Associate Dean for Medical Education will have administrative responsibility for the operational aspects of the curriculum. The associate dean will help ensure that the curriculum is in compliance with accrediting agencies and other extramural expectations. The associate dean and the Office of Medical Education will develop processes to monitor the curriculum and provide appropriate information to the Curriculum and Educational Policy Committee to facilitate evaluation

of each course and SPOM unit and evaluation of the overall educational program. The Associate Dean will also have the responsibility of informing the Dean about the curriculum, and any anticipated changes or concerns regarding the curriculum, during regularly scheduled administrative meetings. Communications to the President will be coordinated through the Dean.

ED-4. **The program of medical education leading to the MD degree must include at least 130 weeks of instruction.**

Provide the number of planned weeks of instruction in:

Year One	40 weeks
Year Two	40 weeks
Year Three	44 weeks
Year Four	40 weeks

Although our plan is to admit the first class in 2009, if we are awarded preliminary accreditation status by the LCME, and if we are fully prepared, we would consider admitting a smaller class of transfer students from the Lubbock school in 2008. Assuming that we seat the first class in 2009, the academic year will start on August 3, 2009. The first week will consist of orientation activities. Formal instruction will begin on August 10, 2009. The last day of class for that first year will be May 31, 2010. Classes will be dismissed for two weeks for the Christmas Holiday, commencing Monday, December 21, 2009 and ending Sunday, January 3, 2010. The program of medical education is divided into four years with a total of 164 weeks of instruction, distributed as shown in the following table:

Number of Weeks of Instruction by Course

	NUMBER OF WEEKS				
COURSE NAME	YEAR 1	YEAR 2	YEAR 3	YEAR 4	TOTAL
Scientific Principles of Medicine*					
General Concepts	8	–	–	–	
Gastrointestinal/Nutrition/Hematology	10	–	–	–	
Musculoskeletal/Neurology	10	–	–	–	
Cardiovascular/Respiratory	10	–	–	–	
Integration of Concepts I	2	–	–	–	
SPOM Subtotal Year 1	40				
Renal/Endocrine	–	12	–	–	
Reproductive	–	8	–	–	
The Mind and Human Development	–	10	–	–	
Dermal Conditions and the Senses	–	8	–	–	
Integration of Concepts II	–	2	–	–	
SPOM Subtotal Year 2		40			
Medical Skills	40	40	–	–	
Masters' Colloquium	40	40	–	–	
Society, Community, & the Individual	40	40	–	–	
Subtotal First Two Years	40	40			80
Clinical Clerkships	–	–	44	–	44
Selectives/Electives	–	–	–	22	22
Capstone Experience	–	–	–	18	18
Total Four-Year Curriculum	**40**	**40**	**44**	**40**	**164**

NOTE: The systems-based units vary in length based on the number of clinical presentations (CPs) addressed in the unit. For information on the specific CPs included in each unit, see the required course forms.

ED-5. **The medical faculty must design a curriculum that provides a general professional education, and fosters in students the ability to learn through self-directed, independent study throughout their professional lives.**

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a. Supply a diagram or schematic illustrating the structure of the educational program. The diagram should show the approximate sequencing of and relationships among required courses and clerkships in each academic period of the curriculum.

Structure of the Educational Program: Years 1 and 2

<table>
<tr><th>AUG</th><th>SEP</th><th>OCT</th><th>NOV</th><th>DEC</th><th>JAN</th><th>FEB</th><th>MAR</th><th>APR</th><th>MAY</th></tr>
<tr><td colspan="10">YEAR 1 COURSES</td></tr>
<tr><td colspan="10">Scientific Principles of Medicine</td></tr>
<tr><td colspan="2">General Concepts</td><td colspan="3">Gastrointestinal/ Nutrition/Hematology</td><td colspan="3">Musculoskeletal/ Neurology</td><td colspan="2">Cardiovascular/ Respiratory</td><td>IC-I</td></tr>
<tr><td colspan="10">Medical Skills</td></tr>
<tr><td colspan="10">Society, Community, and the Individual</td></tr>
<tr><td colspan="10">Masters' Colloquium</td></tr>
<tr><td colspan="10">YEAR 2 COURSES</td></tr>
<tr><td colspan="10">Scientific Principles of Medicine</td></tr>
<tr><td colspan="3">Renal/Endocrine</td><td colspan="2">Reproductive</td><td colspan="3">The Mind and Human Development</td><td colspan="2">Dermal Conditions and the Senses</td><td>IC-II</td></tr>
<tr><td colspan="10">Medical Skills</td></tr>
<tr><td colspan="10">Society, Community, and the Individual</td></tr>
<tr><td colspan="10">Masters' Colloquium</td></tr>
</table>

NOTE: IC = Integration of Concepts

Weekly Schedule: Years 1 and 2

<table>
<tr><th></th><th>MONDAY</th><th>TUESDAY</th><th>WEDNESDAY</th><th>THURSDAY</th><th>FRIDAY</th></tr>
<tr><td>8:00–9:00 AM</td><td rowspan="2">Masters' Colloquium</td><td rowspan="2">SPOM Lecture</td><td rowspan="2">Free-time</td><td rowspan="2">Free-time</td><td rowspan="2">SPOM Lecture</td></tr>
<tr><td>9:00–10:00 AM</td></tr>
<tr><td>10:00–11:00 AM</td><td rowspan="2">Society, Community, and the Individual</td><td rowspan="2">SPOM Small group</td><td rowspan="2">Medical Skills</td><td rowspan="2">Free-time</td><td rowspan="2">SPOM Small group</td></tr>
<tr><td>11:00 AM–Noon</td></tr>
<tr><td>Noon–1:00 PM</td><td>Lunch</td><td>Lunch</td><td>Lunch</td><td>Lunch</td><td>Lunch</td></tr>
<tr><td>1:00–2:00 PM</td><td rowspan="2">SPOM Laboratory Experience</td><td rowspan="2">Free-time</td><td rowspan="2">SPOM Lecture</td><td rowspan="2">SPOM Lecture</td><td>SPOM Lecture</td></tr>
<tr><td>2:00–3:00 PM</td><td>Formative Evaluation</td></tr>
<tr><td>3:00–4:00 PM</td><td rowspan="2">SPOM Small group</td><td rowspan="2">Free-time</td><td rowspan="2">SPOM Small group</td><td rowspan="2">SPOM Small group</td><td rowspan="2">Free-time</td></tr>
<tr><td>4:00–5:00 PM</td></tr>
</table>

NOTE: SPOM = Scientific Principles of Medicine.
Hour-long sessions will begin promptly on the hour and end promptly at 50 minutes past the hour. Two-hour-long sessions will include a break within the framework and flow of the session. Clinical correlation sessions for the SPOM course will be scheduled during free time.

b. If the school offers multiple educational program tracks, provide a separate description of each track.

The school does not offer multiple educational program tracks.

c. Indicate any courses in the first two years where the ability to learn through self-directed, independent study will be emphasized.

All of the courses in the first two years will emphasize the importance of self-directed, independent study. As indicated in the schedule above, a significant amount of time will be devoted to self-directed study each week. In addition, the only scheduled curriculum time with mandatory attendance will be sessions involving patients, standardized patients, or small-group learning with tutors.

Many of the educational sessions throughout the curriculum will be based upon small-group discussions. During each week of the curriculum in the first two years, there will be at least five small-group sessions for the major topics presented during that week. Lectures will be used primarily to help students organize their learning. In addition, a pass-fail system will be used to evaluate student performance. One of the reasons for selecting a pass-fail evaluation system is to encourage collaboration and cooperation among students. Students will be encouraged to plan and coordinate their studies by means of study groups. Self-learning exercises will be provided to students via course websites, and assistance from faculty will be offered via e-mail. In each course, students

will be expected to develop and employ independent study skills to achieve course objectives, as described below.

Scientific Principles of Medicine—In the systems-based SPOM units, students will be presented with conceptual frameworks or "knowledge schemes" for various clinical presentations (CPs). A sound understanding of these CPs, however, will require in-depth study in the basic sciences, and much of this knowledge base will be acquired through independent, self-directed study. In the first SPOM unit (General Concepts), faculty will give limited lectures and small-group presentations in the disciplines of gross anatomy, histology, and embryology. The subsequent systems-based units also will contain learning objectives directed to the understanding of anatomy, specific instruction in gross and microscopic anatomy, and correlations of anatomy and clinical information. Faculty will provide students with a clear set of educational objectives related to these disciplines as well as a clear set of the outcomes and evaluation methods that will be used to assess competence in these topics. Armed with this information, students will have the opportunity and responsibility to expand their knowledge of the topics through participation in scheduled but voluntary dissections, prosections, laboratory exercises, and review sessions. While instructors will play an important role in helping the students understand relationships between the basic and clinical sciences, the students will have significant responsibility for pursuing the background knowledge required to fully grasp the clinical presentations under study.

Medical Skills—Instruction in this course will take place in the clinical simulation laboratory, and students will be encouraged to schedule additional time in this laboratory for self-directed study and practice. Students will also have opportunities to refine their medical skills in the clinical correlation sessions that will be scheduled during free time as part of the SPOM systems-based courses. In these sessions, students will work in small groups with SPOM faculty in clinics at TTUHSC El Paso or in its outreach clinics in surrounding communities.

Society, Community, and the Individual—In each year of this course, students will be required to select a topic of interest and to prepare, at a minimum, written and oral presentations of a literature review of the topic, and if possible and desirable, to design methodology to research the topic. Research presentations will be made toward the conclusion of the course in the setting of the medical student colleges with participation by student members of the college, college masters, associate faculty members of the college, and other interested faculty members. The research activity will require students to develop a working knowledge of the use of the library, Internet, and other informational resources. As already mentioned, a student may use this opportunity to base laboratory or clinical studies on the topic and may even choose to pursue various elements of the same topic during all of the academic periods of her/his tenure as a medical student. While students are expected to seek the advice of their small-group mentors during the development of their projects, students are also expected to pursue the research using methods of self-directed, independent study.

Masters' Colloquium—In this course, students will receive formal instruction in the skills of translating and applying ethical, cultural, legal, and organizational issues to clinical situations. While the college masters will provide instruction in many aspects of the art of medicine and of the socioeconomic and humanistic elements of healthcare, the

colloquium will also be used to encourage students to consider various perspectives not only in scientific controversies, but also in social and ethical controversies that impact medicine and society. The course will be highly dependent upon self-directed, independent study. Teaching methods will include student presentations and interchanges with guest presenters. Students will be encouraged to come to all sessions prepared to participate. An additional teaching method that will be used in this course is the debate of controversial topics. Students will be asked to review and prepare both pro and con positions on an important controversy, and then will be asked to present one or the other position in a classroom debate.

ED-6. **The curriculum must incorporate the fundamental principles of medicine and its underlying scientific concepts; allow students to acquire skills of critical judgment based on evidence and experience; and develop students' ability to use principles and skills wisely in solving problems of health and disease.**

ED-7. **It must include current concepts in the basic and clinical sciences, including therapy and technology, changes in the understanding of disease, and the effect of societal needs and demands on care.**

Indicate any courses in the first two years where the following skills and understanding will be emphasized:

a. Skills of critical judgment based on evidence

The fundamental principles of medicine and its underlying scientific concepts are addressed throughout the curriculum from the very beginning. The curriculum is specifically designed as an integrated, interdisciplinary curriculum in which students will learn about concepts that are common to the various basic sciences within a framework that relates these concepts to specific clinical problems. In each course, students will be asked to engage skills of critical judgment based on evidence, as summarized below:

Scientific Principles of Medicine—The first SPOM unit, General Concepts, will provide instruction in the core concepts of modern biology, incorporating elements of the traditional basic sciences. The program will be carefully integrated to assure that students are not only exposed to the traditional disciplines, but also are made aware of concepts that are common across the disciplines. This integrated approach is designed to minimize the redundancies that commonly occur when courses are taught within the traditional disciplinary and departmental format, and it will also require students to engage critical judgment early in the curriculum.

The other nine SPOM units will build on this initial curriculum and will provide instruction in clinical reasoning, review of critical biological concepts, and integration of the fundamentals of biochemistry, cellular biology, physiology, pharmacology, microbiology, and immunology. The study of the normal structure and function of the body and its various systems will be coordinated with the study of pathology. Simultaneously, students will learn about anatomic structure at both the macroscopic and microscopic levels, and they will also begin to develop clinical reasoning skills. In the SPOM units, students will develop the knowledge base they will need to effectively evaluate information from a variety of sources and make sound critical judgments based on evidence.

Medical Skills—In this course, students will acquire the skills needed to obtain patient histories and conduct physical assessments. In addition to developing the communication skills required to carry out these tasks effectively, students will develop the skills of critical judgment they need to synthesize the information they gather and to report, both in oral and written forms, the findings of comprehensive and focused patient histories and physical assessments. Furthermore, students will be asked to develop a working differential diagnosis based upon the history and physical assessment.

Society, the Community, and the Individual—This course will emphasize the importance of social structures and community on the health, well-being, and illness of the individual and will address issues associated with the healthcare system and access to healthcare. In order to prepare the student for practical experiences in the community, the course will also serve as a key locus for instruction in evidence-based medicine and public-health tools, such as epidemiology and statistics, which the student will need to understand the dynamics of the population and the individual. The course will provide students with information on the scientific method and research study design so they will be prepared to think about community-based research as they move into the community and clinic settings.

Masters' Colloquium—The Masters' Colloquium will introduce students to the use of evidence-based medicine by developing their skills in reading and evaluating the medical and scientific literature. Basic statistical methods will also be introduced. Students will be encouraged to develop their clinical reasoning skills further in small-group discussions and case studies, which will augment and expand upon the information that students learn during the lectures and laboratory exercises in the SPOM units.

In all of these courses, students will be evaluated using a range of modalities that consider critical judgment, including written and oral examinations, OSCEs, direct observation, and qualitative evaluations by instructors, peers, and staff.

b. Skills of medical problem solving

The ability to use principles and skills wisely in solving problems of health and disease is emphasized throughout the curriculum, as follows:

Scientific Principles of Medicine—The innovative and integrated systems-based format of the SPOM units is designed to develop the skills and conceptual relationships required for clinical problem solving. Using clinical presentations as the framework for understanding basic science, students will be asked to correlate basic science concepts with the clinical features of a disorder. The clinical presentations in each unit have been selected and organized to reflect current concepts in the basic and clinical sciences. Teaching methodologies will integrate discussions of modern biology, current research methods, and established and emerging therapies and technologies. To ensure that course content remains up-to-date, the interdisciplinary planning committees for each unit will continuously review and update the unit's content. College masters will also introduce changes in course content as needed, and the Curriculum and Educational Policy Committee will review each unit annually.

Medical Skills—After students develop a working differential diagnosis based upon the history and physical assessment, they will be required to develop a diagnostic and/or therapeutic plan based upon a synthesis of the history, physical assessment, and diagnostic considerations.

Society, Community, and the Individual—In this course, students will acquire the knowledge and skills needed to identify and describe relationships between societal structures—such as community resources, healthcare access, and community environment—and individual healthcare issues. Students will then be asked to develop and implement a plan of corrective action for identified community needs.

Masters' Colloquium—Problem solving will be a focus of this course, especially in the small-group discussions and case studies that will be considered on a weekly basis in coordination with each SPOM unit. In this course, students will be asked to consider social and scientific controversies in modern medicine and to apply an evidentiary approach to addressing these controversies. In addition, the course will introduce students to the history of medicine, including changes in our understanding of disease. This will lay the foundation for students to understand the evolution of our understanding of the disease process in general and of specific disease entities in particular and will raise their awareness of the dynamic nature of medicine and medical problem solving.

c. Understanding of societal needs and demands on health care

As described elsewhere in the database (Background Information about the School), El Paso and the entire US-Mexico border region are severely underserved in several parameters of healthcare. The educational resources of TTUHSC are being expanded to establish the new medical school in El Paso in an effort to respond to these societal needs. Thus, societal needs are a driving concern for the entire institution, and they represent an important part of the curriculum, as described below.

Medical Skills—In this course, students will develop the communication skills necessary to effectively elicit all of the key components of a patient's history—including family history, social history, employment and occupational history, and past medical history. The course will address how societal needs and demands may impact an individual's history, health, and attitudes about healthcare. The course is designed to help students become culturally aware communicators.

Society, Community, and the Individual—This two-year course focuses on developing students' understanding of societal needs and demands on health care by integrating concepts of population dynamics, biostatistics and epidemiology, and public health with community needs, community health, healthcare access, and ultimately the healthcare and healthcare needs of the individual. Beginning in the first year and continuing throughout the curriculum, students will be involved in clinics and communities that will be linked to their colleges. In the first two years, students will participate in healthcare needs assessments within their respective communities and will develop and implement projects designed to address these community healthcare needs. The purposes of these activities include familiarizing students with issues of access to healthcare and demonstrating the impact of societal needs on individual healthcare.

Masters' Colloquium—Students will have the opportunity to study more global impacts of societal needs on healthcare during the weekly Masters' Colloquium, in which healthcare systems, healthcare financing, and other macro issues will be addressed. Students will develop a foundation of understanding of the social and economic components of health care and their implications for the physician and the physician-patient relationship.

See also information for standard ED-28, and the Required Course Forms.

ED-8. **There must be comparable educational experiences and equivalent methods of evaluation across all alternative instructional sites within a given discipline.**

Compliance with this standard requires that educational experiences given at alternative sites be designed to achieve the same educational objectives. Course duration or clerkship length must be identical, unless a compelling reason exists for varying the length of the experience. The instruments and criteria used for student evaluation, as well as policies for the determination of grades, should be the same at all alternative sites. The faculty who teach at various sites should be sufficiently knowledgeable in the subject matter to provide effective instruction with a clear understanding of the objectives of the clinical experience and the evaluation methods used to determine achievement of those objectives. Opportunities to enhance teaching and evaluation skills should be available for faculty at all instructional sites.

While the types and frequency of problems or clinical conditions seen at alternate sites may vary, each course or clerkships must identify core experiences needed to achieve its objectives, and assure that students received sufficient exposure to such experiences. Likewise, the proportion of time spent in inpatient and ambulatory settings may vary according to local circumstance, but in such cases, the course or clerkship director must assure that limitations in learning environments do not impede the accomplishment of objectives.

To facilitate comparability of educational experiences and equivalency of evaluation methods, the course or clerkship director should orient all participants, both teachers and learners, about the educational objectives and grading system used. This can be accomplished through regularly scheduled meetings between the director of the course or clerkship and the directors of the various sites that are used.

The course/clerkship leadership should review student evaluations of their experiences at alternative sites to identify any persistent variations in educational experiences or evaluation methods.

None of the courses in the first two years of the curriculum will be offered at more than one site, with minor exceptions, as follows:

- The SPOM units will feature small-group learning sessions, including clinical correlation sessions at different clinic sites (TTUHSC clinics on the main campus and in surrounding communities). The Medical Skills course will also feature small-group learning sessions. Efforts will be made to obtain consistency within the various small-group learning activities. All small-group tutors will have identical slide sets and cases to discuss and will use a standard method for physical examination.
- In the SCI course, students will work in small groups with the community clinic associated with their college. These off-campus experiences, however, will be coordinated by instructors during the scheduled on-campus sessions for this course.
- The Masters' Colloquium course will be held in each of the four colleges. Although each college will have its own space, all of the college facilities will be housed in the same building on the main campus. Furthermore, colloquium sessions will focus primarily on the translation and application of objectives that will be initially addressed at a single learning site as part of the SPOM course.

Following is a brief description of how comparable educational experiences and equivalent methods of evaluation will be achieved in the small-group learning sessions, including the SPOPM clinical correlation sessions, the SCI off-campus experiences, and the Masters' Colloquium course.

For any course offered at more than one site, describe the following:

a. How faculty members at all sites will be oriented to the objectives and grading system for the course.

   At the beginning of each year, all faculty will receive an informational CD that includes descriptions and course objectives for all courses.

   In each course and systems-based SPOM unit, course faculty will be directed by the respective course committee. (Each systems-based unit in the SPOM course will have its own course committee.) Course committees will include faculty representatives from each site (the four community clinics, the four colleges) involved in the course or unit. The course committee and its chair will have the responsibility of coordinating the teaching activities within each course, including orienting the faculty before the course begins and reviewing the learning objectives and grading system for the course. The objectives and grading system for all courses and SPOM units will be developed by the respective course committee and circulated to all participating faculty.

b. How and how often individuals responsible for the course at all sites will communicate regarding planning, implementation, student evaluation, and course evaluation.

   Course committees usually will meet several times each year prior to the presentation of the course or unit and again after the completion of the course or unit. At a minimum, course committees will report to the Curriculum and Educational Policy Committee at least twice each year—once at the beginning of the year regarding course planning and implementation, and once at the end of the year regarding student evaluation and course evaluation.

   In order to assure the comparability of the Masters' Colloquium sessions, masters from all of the colleges will meet on a weekly basis to review the topics to be presented and to review student evaluations of the course. Masters will develop and work from a common curriculum that will be correlated with the material presented in the SPOM courses.

c. Faculty development activities related to teaching and evaluation skills that will be available to instructional staff across sites.

   Faculty development is the responsibility of the Associate Dean for Faculty Affairs. A plan for various faculty development workshops is already in existence and will be elaborated further in preparation for the new curriculum. Faculty development opportunities will include workshops created to advance faculty teaching and evaluation skills, and these workshops will be available to faculty and instructional staff across all sites.

   In addition, the college masters will conduct a monthly Masters' Grand Rounds devoted to new knowledge about science and medicine, pedagogy, and medical education. These Grand Rounds will be open to all faculty and instructional staff, but will be especially intended for development of faculty members associated with the colleges, including the college masters.

d. Mechanisms for review and sharing of student assessments of their educational experiences and any other data reflecting the comparability of learning experiences across sites. Note the

specific kinds of data to be reviewed and the individuals or groups responsible for reviewing the information.

As explained above, course committees meet a minimum of twice each year, usually more frequently. At least one committee meeting occurs after the completion of the course when the results of student examinations and student evaluations of the course are available. At such meetings, faculty will look for any discrepancies in students' performance or in their evaluation of the course based on which site they were assigned to for small-group learning sessions. If any discrepancies are identified, the committee will discuss and implement corrective actions as needed.

ED 10. **The curriculum must include behavioral and socioeconomic subjects, in addition to basic science and clinical disciplines.**

For each listed topic, check if it will be included as an important objective of any first-year courses, and whether it is expected to be covered in remaining years of the curriculum.

Content Area	Included in First-Year Course	To be Covered in Later Coursework
Alternative medicine		√
Biostatistics	√	√
Clinical pathology	√	√
Communication skills	√	√
Community health	√	√
Diagnostic imaging	√	√
End-of-life care		√
Epidemiology	√	√
Evidence-based medicine	√	√
Family violence/abuse		√
Medical genetics	√	√
Geriatrics		√
Health care systems		√
Health care quality review		√
Home health care		√
Human development/life cycle		√
Human sexuality	√	√
Medical ethics	√	√
Medical humanities	√	√
Medical jurisprudence		√
Medical socioeconomics	√	√
Multicultural medicine	√	√
Nutrition	√	√
Occupational health/medicine		√
Pain management	√	√
Palliative care		√
Patient health education	√	√
Population-based medicine	√	√
Practice management		√
Preventive medicine	√	√
Rehabilitation/care of the disabled		√
Research methods	√	√
Substance abuse	√	√
Women's health		√

ED-11. **It [The curriculum] must include the contemporary content of those disciplines that have been traditionally titled anatomy, biochemistry, genetics, physiology, microbiology and immunology, pathology, pharmacology and therapeutics, and preventive medicine.**

Integrated and Innovative Curriculum

One of the primary advantages of El Paso's innovative curriculum is that it frames basic science learning objectives within the context of specific clinical presentations (CPs), so students will develop an integrated understanding of the basic and clinical sciences right from the start. Over the first two years, the SPOM course will introduce students to 120 CPs in eight SPOM units. (See diagram in ED-5. The final two SPOM units in each year—Integration of Concepts I and II—will be reserved for reviewing and integrating the information acquired in that year.) The sum total of basic science learning objectives covered in the SPOM course will equal or exceed the amount of basic science information transmitted to students under more traditional circumstances, without the usual redundancies. Moreover, this approach to teaching basic-science information to medical students has been shown to enhance retention of the information (Teaching and Learning in Medicine 2004; 16:116) and improve diagnostic reasoning (Acad Med 2005; 80: 765 – 773).

The curriculum is designed to ensure that all of the traditional disciplines mentioned above—anatomy, biochemistry, genetics, physiology, microbiology and immunology, pathology, pharmacology and therapeutics, and preventive medicine—are addressed in a logical, progressive, and integrated manner that reflects the contemporary understanding of these disciplines. For example, in the first SPOM unit (General Concepts) students are introduced to core basic science principles in the context of the following CPs:

- Allergic reactions and atopy
- Sore throat and upper respiratory infections
- Thermoregulation and temperature
- Genetic concerns
- Weight and abnormal weight
- Population health
- Periodic health examination, growth, and development

These CPs were carefully selected for the first SPOM unit. In addition to crossing body-system lines, they represent medical domains that students are likely to have experienced prior to entering medical school. At the same time, these CPs require a detailed exploration of fundamental concepts that will be revisited many times in subsequent SPOM units, including clinical concepts, such as inflammation and infection, as well as other scientific principles related to each of the following:

- Gross anatomy
- Microscopic anatomy
- Embryology
- Clinical anatomy
- Cell structure and function
- DNA, RNA, and information transfer

- Microbial DNA and genetics
- Proteins and protein function
- Enzyme kinetics and intracellular systems
- Communications and homeostasis
- Drug effects and pharmacokinetics
- Mechanisms of disease

Every CP includes learning objectives related to these areas of knowledge. For example, although students do not take a class called "Anatomy" or "Microbiology" objectives related to these disciplines are included in nearly every CP, as described below.

One of the CPs in the first SPOM unit is called "periodic health examination, growth, and development." The objectives identified for this CP reflect what a graduating student will be expected to do when faced with a patient who does not have any specific complaint and simply wants a check-up. In this CP, under the subject "Anatomy," one objective is as follows:

> Identify the bony and skin landmarks that help determine the underlying structures as means of performing physical examination and confirm diagnoses.

Another CP in the first unit is "sore throat and upper respiratory infections." Under the subject "Anatomy" in this CP, the objectives include the following:

> On a prosection, identify the head and neck structures potentially affected by an upper respiratory infection.
>
> Demonstrate the triangles of the neck and the lymph nodes and other important structures in them.

In this fashion, as each CP is studied in each of the ten SPOM units, anatomy objectives will be identified. Similarly, objectives will be identified in biochemistry, genetics, physiology, microbiology and immunology, pathology, pharmacology and therapeutics, and preventive medicine. In each CP, objectives will be listed under the appropriate discipline.

In some cases, objectives will cross disciplinary lines. While key concepts and principles may be intentionally repeated in the curriculum on the premise that some repetition aids learning, the interdisciplinary course committees will design learning experiences to ensure that unnecessary redundancies are eliminated and that key concepts are delivered by the faculty who have the most experience and expertise on the given topic.

Several methodologies will be used to achieve the learning objectives in each CP. The initial presentation will likely be in a lecture format. In addition, two hours every Monday afternoon will be reserved for laboratory experiences, including experience in the hands-on anatomy laboratory, the simulation laboratory, and the hospital laboratory. Students will be encouraged to revisit the laboratories during their free time. Members of the faculty will be available as tutors, and the cadavers and prosections, digitized slides, and simulated laboratory exercises also will be made available for independent study.

Example Knowledge Scheme

As previously mentioned, the learning of each CP will be organized around a knowledge structure called a 'scheme.' This knowledge scheme, insofar as possible, will be based on the scientific concepts underlying the medical domain to be studied. For example, in the

second SPOM unit, Gastrointestinal/Nutrition/Hematology, one of the CPs is "anemia." The organizational structure for this CP is shown below.

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As shown, the medical domain of anemia is first partitioned into three smaller domains by means of **histology**—macrocytic, normocytic, and microcytic. At the second level, any one of these three can be subdivided further. In the figure above, normocytic is divided based on **physiology** into the following three domains: decreased production, increased destruction, and blood loss. Again, the middle domain is further divided, and with each division, the means of separation can encapsulate issues related to **genetics, membrane metabolism,** or **immunology and microbiology**. Under the appropriate headings, objectives in histology, physiology, genetics, biochemistry, immunology, and microbiology will be identifed. When the students study the CP, faculty will help them integrate all of this essential information through lectures, laboratory experiences, and small-group learning opportunities. Similar organizational knowledge schemes will be used in every CP.

See responses for standards ED-5 and ED-10.

ED-12. **Instruction within the basic sciences should include laboratory or other practical exercises that entail accurate observations of biomedical phenomena and critical analyses of data.**

Describe any first-year courses where students will participate in required laboratory exercises (real or simulated) that oblige them to make observations of biomedical phenomena and collect or analyze data.

Scientific Principles of Medicine—The primary laboratory experiences in the first year of the curriculum will take place in the SPOM course. Three laboratories will be available for student learning, including a hands-on anatomy laboratory, a simulation laboratory, and the hospital laboratory. Two hours per week (Mondays 1:15–3:15 PM) will be reserved for laboratory learning experiences corresponding with each SPOM unit. Students will be encouraged to schedule additional time in the laboratories during their free time each week, and during this time, faculty will be available to meet with the students to review the material that is being studied.

The **anatomy laboratory** is especially designed to facilitate students' learning in subjects such as anatomy, histology, immunology, microbiology, and pathology. Students will observe cadavers, prosections, plasticized anatomical specimens, diagnostic imaging, slides (microscopic and digitized), and culture media. In the **simulation laboratory**, students will observe physiological, pathophysiological, and pharmacological phenomena. The **hospital laboratory** will be used for demonstrations in which students will observe biochemical and genetic phenomena. In all cases, students will be asked to collect and analyze data. Examples of objectives related to gross anatomy were provided above (ED-11). Other example learning objectives in the first SPOM unit (General Concepts) include the following laboratory-based objectives:

> Cell structure and function: To understand the microscopic anatomy of the eukaryotic cell, including the morphologic, biochemical, and functional characteristics of the major organelles
>
> DNA, RNA, and information transfer: To describe and explain the normal and abnormal structural and biochemical nature of nucleic acids and their precursors within the framework of biological information transfer and its dysfunction
>
> Microbial biology and infection: To characterize the microbial cell including similarities and differences with the eukaryote and to understand the basic principles of infection
>
> Proteins and protein function: To understand the structural characteristics of proteins and these characteristics on protein function within the intact organism

In each subsequent SPOM unit, students will build on these skills, and faculty will help students integrate the data they collect in the laboratory into critical analyses related to the specific CPs in that unit.

Medical Skills—In the Medical Skills course, students will use the simulation laboratory to learn and practice technical skills.

Society, Community, and the Individual—In the SCI course, students will collect epidemiological data and will apply statistical analyses to their data sets using current statistical software. They will interpret the results with the supervision of a faculty

preceptor. In addition, exercises assigned during this course will require students to analyze data from literature searches and critically appraise the literature.

Masters' Colloquium—In this course, students will have the opportunity to discuss concerns or questions they have regarding how to accurately observe biomedical phenomena and critically analyze the associated data. The course will be closely correlated with the SPOM units.

See also Required Courses, Part A, item (A.).

ED-19. **There must be specific instruction in communication skills as they relate to physician responsibilities, including communication with patients, families, colleagues, and other health professionals.**

Indicate where in the curriculum (what years) students will gain experience in the following areas. For any first-year courses that cover these topics, include the settings in which instruction will occur (e.g., classroom, clinical) and the format(s) to be used (e.g., lecture, small group, standardized patient, role play, etc.)

a. Communicating with patients and patient families.

Medical Skills—Students will be introduced to communication concepts and skills in lecture format. Students will then have the opportunity to practice the skills of effective and compassionate communication with standardized patients. Students will work in small groups under the supervision of a tutor, and the standardized patients will be trained not only to portray patients, but also to role play as families. The learning sessions will take place in the clinical simulation laboratory, a facility that is specifically designed for monitoring student interactions with standardized patients.

Scientific Principles of Medicine—Beginning with the second SPOM unit and continuing with each systems-based unit thereafter, students will participate in clinical correlation sessions. In these sessions, groups of four students will meet with faculty preceptors in their respective outpatient offices. Faculty preceptors will identify patients who have health concerns that correspond with the topic or body system being studied, and each group will be assigned a patient to interview and examine. This learning opportunity will help students integrate the communication skills they are learning in the Medical Skills course with the clinical knowledge they are acquiring in the SPOM course.

In the final SPOM unit of each year (Integration of Concepts I and II), students will again work with standardized patients in small-group sessions supervised by a tutor. In addition to role-playing specific medical conditions, the standardized patients in the first year will be trained to be angry, depressed, non-communicative, etc. so that students will be stimulated to learn how to communicate with difficult patients. In the second year, the standardized patients will incorporate difficult issues addressed during that year, such as dying, bereavement, substance abuse, and sexuality. These sessions will take place in the clinical simulation laboratory.

Society, Community, and the Individual—Students will participate in community-based learning activities at the four TTUHSC clinics in underserved communities. Each of these clinics will be associated with one of the medical student colleges, and students will work in the clinic affiliated with their college. The community-based learning, which will be initiated on campus during the scheduled SCI course, will take place during unscheduled free time. Students will work individually or in small groups and will be under the supervision of a tutor. In addition to communicating with patients and patient families, students will work with community leaders, community health workers, clinic staff, and students within the local school systems. Medical students will be observed

communicating with the various community constituencies, and the effectiveness of their communication will be evaluated as part of the comprehensive evaluation for this course.

b. Communicating with colleagues (e.g., as part of the medical team)

Medical Skills—The communication skills required for effective communication with colleagues also will be introduced in this course. Tutors will observe and comment on the communication among students during the small-group interactions with standardized patients.

Scientific Principles of Medicine—As described above, the students will work in small groups during the clinical correlation sessions. The students will decide how to approach the patient and who will carry out which task. For example, one student might take the history, another do the examination, a third communicate the investigations required, and a fourth eventually report the findings. The students' interactions and communication with each other will be observed and commented on by the tutor.

In the Integration of Concepts units at the end of each year, students will work in teams of six to twelve to assess standardized patients. Effective communication with their colleagues is required for the students to collaboratively diagnose and resolve the problems presented by the standardized patients. Tutors will observe and comment on the communication among students.

c. Communicating with other (non-physician) health professionals

Society, Community, and the Individual—As described above, this course will require students to work with community leaders, community health workers, clinic staff, and students within the local school systems. Medical students will be observed communicating with the other health professionals in the community, and the effectiveness of their communication will be evaluated as part of the comprehensive evaluation for this course.

Scientific Principles of Medicine—In the SPOM units called Integration of Concepts I and II, the standardized patients will be trained to portray complex conditions, many of them requiring the services of other health professionals, such as rehabilitation, physiotherapy, chronic care, home care, home visits, and meals at home. The team of medical students will be required to make such arrangements. Thus, they will learn who needs to be called, what requests need to be made, and how arrangements are in fact made. All of these tasks will require the students to communicate with allied health professionals. Their communication will be observed and evaluated.

Masters' Colloquium—Although this course does not provide direct interactions with patients or allied health professionals, it does offer students the opportunity to discuss communication issues with each other and to learn from the experiences of the college masters. In relatively informal settings, students can talk about communication difficulties they have encountered and discover how an experienced physician might have handled the situation.

See also information for standards ED-10 and ED-28.

ED-20. **The curriculum must prepare students for their role in addressing the medical consequences of common societal problems, for example, providing instruction in the diagnosis, prevention, appropriate reporting, and treatment of violence and abuse.**

Indicate where in the curriculum students will learn about the medical consequences of common societal problems. For any first-year courses that cover these topics, include the settings in which instruction will occur (e.g., classroom, clinical) and the format(s) to be used (e.g., lecture, small group, standardized patient, role play, etc.).

Social justice and the social responsibilities of the physician are fundamental components of the curriculum. In the first two years of the curriculum, these issues will be specifically addressed in each of the four core courses, as described below.

Scientific Principles of Medicine—The seventh SPOM unit, which will be offered in the second year of the curriculum, is called The Mind and Human Development. This unit will include several clinical presentations that specifically address common societal problems, such as the following:

- Developmental disorders (e.g., learning disorders)
- Attention deficit/hyperactivity in children
- Family violence (e.g. physical, emotional, and sexual abuse of children, elders, and spouses)
- Substance abuse and drug addiction
- Sexually concerned patient and gender identity disorder
- Suicidal behavior and prevention
- Other disorders (e.g., dissociative, impulse control, and post-traumatic stress disorders)

As in the other SPOM units, instruction will take place in classroom, laboratory, and clinical settings, and teaching formats will include lectures and small-group clinical correlation sessions.

In the final SPOM unit in the second year (Integration of Concepts II), societal issues will be incorporated into the small-group learning sessions with standardized patients.

Medical Skills—This course will include a segment called “The Well Physician” that addresses the need for physicians to look after their own well being. The objectives for this segment will include identifying the stresses that society places on physicians, self-induced stresses, and ways to cope with such stressors to prevent substance abuse, suicide, divorce, and other problems that tend to plague physicians. Instruction will occur in the classroom and will include lectures and small-group discussions.

Society, Community, and the Individual—As previously described, each college will be affiliated with one of TTUHSC’s clinics in an underserved community. Domestic violence, substance abuse, suicide, teenage violence and gang activity, and accidental death are serious societal problems underlying the health care needs and services in these communities. In the SCI course, students will develop research projects in the community affiliated with their college, and the community relationships will provide the basis for studying factors that contribute to social and environmental justice. Instruction will occur

in the classroom and in community-based clinics, and teaching formats will include lectures, discussion, direct patient care, community and home visits, community needs assessments, intervention projects, and community outreach activities.

Masters' Colloquium—This course will address a wide range of topics, including the art of medicine, ethics, and the social responsibilities of the physician. In addition to specifically addressing issues of violence and abuse, this course will consider broader societal and behavioral issues and their role in the health care of the individual. Instruction will occur in the college classrooms, and instructional formats will include oral presentations, group discussions, and student debates.

Evaluation—Students' understanding of societal issues will be evaluated using oral presentations, written examinations, participation in group discussions and activities, and 360° evaluations by community members, patients, and clinic staff. At least one OSCE will be devoted to social issues and individual health care.

See also information for standard ED-10.

ED-21. **The faculty and students must demonstrate an understanding of the manner in which people of diverse cultures and belief systems perceive health and illness and respond to various symptoms, diseases, and treatments.**

All instruction should stress the need for students to be concerned with the total medical needs of their patients and the effects that social and cultural circumstances have on their health. To demonstrate compliance with this standard, schools should be able to document objectives relating to the development of skills in cultural competence, indicate where in the curriculum students are exposed to such material, and demonstrate the extent to which the objectives are being achieved.

Indicate where in the curriculum students will learn about issues related to cultural competence in health care. For any first-year courses that cover these topics, include the settings in which instruction will occur (e.g., classroom, clinical) and the format(s) to be used (e.g., lecture, small group, standardized patient, role play, etc.).

As indicated in the broad educational objectives identified in ED-1, cultural competence is an essential element of the curriculum. Students will be asked to acquire the knowledge, skills, behaviors, and attitudes required to become culturally aware communicators, ethical professionals, and altruistic health advocates. These objectives will be addressed in each of the four core courses in the first two years, as described below.

Medical Skills—It is in this course that students will first be introduced to the communication concepts, skills, attitudes, and behaviors required to become culturally aware communicators. After being introduced to this information in lecture format in the classroom, students will have the opportunity to practice culturally competent communication with standardized patients in the clinical simulation center.

Scientific Principles of Medicine—Each SPOM unit will expand the students' cultural awareness and understanding by introducing them to the ways in which people of diverse cultures and belief systems respond to the various symptoms, diseases, and treatments associated with the topic or body-systems addressed in the unit. Instruction will take place in classroom, laboratory, and clinical settings, and teaching formats will include lectures and small-group clinical correlation sessions. In the final SPOM unit of each year (Integration of Concepts I and II), issues of cultural competence will be incorporated into the small-group learning sessions with standardized patients.

Society, Community, and the Individual—The SCI course is designed to take students from the classroom into the community to teach them about the relationships among social issues, community factors, and individual health. The course will consider how ethnic factors, cultural factors, and belief systems in the underserved communities influence the residents' perception of health and illness, their access to health care services, and their response to various symptoms, diseases, and treatments. Instruction will occur in the classroom and in community-based clinics, and teaching formats will include lectures, discussion, direct patient care, community and home visits, community needs assessments, intervention projects, and community outreach activities.

Masters' Colloquium—This course will address a wide range of topics, including the art of medicine, ethics, and the social responsibilities of the physician. In addition to

providing opportunities for students to discuss specific cultural issues associated with their work in the other courses, this course will consider broader issues related to the diverse cultures and belief systems in our society and how these systems relate to the health care of the individual. Instruction will occur in the college classrooms, and instructional formats will include oral presentations, group discussions, and student debates.

Evaluation—Students' cultural awareness and sensitivity will be evaluated using oral presentations, written examinations, participation in group discussions and activities, and 360° evaluations by community members, patients, and clinic staff. At least one OSCE will be address issues of cultural competence in health care.

See also information for standard ED-10.

ED-22. **Medical students must learn to recognize and appropriately address gender and cultural biases in themselves and others, and in the process of health care delivery.**

The objectives for clinical instruction should include student understanding of demographic influences on health care quality and effectiveness, such as racial and ethnic disparities in the diagnosis and treatment of diseases. The objectives should also address the need for self-awareness among students regarding any personal biases in their approach to health care delivery.

Describe where in the curriculum students will receive instruction addressing the following topics. For any first-year courses that cover these topics, include the settings in which instruction will occur (e.g., classroom, clinical) and the format(s) to be used (e.g., lecture, small group, standardized patient, role play, etc.).

a. Demographic influences on health care quality and effectiveness (including racial or ethnic disparities in health care delivery).

Scientific Principles of Medicine—In each SPOM unit, students will learn about racial and ethnic disparities in the diagnosis and treatment of diseases as relevant to the specific topic or body system addressed in the unit. When appropriate, gender and cultural biases associated with specific clinical presentations also will be addressed. For example, the SPOM unit called Cardiovascular/Respiratory includes the clinical presentation "chest pain." In this CP, one of the objectives is as follows:

> Differentiate cardiac pain from other types of visceral pain; important in the interpretation of chest pain in women is the greater likelihood of angina being induced by rest, sleep, and mental stress.

During the time devoted to learning about chest pain, students will be made aware of common gender biases that occur in the diagnosis and treatment of women with chest pain, and they will be cautioned against managing women with chest pain less aggressively than they would men with chest pain. Similar examples of objectives that highlight gender, racial, or ethnic biases in the diagnoses and treatment of disease can be found in many other CPs throughout the SPOM course.

In the topic or systems-based SPOM units, instruction will take place in classroom, laboratory, and clinical settings, and teaching formats will include lectures and small-group clinical correlation sessions. In the final SPOM unit of each year (Integration of Concepts I and II), issues related to gender and cultural biases will be incorporated into the small-group learning sessions with standardized patients. These sessions will take place in the clinical simulation laboratory.

Medical Skills—This course will address how gender or cultural biases can interfere with communication and contribute to gender, racial, or ethnic disparities in the delivery of health care. The course will teach students the concepts, skills, attitudes, and behaviors required to become culturally aware communicators who exhibit compassion and respect to all patients, without regard to race, ethnicity, gender, financial situation, social condition, or incapacity. After being introduced to this information in lecture format in the classroom, students will have the opportunity to practice culturally competent communication with standardized patients in the clinical simulation center.

Society, Community, and the Individual—As previously described, each college will be affiliated with one of TTUHSC's clinics in an underserved community. In the SCI course, students will learn about the demographic influences on health care quality and effectiveness in these communities. Instruction will occur in the classroom and in community-based clinics, and teaching formats will include lectures, discussion, direct patient care, community and home visits, community needs assessments, intervention projects, and community outreach activities.

Masters' Colloquium—This course will augment students' understanding of demographic influences on health care quality and effectiveness, including racial or ethnic disparities in health care delivery, by considering these issues from national and international perspectives. Students also will have the opportunity to talk with the college masters about specific concerns or questions they have regarding gender and cultural biases in health care. Instruction will occur in the college classrooms, and instructional formats will include oral presentations, group discussions, and student debates.

Evaluation—Students' understanding of the demographic influences on health care quality and effectiveness will be evaluated using oral presentations, written examinations, participation in group discussions and activities, and 360° evaluations by community members, patients, and clinic staff. At least one OSCE will address issues of gender, racial, or ethnic disparities in health care.

b. Student self-awareness of their own biases.

As students develop an understanding of the demographic influences on health care quality and effectiveness in each course, as described above, they will have many opportunities to develop greater self-awareness of their own biases. In particular, the effect of bias, regardless of focus, on the provision of appropriate health care will be addressed early in the **Medical Skills** course, which is intended to prepare the students for patient contact. In addition, cultural competence, biases related to gender and culture, sexuality and the physician, and self-awareness are specific topics that will be covered in the **Masters' Colloquium**.

See also information for standard ED-10.

ED-23. **A medical school must teach medical ethics and human values, and require its students to exhibit scrupulous ethical principles in caring for patients, and in relating to patients' families and to others involved in patient care.**

Each school should assure that students receive instruction in appropriate medial ethics, human values, and communication skills before engaging in patient care activities. As students take on increasingly more active roles in patient care during their progression through the curriculum, adherence to ethical principles should be observed and evaluated, and reinforced through formal instructional efforts.

In student-patient interactions there should be a means for identifying possible breaches of ethics in patient care, either through faculty/resident observation of the encounter, patient reporting, or some other appropriate method.

"Scrupulous ethical principles" imply characteristics like honesty, integrity, maintenance of confidentiality, and respect for patients, patients' families, other students, and other health professionals. The school's educational objectives may identify additional dimensions of ethical behavior to be exhibited in patient care settings.

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a. Identify each course in the first-year curriculum where student understanding of ethical issues and human values is an explicit educational objective.

As indicated in ED-1, the El Paso School of Medicine has established a number of educational objectives that specifically address medical ethics and human values. Training in ethics will begin during orientation week in the first year. Students will be introduced to expectations for their behavior and the rationale for those expectations. They will learn about the principles associated with the traditional oaths of medicine, and they will affirm their acceptance of these principles in the traditional "White Coat Ceremony." In the subsequent curriculum, students will be asked to acquire the knowledge, skills, behaviors, and attitudes required to become ethical professionals and altruistic health advocates. These objectives will be addressed in each of the four core courses in the first two years, as described below.

Medical Skills—Students will be introduced to ethical principles in a classroom setting at the beginning of this course. First, they will learn the "AMA principles of medical ethics." Because such broad principles can lack meaning in a clinical setting, the Medical Skills course will expand on these principles, identifying specific objectives that students must achieve if they are to become ethical professionals. Students will then have opportunities to translate the principles and objectives into practice during small-group sessions with standardized patients in the clinical simulation center.

Scientific Principles of Medicine—Faculty cannot be satisfied that students can truly translate and apply ethical principles to clinical situations without first showing students how to do it and subsequently observing students in the act of translating and applying these principles themselves. For this reason, every SPOM unit will address ethical principles related to the specific clinical presentations in that unit. In each CP, ethical principles that might apply to the presentation will be identified, and explanations will be provided about how the principles would be translated and applied in clinical practice. For example, the SPOM unit called "The Mind and Human Development" includes a CP called "death, the dying patient, and bereavement" in which the following ethical principles and explanations will be provided:

{ HYPERLINK "http://www.mcc.ca/Objectives_online/objectives.pl?lang=english&loc=cleo" \l "4.8" \o "CLEO 4.8" }

Ethical Principle

The physician will place the best interest of the patient first.

Translation in Clinical Practice

Provide adequate relief of pain to a dying patient. Ethicists have considered the treatment of pain for a dying patient, and consensus has been reached that pain management at the end of life is the right of the patient and the duty of the clinician.

Manage severe pain in a dying patient as a medical emergency. The possibility of increased uncontrolled pain at the end of life is indeed an emergency. Such pain, if not brought under control, can be devastating to patient and family. It causes suffering and may deprive the dying patient of power to complete many important tasks (e.g., placing legal affairs in order, grieving the loss of life, making apologies for strained relationships, and saying goodbye to loved ones).

{ HYPERLINK "http://www.mcc.ca/Objectives_online/objectives.pl?lang=english&loc=cleo" \l "4.10" \o "CLEO 4.10" }

- Euthanasia
- Physician assisted suicide

Ethical Principle

The candidate will be aware that they may be asked to comment on unresolved or controversial ethical issues, and will be able to name and describe relevant key issues and ethical principles.

Translation in Clinical Practice

Prescribe medications that provide appropriate pain control. Physicians may have an inflated perception of the risk of hastening death by treating pain with opioids. As a consequence, they may fail to treat pain effectively because of concern with violating ethical and moral standards.

Distinguish between pain management for intractable symptoms and physician-assisted suicide. There is a need for physicians to balance such concerns with their moral obligation to treat pain in the suffering patient.

Appropriate treatment of pain is morally acceptable even if it hastens the death of a patient as long as there was no intention to do so by the physician (principle of double effect). The bioethical principle of double effect is important to patients and to physicians who care for such individuals. As Quill states, "To the extent that the principle allows patients, families, and clinicians to respond in an ethically and clinically responsible way to palliative care emergencies without violating the fundamental values of any of the participants, the principle of double effect should be used and protected". [Quill, T. Principle of double effect and end-of-life pain management: additional myths and a limited role. J Palliat Med 1998; 1:333.]

{ HYPERLINK "http://www.mcc.ca/Objectives_online/objectives.pl?lang=english&loc=cleo" \l "5.1" \o "CLEO 5.1" }

Ethical Principles

To identify the patient (rather than the physician or the hospital, for example) as a key focus and central subject of medical practice.

To demonstrate the knowledge that the patient has fundamental legal rights in the medical context, arising under both statutory law and the rulings of the courts that are binding on the physician.

Treat pain effectively in a dying patient. Administration of pain medication to a dying patient does not violate legal tenets.

Translation in Clinical Practice

Prescribe medications that provide appropriate pain control. Physicians may have an inflated perception of the risk of hastening death by treating pain with opioids. As a consequence, they may fail to treat pain effectively because of concern with violating legal standards.

Distinguish between pain management for persistent symptoms and physician-assisted suicide. Balance such concerns with the legal obligation to treat pain in the suffering patient.

Prescribe pain medication for physical, spiritual, and psychological suffering in a dying patient. While this may carry a small risk of hastening death, if it is not the intention of the treating physician, but it is intended to treat pain or relieve discomfort, it is legal. In contrast, physician assisted suicide involves supplying patients with the means, usually a medication, to end their life. Euthanasia requires a physician to physically administer a medication with the intent of causing death.

Alleviate suffering in a patient enduring a terminal illness and experiencing pain even to the point of causing unconsciousness and hastening death. Indeed, there may be a legal risk to clinicians that do not treat pain effectively.

In summary, the treatment of pain is legally acceptable even if it hastens the death of a patient as long as there was no intention to do so by the physician (principle of double effect; see quotation from Quill above).

Similar translations of other ethical principles will be provided in other CPs, as appropriate. Faculty will demonstrate the application of these principles in specific clinical situations, and once students have observed how faculty members accomplish the translation of ethical principles into practice, students will be challenged to do the same. They first will have an opportunity to practice applying ethical principles during encounters with standardized patients, and they will subsequently apply the principles with real patients during the clinical correlation sessions.

In the final SPOM unit of each year (Integration of Concepts I and II), students will work in small groups with standardized patients. The standardized patients will be trained to pose ethical dilemmas to students. Tutors will supervise and advise the students concerning the manner in which they deal with these dilemmas.

Society, Community, and the Individual—Social justice and related ethical concerns are foundational concepts in this course. Students will have the opportunity to consider ethical issues in the classroom setting and in an underserved community with patients drawn from that community.

Masters' Colloquium—Medical ethics will be specifically addressed in the Masters' Colloquium sessions, in which students will learn by giving oral presentations, participating in small-group discussions, and engaging in debate regarding ethical issues. These sessions will be closely correlated with the SPOM units.

b. Provide samples of any evaluation instruments used to assess the acquisition or demonstration of ethical behavior.

The following sample question will be used either as part of a written examination for the Medical Skills course or as an OSCE station in either the Medical Skills course or in one of the end-of-year SPOM units (Integration of Concepts I or II):

> Hector Garcia has had a positive HIV test; he does not want his physician to tell his wife his HIV status.
>
> Mr. Garcia has been in excellent health and has not required medical attention except for occasional checkups. A few weeks ago he confided that he had unprotected anal intercourse with a homosexual lover on at least 5 occasions about 4 years ago. He expressed fear of having AIDS and requested an HIV test. Mr. Garcia's initial test and a second confirmatory test are positive for HIV.
>
> Carmela, Mr. Garcia's wife of 3 years, does not know about her husband's homosexual experience.
>
> - Do you agree with Mr. Garcia to not reveal the information?
> - Is it ever ethical to breach patient confidentiality?
> - Are there any circumstances that permit a breach?
> - Are there some examples why a breach is/is not permitted?
> - If disclosure occurs/does not occur how should this be accomplished/avoided?
> - Why is confidentiality important?

If this sample were used as an OSCE station, the questions would be posed by the standardized patient. Otherwise, the questions would be presented in written format.

c. If students will observe or be involved in patient care during their first year, describe the methods used to identify any breaches of ethics in patient care made by the students. How will such breaches be addressed?

Students will encounter patients in the clinical correlation sessions associated with the SPOM course and in community visits associated with the SCI course. In all such encounters, students will work in groups under the supervision of a faculty tutor or a substitute, such as a nurse. Faculty, nurses, and peers will have the responsibility to report instances of unethical behavior immediately to the Office of Medical Education. This expectation will be made clear to faculty and students during their respective orientation sessions and to nursing staff through nursing administration. It will be reinforced annually at general faculty meetings and departmental meetings.

In addition, patients and their families are encouraged to identify and report any breaches of ethics in patient care. In the hospital setting, patients and families are advised of their rights at the time they are admitted to the hospital. They are instructed to report any perceived breaches of ethical behavior by any of their medical staff to an identified patient ombudsman. They are also invited to complete a questionnaire upon discharge that includes questions about the professionalism of the medical staff. In the clinics, a patient ombudsman will be available for patient complaints, including breaches of ethics in patient care.

Once ethical breaches have been identified and the severity of the breach has been assessed, the student will be asked to meet in a private setting with one of the masters of his/her college and, when appropriate, the individual faculty member who first identified the infraction. The purposes of the meeting will be to obtain the student's perspective of

the infraction, explore and discuss the reasons for concern, and identify appropriate remediation. The student will also be warned that further infractions will be grounds for immediate dismissal. In the event that the breach is viewed to be so severe that the student should be dismissed immediately, the Dean must concur in this recommendation and provide a written action for dismissal. The student will have access to the appeals process established by the school of medicine.

See also information for standard ED-10.

ED-24. **Residents who supervise or teach medical students, as well as graduate students and postdoctoral fellows in the biomedical sciences who serve as teachers or teaching assistants, must be familiar with the educational objectives of the course or clerkship and be prepared for their roles in teaching and evaluation.**

The minimum expectations for achieving compliance with this standard are that: (a) residents and other instructors who do not hold faculty ranks (such as graduate students and postdoctoral fellows) receive a written copy of the course/clerkship objectives and clear guidance from the course/clerkship director about their roles in teaching and evaluating medical students; and (b) the institution and/or relevant departments provide resources such as written materials and/or workshops to enhance the teaching and evaluation skills of all residents and other non-faculty instructors.

There should be central monitoring of the level of resident/other instructor participation in activities to enhance their teaching/evaluation skills. The LCME encourages formal assessment of the teaching and evaluation skills of residents and other non-faculty instructors, with opportunities provided for remediation if their performance is inadequate. Assessment methods could include direct observation by faculty, feedback from students through course/clerkship evaluations or focus groups, or any other suitable method.

Describe any institutional or departmental programs to enhance the teaching and evaluation skills of graduate students or postdoctoral fellows who will be involved in medical student education. If such programs are the same as those provided for faculty, indicate so and refer to the response for standards FA-4 and FA-11 in Section IV: Faculty.

Residents will not be involved in teaching students in the first two years of the curriculum.

See also the Required Course Forms.

ED-26. **The medical school faculty must establish a system for the evaluation of student achievement throughout medical school that employs a variety of measures of knowledge, skills, behaviors, and attitudes.**

Evaluation of student performance should measure not only retention of factual knowledge, but also development of the skills , behaviors, and attitudes needed in subsequent medical training and practice, and the ability to use data appropriately for solving problems commonly encountered in medical practice.

Schools are urged to develop a system of evaluation that fosters self-initiated learning by students. The system of evaluation, including the format and frequency of examinations, should support the goals, objectives, processes, and expected outcomes of the curriculum.

Describe how the school will ensure that the methods used to evaluate student performance are appropriate to achieve its institutional and course-specific objectives. Note any role played by the curriculum committee or other curriculum management group.

The medical school faculty believes that frequent evaluation of students coupled with timely and pertinent feedback and corrective action is an essential component of the curriculum and that effective evaluation encourages student achievement. With this in mind, the evaluation system in the new school will incorporate two basic elements—formative evaluations and summative examinations.

The weekly formative evaluations will allow students and their instructors to assess progress during each instructional unit in the SPOM course. The weekly evaluations will also address issues raised in the other three courses in the first- and second-year curriculum (Medical Skills, SCI, Masters' Colloquium). The results of the weekly formative evaluations will be reviewed with students during the Masters' Colloquium each week.

The summative examinations will allow students and faculty to measure and document achievement at the conclusion of each SPOM unit and at the end of each year. A total of five summative examinations will be conducted in each of the first two years.

Administration of Student Evaluation—Student evaluation will be closely linked to the curriculum and will be the administrative responsibility of the Associate Dean for Medical Education. All faculty will have access to the expertise available in the Office of Medical Education and its component offices—the Office of Curriculum and the Office of Evaluation—which will be established by the fall of 2007. The staff will include educational specialists with experience in course design and in evaluation. These individuals will be available to assist individual faculty members as well as departments, divisions, and interdisciplinary teaching teams in developing individual courses, including the appropriate evaluation of student achievement.

The Office of Evaluation will be led by the Director of Evaluation. This individual will have an advanced degree in education and will be experienced in evaluation methods. The Director will be supported by the clerical and data processing staff needed to process evaluations in a timely fashion, to develop appropriate reports, and to assess examination results for validity. The Office of Evaluation will work closely with the Evaluation Committee (a standing faculty committee) and with course directors, who will be responsible for acquiring questions from faculty for the question bank (described below).

The responsibility for evaluation content in each course, including each SPOM unit, will reside with the course directors and the individual faculty instruction teams responsible for the specific course or unit.

The Office of Evaluation and the Evaluation Committee will be responsible for the following:

- Recommending methods of evaluation for particular courses
- Training faculty in the principles of evaluation, including validity, reliability, item writing, item analysis, development of examination blue prints, and scale construction
- Helping faculty develop case presentations and OSCE stations
- Ensuring that examination questions are congruent with the learning objectives approved by the Curriculum and Educational Policy Committee
- Helping course directors evaluate the quality of specific examination questions based on examination statistics
- Providing direction to faculty in response to student appeals regarding specific questions or entire examinations
- Reviewing examination and evaluation results, especially noting reliability and validity

Development of Evaluation Items—It is expected that each student evaluation, whether formative or summative, will be developed by a committee of faculty members who have direct responsibility for teaching the specific course or SPOM unit. Evaluation items will be directly linked to the stated educational objectives of the course or unit. Items will be prepared well in advance of the scheduled evaluation in order to permit careful review of items for content and construction. When possible and appropriate, evaluation instruments will be in a format that permits automated or electronic scoring. This scoring will be conducted by the Office of Evaluation along with an assessment of reliability. The Office of Evaluation will create a question bank to house and categorize all evaluation items. As examination items are developed, they will first be piloted (preferably in formative examinations) and only after statistical analysis has proven the item to be appropriate will the item be added to the question bank. The question bank will be updated annually.

Validation of Examinations—The Office of Evaluation will provide regular and timely reports of examination results, including a statistical analysis and assessment of the validity of each examination. This information will be reviewed by the Evaluation Committee and by the faculty members responsible for teaching the course or unit. The Evaluation Committee, in cooperation with the Associate Dean for Medical Education and the Director of Evaluation, will have the responsibility to assist faculty members in evaluation design if issues arise concerning the validity of a specific evaluation instrument.

See also Required Courses, Part A, item (B.).

ED-27. **There must be ongoing assessment that assures students have acquired and can demonstrate on direct observation the core clinical skills, behaviors, and attitudes that have been specified in the school's educational objectives.**

Describe any comprehensive evaluations of clinical skills (e.g., OSCE or standardized patient evaluations) to be given during the first two years of the curriculum, including specific evaluation methods and when the evaluations will be administered.

Schedule of Comprehensive Evaluations of Clinical Skills

Comprehensive evaluations of clinical skills will be administered at the end of each SPOM unit in the first two years. The summative evaluations that will be administered following the first four SPOM units in each year (the topic or systems-based units) will include a variety of evaluation methods, including the following:

- Written and oral examination questions
- Laboratory and practical examinations
- Objective structured clinical examinations (OSCEs), case presentations, and recorded patient demonstrations
- Faculty ratings

These summative evaluations may also consider feedback about student performance from patient, staff, and peer surveys. All of these evaluation methods are described in detail below.

Students' clinical skills also will be evaluated in comprehensive examinations administered at the end of each year in the Medical Skills course and in the final SPOM unit of each year (Integration of Concepts I and II). The primary focus of these examinations will be OSCEs designed to evaluate students' proficiency in specific clinical skills related to history taking, physical assessment, and the integration of the systems-based knowledge acquired in preceding SPOM units. These examinations will also assess students' behaviors and attitudes in relationship to a variety of complex issues, including societal problems; the diversity of cultural responses to health, illness, and health care services; gender, racial, and ethnic biases and disparities in health care; medical ethics; and human values.

Evaluation Measures

A wide range of evaluation measures will be used in both the formative and summative evaluations. Particular evaluation methods will be selected based on the knowledge, skills, behaviors, or attitudes to be measured. The following evaluation methods will be used:

- *Written Examinations*—Written examination questions will be used as formative and summative evaluation tools. While written examinations will be used primarily to assess knowledge acquired, especially in the SPOM units and the Medical Skills course, they may also be used to evaluate behaviors and attitudes. The examinations will include multiple-choice, extended-matching, and short answer problem-solving

questions. Examination blueprints will be published at the beginning of each course and will be available for students (for rationale see Adv Health Sci Educ Theory Pract 2005; 10: 15). The short answer problem-solving questions will be utilized for the purpose of stimulating inductive reasoning (matching questions stimulate deductive reasoning: Adv Health Sci Educ Theory Pract 2007; Jan 20).

- *Laboratory and Practical Examinations*
  - *Laboratory examinations* will be used for both formative and summative evaluations. They will consist of a number of different stations. At every station the student will be asked to identify, describe, or explain what is being observed (anatomy specimen, pathological specimen, laboratory result, picture, slide, etc). Examinations will be written. They will include multiple-choice and extended matching questions and will be based upon visual or other sensory recognition of demonstration materials. Laboratory examinations will be used to assess knowledge and skills acquired in the SPOM and Medical Skills courses and they will be held at the end of each SPOM systems-based unit (excluding Integration of Concepts I and II), or four times each year.
  - In *practical examinations*, students will be expected to demonstrate proficiency in specific clinical skills acquired in the SPOM units and the Medical Skills course, including the use of diagnostic instruments and the performance of medical procedures. Demonstrations will be documented, either in writing or by audio-visual recording, and will be used for both formative and summative evaluations.
- *NBME Subject Exams*—The National Board of Medical Examiners (NBME) subject examinations are primarily designed to measure knowledge and skills. Because the TTUHSC-EPSOM curriculum is designed in such a way that students learn traditional disciplines in an integrated, progressive manner over the first two years of the curriculum, NBME subject exams will be administered formally only at the end of each of the first two years of the curriculum, during the end-of-year SPOM units (Integration of Concepts I and II). Students will be required to participate in these examinations, which will allow comparative assessment of performance with medical students throughout the nation.

  In addition, the NBME subject exams may be used informally at the end of each SPOM unit to test students' retention of basic science concepts. In this context, they will be used as formative evaluations to provide students with a personal progress report. Since some of the questions on the subject exams may address topics that the students have not yet encountered, it is expected that scores may initially be low, but will slowly increase throughout the first two years as students acquire more knowledge of the basic sciences. When exams are used in this context, the test results for individual students will be compared to the class mean for the purpose of identifying any students who may require remediation.
- *Faculty Ratings*—Faculty will observe and evaluate student participation in small-group learning activities, including the clinical correlation sessions, standardized patient sessions, community-based activities, and the Masters' Colloquium sessions. Participation in small-group discussions and activities will be included as part of the formative and summative evaluations. Both qualitative and quantitative assessments

of participation will be used to assess knowledge, behaviors, and attitudes. In structured small-group sessions, the forms to be filled out by preceptors will be of a consistent format.

- *Objective Structured Clinical Examinations, Case Presentations, and Recorded Patient Demonstrations*
  - *OSCEs* will be used to evaluate the student's abilities to assess patients, develop a diagnostic framework, and define a plan of diagnostic and therapeutic action. OSCEs will also be used to evaluate communication skills, history taking skills, physical examination skills, and progress in acquiring the attitudes congruent with the roles of a physician in training (culturally aware communicator, collaborator, ethical professional, and health advocate). Thus, the examination will be used to assess knowledge and skills and, using guidelines developed by the Accreditation Council for Graduate Medical Education, behaviors and attitudes. For the most part, OSCEs will be used as part of the summative evaluations at the end of each SPOM unit and at the end of each year in the Medical Skills course.
  - *Computer-based case presentations* will be used primarily for formative evaluations in the SPOM course. Course directors will post case presentations for students to solve, and students will be able to direct investigative questions to the faculty to arrive at a diagnosis. Feedback will be provided through e-mail. The exercises will be designed to assess knowledge, skills, behaviors, and attitudes. Once computer-administered adaptive testing becomes more commonplace and an adequate question bank becomes available, computer-based testing will be used as a preferred formative evaluation method and may also be integrated into summative examinations.
  - *Oral and/or written case presentations* will be part of patient encounters in the SPOM clinical correlation sessions and will be used primarily as formative evaluations. Progressive improvement in quality will be an expected outcome. Case presentations will be used to assess knowledge, skills, behaviors, and attitudes.
  - *Recorded patient demonstrations* will be used in formative evaluations and summative examinations to assess knowledge, skills, behaviors, and attitudes acquired in the Medical Skills course. Students will be expected to demonstrate proficiency in patient assessment, including history-taking and physical examination. Student performance will be directly observed and recorded for subsequent review.
- *Papers and Oral Presentations*
  - The students will develop *written reports*, including literature reviews, critical appraisals of scientific articles, research projects, topical reports, and other similar communications. The reports will be used at times for formative evaluation, but primarily for summative evaluation in the SCI course. Written reports will be used to assess knowledge, skills, behaviors, and attitudes.
  - *Oral presentations* will be used primarily for formative purposes, especially in the Masters' Colloquium sessions, and occasionally for summative reasons. They

may take the form of topical presentations, patient-based comments, oral quizzes, and reasoned arguments, and they will be used to assess knowledge, behaviors, and attitudes.

- *Surveys*
  - *Self-assessment surveys* will be administered from time to time to obtain each student's perspective on his/her own accomplishments, strengths, and weaknesses. These assessments will be used as a formative evaluation tool and will serve as a source of information for advisement and mid-course adjustment. These assessments will primarily consider behaviors and attitudes.

Patient, staff, and peer surveys will be used as formative and summative evaluation tools to assess student behaviors and attitudes that may not be apparent in formal instructor-student interactions. Patient surveys may be conducted with patients who have been cared for by the student in the SPOM clinical correlation sessions and/or in the community-based activities associated with the SCI course. Staff surveys will be conducted with faculty and staff members in educational and clinical venues who have worked directly with the student. Peer surveys will be conducted with fellow students who have worked directly with the student in various educational and clinical venues.

See also Required Courses, Part A, item (B.).

ED-28. **There must be evaluation of problem solving, clinical reasoning, and communication skills.**

Provide a representative sample of any materials (written or oral exam questions, research paper assignments, problem-based learning cases, etc.) specifically designed to assess student skills in problem solving, clinical reasoning, and communication in the first-year courses.

The El Paso School of Medicine will evaluate student achievement in problem solving, clinical reasoning, and communication skills throughout the curriculum. This evaluation will include a diverse number of evaluation methods and will be structured to provide both formative and summative assessments at appropriate intervals in each component of the curriculum, as described above (ED-26 and ED-27).

Following are representative samples of evaluation materials that are designed to assess student skills in problem solving, clinical reasoning, and communication in the first-year courses.

Problem solving

Below is a sample question requiring problem solving:

CASE 5

A 66-year-old woman with chronic congestive heart failure due to hypertensive heart disease is admitted to the hospital for management. On admission, her physical examination reveals hypertension, pulmonary edema, elevated JVP, and bilateral leg edema to her knees.

After 5 days of antihypertensive and diuretic therapy, there is a 10-lb weight loss with clinical improvement. Repeat physical examination reveals milder but persistent pulmonary edema. Serum creatinine has increased from 106 to 230 umol/L (1.2 mg/dl to 2.6 mg/dl). Urinalysis is normal. Urinary [Na] is < 10 mmol/L and urine osmolarity is 600 mosm/Kg.

1) What is the patient's effective arterial blood volume status?

a. before treatment?
   i. Expanded_____
   ii. Contracted_____
b. after treatment?
   i. Improved?_____
   ii. Worsened? _____

2) What is the patient's extracellular volume status?

a. before treatment?
   i. Expanded_____
   ii. Contracted_____
b. after treatment?
   i. Improved?_____
   ii. Worsened? _____

3) Explain the change in serum creatinine concentration.

a. Acute tubular necrosis
b. Acute interstitial nephritis (secondary to diuretics)
c. Acute decrease in renal perfusion

d. Acute glomerulonephritis
e. Acute urate nephropathy

4) Explain the urinary sodium concentration

a. Acute tubular necrosis
b. Acute interstitial nephritis (secondary to diuretics)
c. Acute decrease in renal perfusion
d. Acute glomerulonephritis
e. Acute urate nephropathy

Clinical Reasoning

Below are two evaluation questions designed to assess students' clinical reasoning skills in OSCE stations. Depending on whether the station is intended to also test history - taking or physical examination (in addition to clinical reasoning), the appropriate information would be given or withheld. To stimulate inductive reasoning, no options menu will be given (Adv Health Sci Educ Theory Pract 2007 Jan 20).

Question 1

A 49-year-old man complains of tiredness and generalized edema of 1-2 years' duration. Initially the complaints were mild, but have been getting progressively worse. He is not taking any medications. Past history fails to reveal any heart, liver, or kidney disease, he is only a social drinker, and his only significant past illness is TB.

Physical examination

BP is 110/80 mmHg, he has 3+ bilateral pedal edema, and shifting dullness is found on abdominal examination. The pulse is irregularly irregular. The heart sounds are distant, and no murmurs are heard. Jugular venous pressure is about 20 cm. of water.

- ECG shows atrial fibrillation and low voltage.
- Chest x-ray reveals pericardial calcification
- Creatinine 100 umol/L
- Urinalysis normal
- Urine Na+ <10 mmol/L or mEq/L

What is the most likely diagnosis?_____

Question 2

A 47-year-old African-American man presents with edema. BP is 160/110 mmHg. He is not taking any medications. His past history is hypertension of about 11 years' duration. He was initially treated with beta-blockers. This medication caused erectile dysfunction, and did not appear to control his blood pressure adequately. Consequently, he stopped the medication. He has not been on any treatment since.

Physical examination

Blood pressure is 175/105 mmHg. Patient has Grade 2 hypertensive retinopathy and 2+ bilateral pitting edema of his legs.

- Urinalysis 3+ proteinuria, bland sediment
- Creatinine 248 umol/L or 2.8 mg/d
- Urine [Na+] 56 mmol/L or mEq/L

What is the most likely diagnosis?_____

Below are sample evaluation questions designed to assess students' skills in diagnostic reasoning in written format:

1. Topic Failing Liver (ascites) Diagnosis

   A 68 year-old alcoholic man with known cirrhosis, previous variceal bleeds, presents with a change in belt size and abdominal distention over the last month. He has mild discomfort from the abdominal distention, but no severe abdominal pain. A diagnostic and therapeutic paracentesis is performed. The results of the fluid reveal: fluid albumin 5 g/L (serum albumin 25g/L), fluid total protein 10g/L (serum total protein 50g/L), normal cell count and differential, culture and cytology pending.

   Which of the following would best explain the etiology of his ascitic fluid?

   a. Cirrhosis with portal hypertension
   b. Severe tricuspid regurgitation
   c. Perforated duodenal ulcer
   d. Peritoneal carcinomatosis
   e. Spontaneous bacterial peritonitis

2. Topic Failing Liver (ascites) Diagnosis

   A 68 year-old alcoholic man with known cirrhosis, previous variceal bleeds, presents with a change in belt size and abdominal distention over the last month. He has mild discomfort from the abdominal distention, but no severe abdominal pain. A diagnostic and therapeutic paracentesis is performed. The results of the fluid reveal: fluid albumin 25 (serum albumin 28), fluid total protein 40g/L (serum total protein 50g/L), normal cell count and differential, culture and cytology pending.

   Which of the following would best explain the etiology of his ascitic fluid?

   a. Peritoneal carcinomatosis
   b. Severe tricuspid regurgitation
   c. Perforated duodenal ulcer
   d. Cirrhosis with portal hypertension
   e. Spontaneous bacterial peritonitis

3. Elevated liver enzymes, diagnosis

   A 36 year-old man has abnormal liver enzymes on general laboratory screening. He is a non-smoker, but 2 years ago was diagnosed with moderate chronic obstructive lung disease. He has no other symptoms or past medical history. He is on Atrovent puffers. His father also had COPD and died at an early age. His ALT is 115, Alk. Phos. 75, GGT 34, bilirubin 12. What is the most likely diagnosis?

   a. Genetic hemochromatosis
   b. Alpha-1 antitrypsin deficiency
   c. Wilson's disease
   d. Primary biliary cirrhosis
   e. Autoimmune hepatitis

4. Jaundice, diagnosis

   A 55 year-old woman, with a history of prosthetic valve repair, presents with jaundice. She is asymptomatic from a GI point of view. Her total bilirubin is 75 (direct 6), ALT 35, Alk. Phos 65, GGT 45, LDH 700. Her Hemoglobin is 115, MCV 85, reticulocytes 3.6 (0.2-2). What is the most likely diagnosis?

   a. Acute intravascular hemolysis
   b. Gilbert's syndrome

c. Resolving hematoma
d. Common bile duct stone
e. Acute viral hepatitis

Communication

Below is a sample evaluation report for faculty observing communication skills at an OSCE station or in a video-taped patient encounter:

MEDICAL SKILLS EVALUATION—COMMUNICATION UNIT

Exam – Communication Skills

Student Name: _____ Date:_____

Please provide a grade in each of the following categories that reflects performance.

- A '0' indicates that they did not attempt a communications category.
- A '1' indicates that they attempted but were not completely successful in the category.
- A '2' indicates that they were successful in the category.

Initiating the Session		**0**	**1**	**2**
1	GREETS patient and obtains patient's name			
2	INTRODUCES self, role, and nature of interview; Obtains consent if necessary			
3	DEMONSTRATES RESPECT and interest, attends to patients physical comfort			
4	IDENTIFIES PRESENTING COMPLAINT brought by the patient (e.g. what would you like to discuss today?)			
5	LISTENS attentively to the patient's opening statement without interrupting and responds appropriately			
6	CONFIRMS LIST AND ENQUIRES regarding other possible concerns (e.g. Is there anything else besides headache you'd like to discuss?			
7	NEGOTIATES AGENDA taking into account patient and doctor's perspective			

Subtotal: _____

Gathering Information		**0**	**1**	**2**
8	ENCOURAGES patient to tell story of problem from when it first started to the present in the patient's own words			
9	USES OPEN-ENDED AND CLOSED-ENDED QUESTIONS appropriately			
10	LISTENS ATTENTIVELY, allowing patient to complete statements, leaving space for patients to think before answering and pausing appropriately			
11	FACILITATES RESPONSES VERBALLY AND NON-VERBALLY (e.g. uses encouragement, silence, repetition, paraphrasing)			
12	PICKS UP VERBAL AND NON-VERBAL CLUES, enquires about them where appropriate			
13	CLARIFIES PATIENT STATEMENTS the are unclear (e.g. what do you mean by dizzy?)			
14	USES CONCISE EASILY UNDERSOOD LANGUAGE and avoids use of medical jargon			
15	ESTABLISHES DATES AND CHRONOLOGY of events			
16	EXPLORES AREAS OF PATIENT CONCERN regarding their illness			
17	ENCOURAGES EXPRESSION OF FEELINGS			

Subtotal: _____

Providing Structure		**0**	**1**	**2**
18	SUMMARIZES at end of HPI or end of INTERVIEW			
19	PROGRESSES USING TRANSITIONAL STATEMENTS (e.g. now I'd like to ask about your family)			
20	STRUCTURES INTERVIEW in a logical sequence			
21	ATTENDS TO TIMING and progresses appropriately			

Subtotal: _____

Building Relationship		**0**	**1**	**2**
22	DEMONSTRATES APPROPRIATE NON-VERBAL BEHAVIOUR (e.g. eye contact, posture, gestures, vocal rate, volume, tone)			
23	If READS OR WRITES NOTES it doesn't interfere with the rapport or dialogue			
24	DEMONSTRATES appropriate CONFIDENCE			
25	ACCEPTS LEGITIMACY OF PATIENT'S VIEWS or feelings and is not judgmental			
26	EMPATHETIC when appropriate with patients views and beliefs			
27	SUPPORTIVE regarding possible emotional concerns and offers opportunity to discuss			
28	SHARES THOUGHTS with patient to encourage their involvement (e.g. I'm concerned that you may have Lupus, has that ever crossed you mind?)			

Subtotal: _____

Closing the Session		**0**	**1**	**2**
29	GIVES EXPLANATION APPROPRIATELY waiting until the end of the session before commenting			
30	GIVES INFORMATION IN CLEAR, CONCISE FASHION without using jargon or overwhelming the patient			
31	CONTRACTS REGARDING NEXT STEPS			
32	CHECKS WITH PATIENT TO ENSURE UNDERSTANDING of next steps			
33	ENCOURAGES PATIENT to discuss additional points, if necessary			

Subtotal: _____

FINAL SCORE: _____/56

(MPL for communications exams falls usually at 65% or higher. This represents a score of 37/56.)

Preceptor Name: _____ **Signature**: _____

See also the Required Course Forms and the information for standards ED-6/7 and ED-19.

ED-29. **The faculty of each discipline should set the standards of achievement in that discipline.**

All four courses in the first two years of the curriculum at the El Paso School of Medicine will be integrated, interdisciplinary courses. The curriculum for each course and SPOM unit was developed by planning teams composed of topic experts drawn from several clinical and basic science disciplines. These teams established specific educational objectives for each course or unit and linked these objectives to the institutional educational objectives. Each team also established topics and teaching methods for each course or unit, and determined requirements for satisfactory student performance. Representatives of each of the involved disciplines provided guidance concerning the standards of achievement in their respective discipline, as described below:

- **Scientific Principles of Medicine**—In each of the topic or systems-based SPOM units, curriculum design began with identifying the 10–20 clinical presentations for that unit. Subsequently, representatives of the basic science disciplines were asked to identify the scientific concepts from their discipline that will be essential for the comprehension of each clinical presentation. These basic-science concepts were translated into objectives for each clinical presentation. Each objective includes a statement of expected achievement. The knowledge and standards of achievement required for each discipline are represented by the sum total of discipline-specific objectives identified across the 120 clinical presentations in the two years of the SPOM course. These educational objectives are the basis for planned learning experiences in all of the systems-based units. The Curriculum and Educational Policy Committee will use these course objectives to evaluate the structure and content of the curriculum and to assure that the educational expectations of all disciplines are addressed. The Evaluation Committee will use these objectives to ensure the congruency of examination items with the curriculum.

  The SPOM curriculum described in this database was developed by the existing El Paso faculty, which has only limited representation in the basic sciences, including five pathologists and three biochemists. Representation of the other basic science disciplines was achieved with assistance from faculty members in the existing TTUHSC School of Medicine in Lubbock. In addition, the basic science objectives from the United States Medical Licensing Examination (USMLE) Step 1 and national objectives created by the Association for Medical Pharmacology and The American Physiological Society were integrated into objectives for each clinical presentation under the heading “Scientific Concepts Applicable to the Clinical Condition.” When the new basic science faculty is in place at TTUHSC-EPSOM, the faculty will review and edit all of the existing basic science objectives and will re-examine and set the standards of achievement in each discipline. We expect the future basic science faculty to accomplish these tasks by the beginning of November 2007.
- **Medical Skills**—The educational objectives that have been developed for this course are not discipline-specific. Instead, the objectives identify knowledge and skills that are applicable across disciplines, including objectives related to communication, physical examination, and common medical procedures. Students, under the guidance

of faculty, will learn to translate and apply these generic objectives to specific clinical presentations. The course objectives and standards of achievement, which are linked to institutional educational objectives, have been established by an interdisciplinary team of clinical faculty. The objectives and standards will be reviewed and confirmed or revised by new faculty as needed.

- **Society, Community, and the Individual**—The educational objectives in this course focus on issues of epidemiology and public health, such as understanding and applying epidemiological principles, statistical concepts, research methods, and methods of community needs assessment. Preliminary course objectives and standards of achievement, which are linked to institutional educational objectives, have been established by existing faculty. These objectives and standards will be reviewed and confirmed or revised by new faculty as needed.
- **Masters' Colloquium**—The educational objectives that have been developed for this course are not discipline-specific. Instead, the objectives identify knowledge, behaviors, and attitudes that are applicable across disciplines, including objectives related to ethics, critical thinking, and social and economic components of health care. Students, under the guidance of faculty, will learn to translate and apply these generic objectives to specific clinical presentations. Preliminary course objectives and standards of achievement, which are linked to institutional educational objectives, have been established by existing faculty and will be reviewed and confirmed or revised by the future college masters (an interdisciplinary team of clinical and basic science faculty members who will have expertise in medical education).

The Curriculum and Educational Policy Committee will have the responsibility of reviewing all educational objectives regularly (at the time course committee chairs report to the Curriculum and Educational Policy Committee) to ensure that they are consistent with institutional educational objectives and standards of achievement.

Refer to the responses for standard MS-33 in Section III of the database relating to evaluation of student performance. If there are no institutional policies regarding evaluation of student performance, describe how standards of achievement are determined for required courses and clerkships.

ED-30. **The directors of all courses and clerkships must design and implement a system of formative and summative evaluation of student achievement in each course and clerkship.**

Those directly responsible for the evaluation of student performance should understand the uses and limitations of various test formats, the purposes and benefits of criterion-referenced vs. norm-referenced grading, reliability and validity issues, formative vs. summative assessment, etc.

In addition, the chief academic officer, curriculum leaders, and faculty should understand, or have access to individuals who are knowledgeable about, methods for measuring student performance. The school should provide opportunities for faculty members to develop their skills in such methods.

An important element of the system of evaluation should be to ensure the timeliness with which students are informed about their final performance in the course/clerkship. In general, final grades should be available within four to six weeks of the end of a course/clerkship.

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a. Describe the availability of individuals who will assist faculty in developing formative and summative evaluations of students (for example, experts in test development or educational measurement)

Office of Evaluation—The Office of Evaluation will be a separate administrative unit within the Office of Medical Education. It will be supervised by the Director of Evaluation and will be responsible for managing evaluation activities, reporting the results of student and programmatic evaluations, and providing appropriate consultation services. The Director and his/her staff will have the appropriate training and experience needed to train faculty members, course committees, and course directors in the principles of evaluation, including validity, reliability, item writing, item analysis, development of examination blue prints, and scale construction.

Faculty Development in Principles of Evaluation—The Director of Evaluation is currently being recruited and will be on campus prior to the arrival of the first class. For now, the Associate Dean for Faculty Affairs has already begun a faculty development program to prepare our current faculty members for the expanded evaluation process within the four-year medical school. He has introduced a series of presentations in the existing faculty development course with the assistance of invited experts from other offices of evaluation. These presentations will serve as the foundation for an expanded training program for all faculty members.

Once the Director of Evaluation is in place, faculty development will be one of the most important components of the consultative activities of the Office of Evaluation. Workshops on test design, testing methods, test reliability and validity, grading strategies, and the respective roles of formative and summative evaluations will be presented annually. These concepts will be incorporated into the ongoing faculty development course for new faculty members, and will also be offered as a refresher course on evaluation to all faculty members, departments, and course directors.

b. List any planned workshops or similar activities regarding methods of evaluating student performance.

Recent workshops regarding methods of evaluating student performance include the following:

- 2/22/2007: Workshop: How to Write and Ask Good Questions that Measure Student Comprehension
- 4/05/2007: Workshop: Why Evaluation of Trainees is not Effective and How to Fix It

Similar workshops will be offered in the future.

c. Describe how the school will ensure that course and clerkship grades are released to students in a timely manner.

Formative evaluations will be conducted on a weekly basis. Weekly formative examinations will be used primarily to assess knowledge and skills acquired in the SPOM and Medical Skills courses, but will also be used to evaluate behaviors and attitudes by including concepts from the SCI and Masters' Colloquium courses. These evaluations will be scheduled on Friday afternoons so that they can be reviewed and scored over the weekend. They will serve as the basis of an introductory discussion during the weekly Masters' Colloquium on Monday morning. College masters will be responsible for coordinating these evaluations with the assistance of the Office of Evaluation and their question bank. In addition to providing the basis of a group discussion, the evaluations will also provide a resource for individual advisement sessions conducted by the Masters on at least a biweekly schedule.

Summative evaluations will be conducted at the conclusion of each SPOM unit and at the end of the year in the SPOM and Medical Skills courses. These summative evaluations will include objectives from the Masters' Colloquium course. In the SCI course, the summative evaluation will take the form of a research project and report. Feedback will be provided to the students by the Office of Evaluation within one week of the conclusion of each course and each SPOM unit. The Associate Dean for Medical Education, as the supervising officer of the Office of Evaluation, will ensure that this timeline is met.

See also information for standard ED-26 in this section, MS-33 in Section III of the database, Required Courses, Part A, item (B.), and Individual Required Course Forms.

ED-31. **Each student should be evaluated early enough during a unit of study to allow time for remediation.**

It is expected that courses and clerkships provide students with formal feedback during the experience so that they may understand and remediate their deficiencies. Courses or clerkships that are short in duration (less than 4 weeks) may not have sufficient time to provide structured formative evaluation, but should provide alternate means (such as self-testing or teacher consultation) that will allow students to measure their progress in learning.

As described above in ED-30, early **formative evaluation** will be an integral part of the entire curriculum. During the first two years of the curriculum, formative evaluations will occur weekly. The evaluation instrument(s) administered at the end of each week will be reviewed with the college masters at the beginning of the following week. The results of this evaluation will guide the students in their study plans and will also provide the college masters with a timely, ongoing summary of each student's academic and social development. This summary will permit early intervention whenever necessary (academic difficulty or situational adjustment). Because of the close relationship of the students and the college masters, a remediation plan can be developed and instituted at the earliest sign of concern.

A **summative evaluation** will be provided at the conclusion of each SPOM unit. Feedback will be provided within a week of the evaluation. This will afford students the opportunity to use their free time for early remediation and self-study. Although our goal is to have sufficient early detection and intervention via the weekly formative evaluations to preclude additional remediation as a consequence of unsatisfactory performance on summative evaluations, individualized plans of remediation will be provided for students who do not meet the standards of accomplishment. If the amount of time available for self-study is not sufficient for remediation prior to retaking the summative evaluation, remediation during the summer months will be recommended.

See information provided in Required Courses, Part A, item (B), and on the Required Course Forms.

ED-32. **Narrative descriptions of student performance and of non-cognitive achievement should be included as part of evaluations in all required courses and clerkships where teacher-student interaction permits this form of assessment.**

Written narrative descriptions of student performance and non-cognitive achievement will be prepared at the conclusion of each SPOM unit and year. In the **SPOM units**, narrative evaluations will be prepared by the tutors supervising the clinical correlation sessions and the tutors in charge of small-group learning sessions for that unit. Narrative evaluations also will be prepared by tutors in the **Medical Skills** course, by supervisors in the **SCI** course, and by the college masters in each **Masters' Colloquium**. At the end of each unit and course in the first two years, course directors will work collaboratively with the college masters to collate the narrative evaluations, which will then be forwarded to the Office of Medical Education. Narrative evaluations will include an assessment of student effort, participation, interpersonal skills, attitudes, and behaviors. While evaluation will be specifically keyed to institutional educational objectives related to behaviors and attitudes, instructors may also include individual observations intended to assist the student in personal growth.

See information provided on the Required Course Forms.

ED-33. **There must be integrated institutional responsibility for the overall design, management and evaluation of a coherent and coordinated curriculum.**

The phrase "integrated institutional responsibility" implies that an institutional body (commonly a curriculum committee) will oversee the educational program as a whole. An effective central curriculum authority will exhibit:

-Faculty, student, and administrative participation
-Expertise in curricular design, pedagogy, and evaluation methods.
-Empowerment, through bylaws or decanal mandate, to work in the best interests of the institution without regard for parochial or political influences, or departmental pressures.

The phrase "coherent and coordinated curriculum" implies that the program as a whole will be designed to achieve the school's overall educational objectives. Evidence of coherence and coordination includes:

-Logical sequencing of the various segments of the curriculum.
-Content that is coordinated and integrated within and across academic periods of study (horizontal and vertical integration).
-Methods of pedagogy and student evaluation that are appropriate for the achievement of the school's educational objectives.

Curriculum management signifies leading, directing, coordinating, controlling, planning, evaluating, and reporting. Evidence of effective curriculum management includes:

-Evaluation of program effectiveness by outcomes analysis, using norms of accomplishment as a frame of reference.
-Monitoring of content and workload in each discipline, including the identification of omissions and unwanted redundancies.
-Review of the stated objectives of individual courses and clerkships, as well as methods of pedagogy and student evaluation, to assure congruence with institutional educational objectives.

Minutes of the curriculum committee meetings and reports to the faculty governance and deans should document that such activities take place and should show the committee's findings and recommendations.

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a. Provide an organizational chart for management of the curriculum that includes the curriculum committee and its subcommittees, other relevant committees, the chief academic officer, and other individuals or groups involved in curriculum design, implementation, and evaluation.

Please see the organizational chart on the following page.

Curriculum Management in the El Paso School of Medicine

{ SHAPE * MERGEFORMAT }

b. Supply the title of the faculty committee with responsibility for the curriculum

Curriculum and Educational Policy Committee

c. Provide the charge or terms of reference for this committee, and the source of its authority (bylaws, mandate from the dean or faculty executive committee, etc.)

The Curriculum and Educational Policy Committee is established in the faculty bylaws as a permanent committee of the school of medicine. The committee will be responsible for establishing the policies necessary to maintain a contemporary and effective undergraduate medical curriculum that remains relevant to the continuum of medical education. More specifically, the curriculum must be designed to provide a general professional education that addresses the educational objectives of the institution while preparing students to:

- Enter and complete graduate medial education.
- Qualify for licensure.
- Provide competent and compassionate care.
- Continue their education throughout their careers.

The committee is charged with reviewing the undergraduate medical education curriculum on a continuous basis to assure its adherence to the written educational policies, goals, and objectives of the El Paso School of Medicine. Based upon its review, the committee may make recommendations to the faculty for changes in educational policy or in the organization or content of the curriculum. In order to accomplish the mission of the committee, the chair may appoint subcommittees that may include members who are not members of the committee. It will be the responsibility of the committee to coordinate the activities and reports of these subcommittees.

The committee will meet monthly and will be chaired by the Associate Dean for Medical Education. In the absence of the Associate Dean, the meeting will be chaired by a Vice Chair of the Committee, who will be elected by a simple majority of the members attending the first meeting of the academic year.

The Dean will appoint members of the committee with the approval of the faculty and in accordance with the categories of membership defined in the faculty bylaws, as described below.

d. Describe the composition of this committee and mechanisms for selecting its members and chair.

The Curriculum and Educational Policy Committee will be chaired by the Associate Dean for Medical Education. One master from each of the four colleges (two basic scientists and two clinicians) will be appointed for a two-year term on a rotating basis. In addition, four faculty members from the basic sciences and four faculty members from the clinical sciences will be appointed for four-year terms on a rotating basis. Candidates for these appointed positions must demonstrate an ongoing interest in medical education as exemplified by presentations or publications on topics in medical education and/or recognized exemplary teaching skills. Candidates may apply or be nominated for appointment. Appointment will be made by the Dean of the school of medicine with the advice and consent of the Academic Council. One student representative from each of the four colleges will be elected by the full membership of the respective college on an annual basis. As the student body expands, there will be student representatives from each academic year. Ad hoc members of the committee will include the Director of the Office of Evaluation, the Associate Director of Libraries, the Director of Information Technology or a designated representative, and other individuals who may bring special expertise to the deliberations of the committee.

e. Indicate the frequency of planned meetings during a typical academic year: (check)

	Weekly
	Biweekly
X	Monthly
	Bimonthly
	Other (describe)

f. If there are standing subcommittees, describe their charge or role, membership, and reporting relationship to the parent committee.

Course committees for each course in the first two years of the curriculum, including each SPOM unit, are standing subcommittees of the Curriculum and Educational Policy Committee.

Role of Course Committees

The role of the course committees includes planning the courses and SPOM units, including identifying teaching and evaluation methodologies. The subcommittees also approve examination blueprints and course summative examinations. At the conclusion of each course or SPOM unit, the appropriate subcommittee reviews course and student evaluations and recommends changes in the course or unit, as needed.

The Curriculum and Educational Policy Committee allocates time in the SPOM course to each of the various topic and systems-based units. The unit subcommittees re-apportion the time according to the clinical presentations within the unit. Thereafter, the unit subcommittees apportion time to varying learning experiences.

Reporting Relationship to Curriculum and Educational Policy Committee

At a minimum, course committees will report to the Curriculum and Educational Policy Committee at least twice each year—once at the beginning of the year regarding course planning and implementation, and once at the end of the year regarding student and course evaluation.

Membership of Course Committees

The Curriculum and Educational Policy Committee will appoint the course directors, who will in turn appoint members to their course committee. The Curriculum and Educational Policy Committee will approve membership of the course committees. The membership of each course committee will be interdisciplinary, as described below:

Scientific Principles of Medicine—The planning committee for each systems-based SPOM unit will include faculty representatives from the clinical and basic sciences disciplines to be addressed in the unit. Overall planning for the course will be directed by the Curriculum and Educational Policy Committee.

Medical Skills—The planning committee for this course will be an interdisciplinary team of clinical faculty.

Society, Community, and the Individual—The planning committee for this course will be an interdisciplinary team of faculty in family medicine and public health.

Masters' Colloquium—The planning committee for this course will be composed of the college masters from all colleges. Thus, it will be an interdisciplinary team of four clinical and four basic science faculty members who have expertise in medical education.

g. Describe the roles of the curriculum committee and any subcommittees, the chief academic officer or associate dean for educational programs, and the departments in each of the following:

- Developing and reviewing the institutional objectives for the educational program
- Ensuring use of appropriate methods or instructional formats
- Ensuring that content is coordinated and integrated within and across academic periods of study
- Ensuring use of appropriate methods to evaluate student performance
- Monitoring the quality of teaching

Key Participants in Curriculum Planning and Evaluation

TTUHSC-EPSOM will provide a coordinated approach to the design, management, and evaluation of the curriculum. This approach will include participation of the Associate Dean for Medical Education, the Curriculum and Educational Policy Committee, and the course committees. In addition, the Curriculum and Educational Policy Committee will encourage broad faculty participation in the following ways:

- Each meeting of the committee will include a commentary period that will be open to all faculty members. Agendas will be published a week prior to each meeting to inform faculty of the topics to be addressed. If faculty members wish to participate in the commentary period of the meeting, they will be required to register in advance. (When necessary, the committee will meet in executive session to address matters that require faculty or student confidentiality.)
- Minutes from each committee meeting will be made available by electronic posting to all faculty members. Individual course directors will receive hard copies of the minutes on a monthly basis to encourage ongoing interaction between the teaching faculty and the committee.
- Reports from the committee will be provided to faculty at meetings of administrative committees, including the Academic Council.

Students will have the opportunity to contribute to the integrated curriculum-planning and evaluation processes by providing feedback regarding the curriculum in their course evaluations.

Developing and Reviewing the Institutional Objectives for the Educational Program

The Associate Dean for Medical Education and his administrative unit, the Office of Medical Education, will have responsibility for the day-to-day operation and administration of the curriculum. They will work closely with the Curriculum and Educational Policy Committee to advise the committee and the general faculty of guidelines and new recommendations of the Liaison Committee on Medical Education (LCME) and other agencies concerning curriculum requirements. They will assist the

Curriculum and Educational Policy Committee in the development, coordination, review, and modification of the curriculum, including the review of institutional objectives for the educational program.

The Curriculum and Educational Policy Committee will provide educational vision and oversight related to the design, implementation, and evaluation of the undergraduate medical curriculum and will ensure that course learning objectives and outcomes are aligned with institutional educational objectives. The committee will also ensure that the curriculum adheres to LCME standards and to the mission, vision, and long-term goals of the school of medicine.

Ensuring Use of Appropriate Methods or Instructional Formats

The course committees will have primary responsibility for identifying appropriate methods and instructional formats for each course and SPOM unit. The committees will have access to the expertise available in the Office of Medical Education and its component offices—the Office of Curriculum and the Office of Evaluation—which will be established by the fall of 2007. The staff will include educational specialists with experience in course design and in evaluation. These individuals will be available to assist course committees in identifying appropriate methods and instructional formats. The Curriculum and Educational Policy Committee will review the planning and evaluation reports from each course committee to ensure that selected pedagogical methods are appropriate for meeting the educational objectives of the course or unit.

Ensuring that Content is Coordinated and Integrated within and across Academic Periods of Study

The Curriculum and Educational Policy Committee will review the general operations of the curriculum on a regular basis to ensure that the curriculum content is coordinated and integrated within and across academic periods of study. This will include an annual review of the overall program to include scheduling, faculty assignments, and any major changes in content. The committee will allocate time to each course and, when necessary, will reallocate time to maintain balance within the educational program and to ensure that the impact of the educational program maintains an appropriate balance with the research and clinical practice programs of the school. The committee will also receive and consider regular reports from the Associate Dean for Medical Education and the Evaluation Committee. The Curriculum and Educational Policy Committee may also communicate directly with the Dean and with appropriate course directors or department chairs in the event an urgent concern about the curriculum is identified.

In addition to the annual programmatic review and the annual course reviews, each course will be reviewed in depth by the Curriculum and Educational Policy Committee every two to three years. The learning objectives, content, and pedagogy of each segment of the curriculum will be reviewed in detail with the goals of ensuring congruence with the institutional educational objectives and maintaining a coordinated and integrated curriculum.

A centralized, web-based, curriculum-management tool will be instituted to ensure that objectives from each course are, collectively, covering the whole spectrum of institutional goals and educational objectives. The existing medical school uses Web

CT/Blackboard. We are considering other applications, including the program developed by the University of Calgary. We will also contribute information to CurrMIT®, the curriculum management tool developed by the AAMC. With any of these applications, we hope to confirm planned redundancy and eliminate over-duplication in the curriculum. The web-based curriculum-management tool will also be used to track total contact hours so that we can ensure that the curriculum meets the school's goals for appropriate, scheduled educational encounters, while allowing adequate free time for self-study and clinical activities.

Ensuring Use of Appropriate Methods to Evaluate Student Performance

The Office of Medical Education will be the administrative home of the Office of Evaluation and its associated committee, the Evaluation Committee. The Evaluation Committee will include the Associate Dean for Medical Education, who will serve as the permanent chair, and the four college masters who are not current members of the Curriculum and Educational Policy Committee. The committee will be supported by staff from the Office of Evaluation, including an education specialist with training and experience in evaluation and statistics. Roles of this committee will include the following:

- Evaluate the curriculum and student performance and provide feedback to the Associate Dean of Medical Education and the Curriculum and Educational Policy Committee about the effectiveness of the curriculum
- Identify problems in student performance, pedagogy, or evaluation that might require prompt modification or remediation.
- Review the evaluation process on a regular basis, including the content and structure of testing materials, student performance, validity and reproducibility of evaluations, evaluation feedback, and correlation of course content and evaluations

The evaluations and reviews conducted by the Evaluation Committee will include statistical analyses whenever possible and will be accompanied by interpretations and suggestions for change, if necessary. Committee actions and recommendations will be incorporated into regularly scheduled reports to the Curriculum and Educational Policy Committee.

In addition to internal review of the curriculum, benchmarks will be used to compare the performance of students at TTUHSC-EPSOM with national norms. These benchmarks will include grades, success rates on USMLE Steps 1, 2, and 2CS, other normative national examinations, and NBME subject examinations.

The Office of Medical Education also will provide support for the Student Grading and Promotions Committee, which will monitor individual student performance, certify satisfactory student achievement, and recommend to the administration and to the faculty the promotion of students at the end of appropriate academic periods.

Monitoring the Quality of Teaching

Faculty members will be evaluated by medical students throughout the curriculum for their teaching skills. The results of these evaluations will be tabulated and analyzed by the Office of Evaluation with summary results provided to the appropriate individuals,

including the evaluated faculty member, the course committee chair, department chairs, the college masters, and assistant or associate deans. The evaluations also will be used by the Curriculum and Educational Policy Committee and the individual course planning committees in their assessments of the effectiveness of the curriculum.

The Curriculum and Educational Policy Committee will also consider data from the students' evaluations of the faculty when it appoints course directors and approves membership of the course committees. When appropriate, the Curriculum and Educational Policy Committee will recommend faculty development opportunities to faculty members, including faculty leaders in the education program, based on student or faculty evaluation of educational performance; if necessary, it may also recommend to the Dean changes in leadership of the educational program.

ED-34. **The program's faculty must be responsible for the detailed design and implementation of the components of the curriculum.**

Such responsibilities include, at a minimum, the development of specific course or clerkship objectives, selection of pedagogical and evaluation methods appropriate for the achievement of those objectives, ongoing review and updating of content, and assessment of course and teacher quality.

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a. Provide examples of the types of changes that will be handled at the level of the course or clerkship and the types of changes that will require curriculum committee or other central approval.

During each course, the course committee will meet regularly to review progress of the course and assess elements such as attendance, course content, and teaching quality. Course committees for each SPOM unit will meet regularly during the time scheduled for their particular educational unit. If the course committee determines that adjustments are needed, it will take steps to implement those adjustments. The following changes can be handled at the level of the course or unit:

- Reassignment of time within the course, including reassignment of time to specific clinical presentations within the systems-based SPOM units
- Reassignment of tutors in small-groups sessions, including clinical correlation sessions
- Modifications in planned teaching methodologies

If the course committee chooses to make significant changes in the following areas, it will be encouraged to submit those changes to the Evaluation Committee for review and approval:

- Changes in examination blueprints or actual examinations, including adjustments to specific examination items
- Changes in evaluation methods or tools

Other changes may be initiated by the course committees but will require the review and approval of the Curriculum and Educational Policy Committee prior to implementation, including the following:

- Changes in course learning objectives, content, or faculty
- Changes in membership of the course committee

b. Describe the role, if any, of the curriculum committee in the development and review of course- and clerkship-specific objectives, as well as methods of instruction and student performance assessment.

Course-specific learning objectives were developed by the faculty and approved by the Curriculum and Educational Policy Committee. The committee will review these objectives regularly, and any changes to the objectives made by faculty must be approved by the committee.

Methods of instruction are mostly decided by the course committees, but the Curriculum and Educational Policy Committee provides guidance regarding the distribution of time to different teaching methods, such as small-group learning, lectures, and laboratory demonstrations and practice.

The course committees have primary responsibility for determining the methods of student assessment, working collaboratively with the Office of Evaluation. The Curriculum and Educational Policy Committee may, however, make recommendations regarding methods of student performance assessment. For example, the committee might tell a course director that written examinations are not ideal for evaluating objectives related to behaviors and attitudes, and it may recommend other evaluation methods.

c. Describe the kinds of outcome measures that will be routinely available to course and clerkship leaders for evaluating the quality of instruction, e.g., course evaluation forms, USMLE performance data, peer review data, etc.

The following outcome measures will be available to course directors:

- Student evaluation of courses
- Faculty evaluation of courses
- Results of students' performance evaluations
- USMLE performance data

See also the Required Course Forms, and information for standards ED-33 and ED-46/47.

ED-35. **The objectives, content, and pedagogy of each segment of the curriculum, as well as for the curriculum as a whole, must be subject to periodic review and revision by the faculty.**

The curriculum committee, working in conjunction with the chief academic officer, should assure that each academic period of the curriculum maintains common standards for content. Such standards should address the depth and breadth of knowledge required for a general professional education, currency and relevance of content, and the extent of redundancy needed to reinforce learning of complex topics. The final year should complement and supplement the curriculum so that each student will acquire appropriate competence in general medical care regardless of subsequent career specialty.

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a. Describe the process of formal review for each of the listed curriculum elements. Include in the description how often such reviews will be conducted, how they will be conducted, and under what auspices (e.g., the department, the curriculum committee) they will be undertaken.

- Required courses
- Individual years or academic periods of the curriculum
- The entire curriculum

As described in previous sections (ED-29 through ED-33), review and revision of the curriculum is a continuous process.

Required courses—As previously described, course committees will report to the Curriculum and Educational Policy Committee at least twice each year—once at the beginning of the year regarding course planning and implementation, and once at the end of the year regarding student and course evaluation. In addition to these annual course reviews, each course will be reviewed in depth by the Curriculum and Educational Policy Committee every two to three years.

Individual years or academic periods of the curriculum—Summative year-end course evaluations, including the summative evaluations conducted in the final SPOM unit of each year (Integration of Concepts I and II), will be used to evaluate each of the first two years of the curriculum, as previously described.

The entire curriculum—In addition to the annual programmatic review (ED-33), the entire curriculum will be reviewed in depth by the Curriculum and Educational Policy Committee every five years.

b. Provide a copy of any standardized institutional course evaluation forms that have been developed.

The El Paso curriculum is unlike that of most medical schools. As such, it is the medical school's responsibility to carefully evaluate the curriculum and report any significant results. For this reason, a program evaluator is being recruited for the Office of Medical Education with the charge of developing prospectively a plan for the future evaluation of the entire curriculum. This individual has not yet been appointed. The design of standardized institutional course evaluation forms will be one of the responsibilities of this individual.

ED-36. **The chief academic officer must have sufficient resources and authority to fulfill the responsibility for the management and evaluation of the curriculum.**

The dean often serves as the chief academic officer, with the ultimate individual responsibility for the design and management of the educational program as a whole. He or she may, however, delegate operational responsibility for curriculum oversight to a vice dean or associate dean.

The kinds of resources needed by the chief academic officer to assure effective delivery of the educational program include:

--Adequate numbers of teachers who have the time and training necessary to achieve the program's objectives.

--Appropriate teaching space for the methods of pedagogy employed in the educational program

--Appropriate educational infrastructure (computers, audiovisual aids, laboratories, etc.).

--Educational support services, such as examination grading, classroom scheduling, and faculty training in methods of teaching and evaluation.

--Support and services for the efforts of the curriculum management body and for any interdisciplinary teaching efforts that are not supported at a departmental level.

The chief academic officer must have explicit authority to ensure the implementation and management of the educational program, and to facilitate change when modifications to the curriculum are determined to be necessary.

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a. Provide the name and title of the chief academic officer responsible for the medical education program. If the dean functions as the chief academic officer but has delegated responsibility for medical student education to an associate dean or other individual, provide the name and title of the latter.

Name:	To Be Named*
Title:	Associate Dean for Medical Education

*We are currently conducting a national search for this individual. We expect to fill the position by June 2007.

b. Provide a position description for the individual responsible for the medical education program leading to the M.D. degree, if not the dean.

The Dean serves as the chief academic officer of the School of Medicine. In that position, he is responsible for the operation and evaluation of the curriculum and for ensuring that medical students within the School of Medicine have access to a curriculum that is in full compliance with the requirements of the Liaison Committee on Medical Education and fulfills the stated institutional educational objectives. However, he has delegated the operational responsibilities to administrators who report to him, including the Vice Dean for Academic Affairs and the Associate Dean for Medical Education. These individuals provide day-to-day supervision of the Office of Curriculum and the Office of Evaluation. They also oversee the deliberations of the Curriculum and Educational Policy Committee and the Evaluation Committee. The Vice Dean and the Associate Dean are expected to report to the Dean on a regular basis (at least weekly) regarding the current status of curriculum administration and any important matters related to the curriculum.

The Associate Dean for Medical Education will report directly to the Dean and will have major responsibilities toward the development of the medical education programs of the

new institution and for the administration and evaluation of the curriculum. The incumbent will be responsible for recruiting a full complement of basic science educators to collaborate on developing those segments of the educational program that are concerned with scientific concepts. The incumbent will also assume a leadership role in implementing the curriculum, including the ongoing development and implementation of the clinical clerkships in years three and four, and will oversee the comprehensive evaluation system for the entire curriculum.

The incumbent should possess the MD, PhD in the biomedical sciences, or an advanced degree in a related discipline. The Associate Dean must have a demonstrated interest in medical and/or graduate education and should also have had previous administrative experience at the level of department head or a similar position.

c. Briefly describe any centralized office under the authority of the chief academic officer (such as an Office of Medical Education) whose primary purpose is to provide administrative or academic support for the oversight and implementation of the curriculum. Note the reporting relationship of the directors of any such offices.

Office of Medical Education

The Office of Medical Education will be under the immediate supervision of the Associate Dean for Medical Education and will include two components, the Office of Curriculum and the Office of Evaluation. Both of these offices will report directly to the Associate Dean for Medical Education.

Office of Curriculum—The Office of Curriculum will be responsible for management of the curriculum and for support of the administrative officials and committees charged with oversight and review of the curriculum. Support provided by this office will include scheduling of meetings and conferences, assisting with agendas and meeting minutes, notifying key personnel concerning deadlines, and maintaining current information about accreditation requirements that relate to curriculum. The office will also work closely with the Office of Evaluation to assure that the operation and evaluation of the curriculum are integrated.

Office of Evaluation—The Office of Evaluation will be supervised by the Director of Evaluation, a senior individual trained and experienced in evaluation methods. The office will have the responsibility of providing support for the evaluation of the curriculum. This will include managing the evaluation process by assisting with preparation of evaluation instruments, administering or assisting with examinations, scoring examinations, publishing results, interpreting and summarizing results, and communicating these interpretations and results to the appropriate individuals, including the college masters, the Curriculum and Educational Policy Committee, the Evaluation Committees, the Associate Dean for Medical Education, and the Associate Dean for Academic Affairs. The office also will have the responsibility to provide instruction to the faculty on evaluation methods and the evaluation of assessment instruments. This responsibility may be shared with the Office of Faculty Affairs through its faculty development program, but it is expected that the Office of Evaluation will provide its own series of instructional programs.

Teaching Resources and Faculty Development

College Masters—The College Masters will have many responsibilities in teaching and in assisting with curriculum delivery. A major responsibility will be to assist other faculty members in coordinating multidisciplinary educational activities. Two masters with clinical background and two masters with basic science background will soon be hired to direct the first two of the projected four colleges. These individuals will participate in the final design of the curriculum. Additionally, the masters will have several teaching and advisement responsibilities, including the weekly Masters' Colloquium sessions. They will report to the Associate Dean for Medical Education.

Clinical Faculty—Clinical faculty members have been providing clinical instruction for 50–60 students per year for many years. There are faculty members at all ranks in the six core clinical departments: Family Medicine, Internal Medicine, Neurology/ Psychiatry, Obstetrics/Gynecology, Pediatrics, and Surgery. Additional faculty members are assigned to five additional departments: Anesthesiology, Emergency Medicine, Orthopedic Surgery, Pathology, and Radiology. Active recruitment is currently underway, and we anticipate that 20 additional clinical faculty will be recruited before the first class is admitted.

Basic Science Faculty—At present, the TTUHSC-El Paso faculty includes five pathologists and three biochemists. Active recruitment is currently underway for basic science educators in the disciplines of anatomy, biochemistry, physiology, microbiology and immunology, and pharmacology and therapeutics. These individuals will have major responsibilities for providing instruction in the basic sciences and will be assigned administratively to the Office of Medical Education and the Associate Dean for Medical Education. Eventually, they will be assigned to a Department of Medical Education. Assuming that legislative funding is approved in May 2007, these individuals will be recruited by September 2007. In addition, recruitment of basic science investigators is also underway. We anticipate that these positions will be filled by July 2008. By the time the first class is seated in the summer of 2009, we anticipate that there will be 45 basic science faculty members, both medical educators and investigators.

Other Resources to Support Effective Delivery of the Educational Program

For details about faculty development opportunities available through the existing faculty development program, please refer to database Section IV., Faculty. For information on the teaching space and educational infrastructure available to support effective delivery of the educational program, please refer to database Section V., Educational Resources.

See also information for standard ED-33, and Required Course Forms.

ED-37. **The faculty committee responsible for the curriculum must monitor the content provided in each discipline so that the school's educational objectives will be achieved.**

Describe how the curriculum committee will monitor the content of required courses and clerkships, and how gaps and unwanted redundancies will be identified.

As previously described (ED-33), the Curriculum and Educational Policy Committee will conduct annual course reviews, in-depth course reviews every two to three years, an annual programmatic review, and an in-depth programmatic review every five years. The reviews are intended to accomplish the following:

- Ensure that selected pedagogical methods are appropriate for meeting the educational objectives of the course or unit
- Ensure that course objectives are congruent with the school's educational objectives
- Ensure that the curriculum content is coordinated and integrated within and across academic periods of study
- Ensure that the cumulative curriculum adequately addresses the educational objectives of individual disciplines, to include identifying any gaps, confirming planned redundancies, and eliminating over-duplication in the curriculum
- Ensure that the curriculum meets the school's goals for appropriate, scheduled educational encounters, while allowing adequate free time for self-study and clinical activities

Information for these reviews will be gleaned from several sources, including the following:

- *Planning and evaluation reports from each course committee*—Reports from the various course committees will include a summary of course learning objectives and their relationship to institutional learning objectives, a description of topics covered during the course, results of student evaluations, and summaries of course evaluations by the students. The reports will also include observations about individual faculty performance that is outside the norm and areas of concern regarding redundancy or omission. Recommendations for curricular change will also be included.
- *Curriculum Database*—A curriculum database will be maintained with proprietary software as well as CurrMIT® (see ED-33). Data entry will be provided by the Office of Curriculum, and regular summary reports will be provided to the Curriculum and Educational Policy Committee and the Associate Dean for Medical Education for their review. Special reports may be provided following consultation with the database manager, the Director of Evaluation, and the Associate Dean for Medical Education. These special reports may also require technical assistance from the software vendor or from CurrMIT® managers at the AAMC.
- Regular reports from the Associate Dean for Medical Education and the Evaluation Committee
- Consultations with individual course directors

- Consultations with the clerkship directors as a group
- Consultations on an as-needed basis with the Dean, department chairs, and individual course or clerkship directors

The Office of Medical Education will provide staff support to the Curriculum and Educational Policy Committee, including such activities as preparing and distributing printed materials, managing the calendar of the committee, scheduling meetings and other activities, and documenting committee meetings.

See also information for standard ED-33.

ED-38. **The committee responsible for the curriculum, along with the medical school administration and educational program leadership, must develop and implement policies regarding the amount of time students spend in required activities, including the total required hours spent in clinical and educational activities during clinical clerkships.**

Attention should be paid to the time commitment required of medical students, especially during the clinical years. Students' hours should be set taking into account the effects of fatigue and sleep deprivation on learning, clinical activities, and student health and safety.

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a. Provide the average number of unscheduled hours per week during the first year of the curriculum, and the number of for-credit examinations in that year.

   During the first year of the curriculum there will be 12 unscheduled hours in each 40-hour work week. All scheduled activities will take place between 8:00 AM and 5:00 PM, Monday through Friday.

   Five for-credit examinations will be given in the first year, one at the conclusion of each of the five SPOM units. The end-of-year examination will involve a single OSCE examination designed to assess students' learning in the SPOM course and the Medical Skills course.

b. Describe the process, including the roles of relevant committees and the central medical school administration, for coordinating major examinations during the first year.

   Since the courses in the first year are completely integrated, scheduling of examinations will be straightforward. Course committees for each of the SPOM units will schedule an examination at the end of their unit and forward the information to the Office of Medical Education. If no conflicts are noted by the central office, notification of the scheduled exam will be confirmed with the course director, and students will be informed.

c. Describe how the curriculum committee or the relevant subcommittee(s), as well as course and clerkship leaders, will monitor the workload of students within and across individual courses.

   Questions to be included on the course/clerkship evaluation forms (to be developed) will ask students about workload, time available for learning and reflection, time off available, whether the course or rotation should be allotted more or less time by the Curriculum and Educational Policy Committee, and the level of stress encountered during the course/rotation. Based on such data, the curriculum committee will make adjustments and corrections from time to time.

See also information for Required Courses, Part A, items (A.) and (B.)

ED-46. **To guide program improvement, medical schools must evaluate the effectiveness of the educational program by documenting the extent to which its objectives have been met.**

ED-47. **In assessing program quality, schools must consider student evaluations of their courses and teachers, and an appropriate variety of outcome measures.**

Among the kinds of outcome measures that serve this purpose are data on student performance, academic progress and program completion rates, acceptance into residency programs, postgraduate performance, and practice characteristics of graduates.

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a. Check all indicators used by the medical school to evaluate educational program effectiveness.

X	Results of USMLE/MCC or other national examinations
X	Student scores on internally developed examinations
X	Performance-based assessment of clinical skills (e.g., OSCEs)
	Student responses on AAMC Medical School Graduation Questionnaire
X	Student evaluation of courses and clerkships
X	Student advancement and graduation rates
	NRMP results
	Specialty choice of graduates
	Assessment of residency performance of graduates
	Licensure rates of graduates
	Specialty certification rates
	Practice location of graduates
	Practice type of graduates
	Other

NOTE: The checked indicators will be used to evaluate the educational program with respect to the charter class. When the charter class graduates from the new school, we will begin using the other indicators on the list.

b. For each checked item, indicate

1. What groups or individuals review the data (e.g., curriculum committee, department chairs)
2. How the information will be used for curriculum review and change.

USMLE—Exam scores for both the NBME subject exams and the USMLE Step exams will be reported to the school by the National Board. NBME scores will be disseminated to the college masters and to the appropriate course and clerkship directors for use in computing grades and for analyzing the effectiveness of instruction, particularly with respect to performance against national norms. Periodically, the NBME furnishes item analyses for the subject exams. These reports will allow course and clerkship directors to assess more accurately where the instructional strengths and weaknesses are in their individual curricula and to make appropriate adjustments. Subject exam scores will also be a point of interest during internal in-depth reviews. Performance on Steps 1 and 2 of the USMLE will be monitored by the Office of Medical Education and the college

masters for individual performance and by the Curriculum and Educational Policy Committee for overall school performance, including identification of any overall positive or negative trends and comparison of the school's performance against national norms. The curriculum will continue to be examined for ways to enhance integration and improve the quality of the program.

Internal Examinations—Student performance on departmental exams will be monitored by course and clerkship directors, the college masters, and the Office of Medical Education. Exam content and structure as well as student performance will also be included in the in-depth review process.

OSCEs—OSCEs will be an integral part of the SPOM course (especially in Integration of Concepts I and II) and in the Medical Skills course. These exams will be evaluated in the same manner and context as objective examinations.

Student Evaluation of Courses—Student evaluation of courses has been a standard part of the curriculum evaluation process for the existing medical school for many years, and the new El Paso School of Medicine will continue this process. A standardized online evaluation will be used for all courses. Students will be directed to complete the evaluations within a 10-day window at the conclusion of each course. The evaluations will be submitted to the Evaluation Office, which will compile the data and develop reports. Reports will be issued on a quarterly basis to the Curriculum Office, the Curriculum and Educational Policy Committee, course directors, department chairs, and the Office of Student Affairs. Course committees will use the results of student evaluations as the basis for a qualitative assessment of the course, and this assessment will complement the objective or quantitative data provided by examination scores. The Curriculum and Educational Policy Committee will use the evaluation results to assess the relationships between curricular features and outcomes and to help assess the degree to which curricular integration improves these outcomes.

Student Advancement and Graduation Rates—This information will be collected by the Office of Medical Education and reported to the Grading and Promotions Committee and the Curriculum and Educational Policy Committee on an annual basis at the conclusion of each academic year. College masters will be provided specific data for their respective cohort of students and summary data for the whole school. Trends in pass rates may signal that some curricular modification is necessary or that a certain segment of students may require extra attention with respect to academic difficulties. Efforts to address such issues will typically focus on enhancing learning skills, developing an appreciation for individual learning styles, and modifying approaches to learning in the medical school environment.

See also information for standard ED-1/1-A.

END OF SECTION II

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